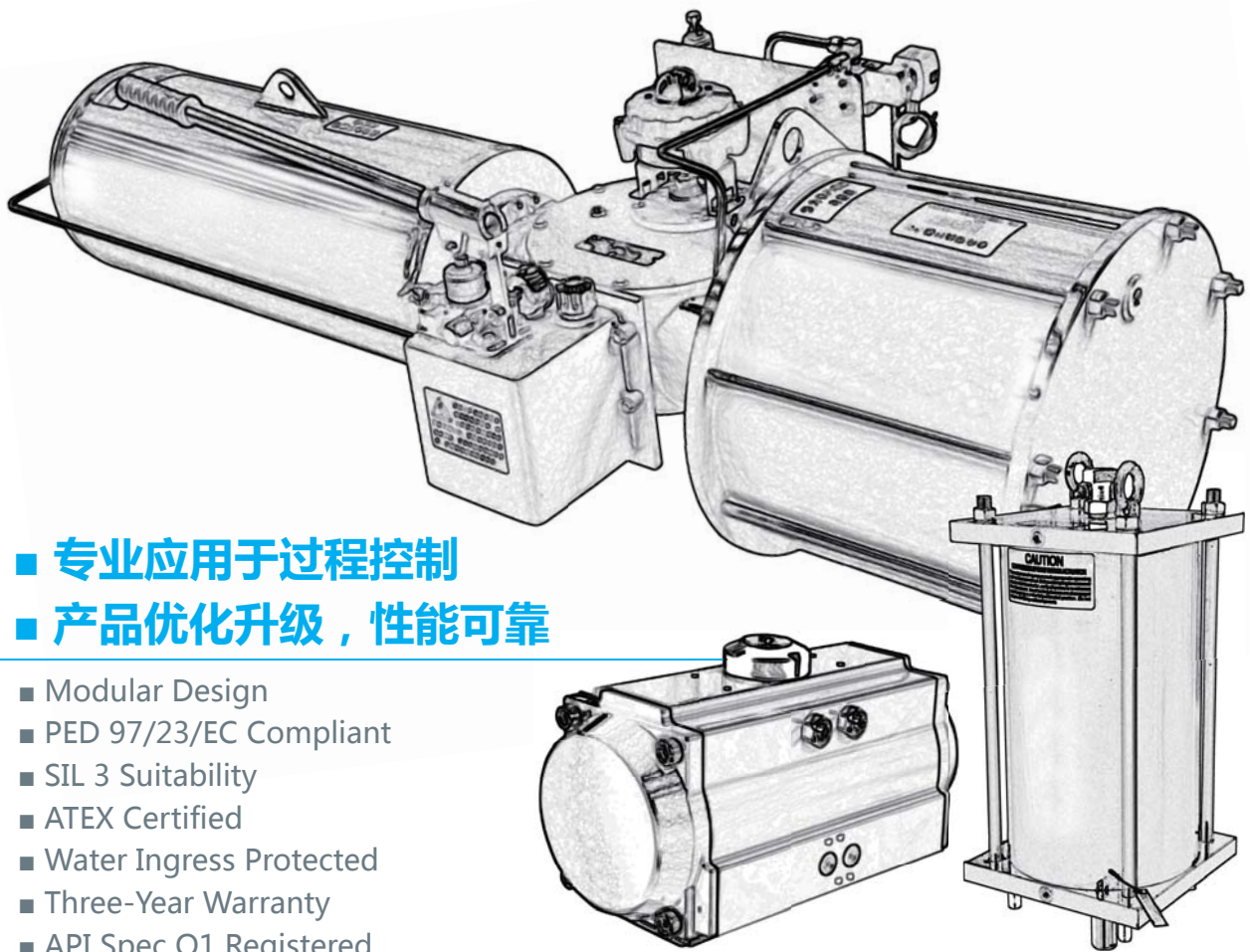




FORCE & TORQUE



P系列气动执行器 P Series Pneumatic Actuator



- 专业应用于过程控制
- 产品优化升级，性能可靠

- Modular Design
- PED 97/23/EC Compliant
- SIL 3 Suitability
- ATEX Certified
- Water Ingress Protected
- Three-Year Warranty
- API Spec Q1 Registered

无锡福斯拓科科技有限公司
WUXI FORCE & TORQUE TECHNOLOGY CO., LTD.



无锡福斯拓科科技有限公司是一家深受国内外客户及用户认可的气动阀门执行器专业生产厂家。凭借20年的行业经验，福斯拓科致力于为客户提供世界一流的产品和服务。

福斯拓科产品主要包括气动阀门执行器、气动阀门附件（手轮机构、限位开关，电磁阀，过滤减压阀，电气定位器等控制附件）及气动球阀、气动蝶阀等成套阀门产品。



气动执行器产品主要包括不锈钢系列气动执行器；RT系列齿轮齿条气动执行器；HPY系列拨叉式气动执行器、拨叉式液动执行器；HPL系列直行程气动执行器、直行程液动执行器。执行器缸径从 $\phi 32 \sim \phi 1000\text{mm}$ 近百个规格，扭矩范围覆盖 $5\text{Nm} \sim 300000\text{Nm}$ 。

福斯拓科秉承“专注、专业、卓越”的经营理念，将竭诚为新老客户提供更好的技术，完善的产品和优质的服务。



FT[®] OEM/ODM

为客户提供专业的设计开发，加工制造等产品和服务。

FT[®] P SERIES ACTUATOR

多项技术优化升级，专用于过程控制的P系列气动执行机构，
经国际权威机构专业认证。

FT[®] FLUID SYSTEMS

手动，气动，液动，电动等各种驱动方式，
为客户提供先进的技术，优质的产品和服务。

FT[®] CONTROLS

FORCE & TORQUE在控制系统的设计和安装方面具有丰富经验。
集合来自世界各知名品牌控制附件，满足On/Off、Control、
ESD及PST等控制要求。

FT[®] MANUAL

MG, DGD, LG, SM, GM, HM等多种手动方式，
满足于直行程及角行程自动控制的应急方案。

FT[®] SERVICE

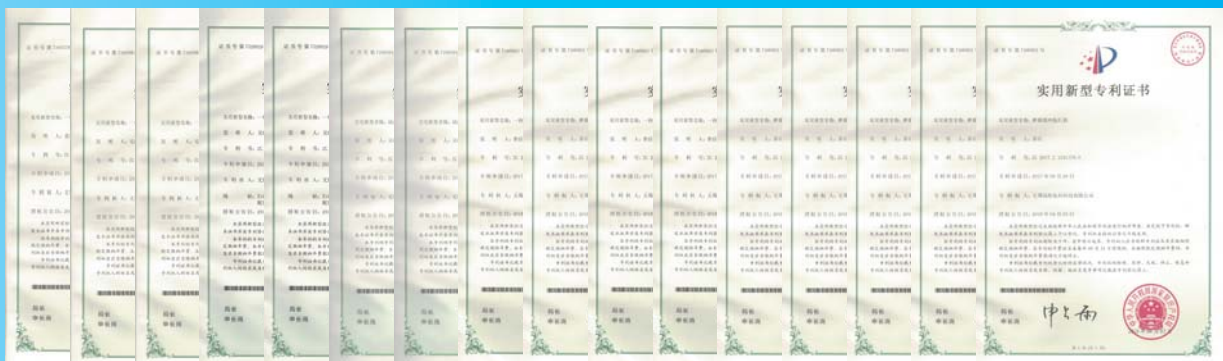
FORCE & TORQUE随时为客户提供专家级的现场支持，安装，
调试，测绘及改造服务。



技术研发



专利证书PATENT



质量体系保证

energy API REGISTRATION NO. Q1-3775

Certificate of Registration

The American Petroleum Institute certifies that the quality management system of

WUXI FORCE & TORQUE TECHNOLOGY CO., LTD.
No. 26 Xinhua Road
Xinwu District
Wuxi, Jiangsu
People's Republic of China

has been assessed by the American Petroleum Institute and found to be in conformance with the following:

API Specification Q1

The scope of this registration and the approved quality management system applies to the:

Design, Manufacture, and Sale of Valve Pneumatic Actuators and Accessories

API approves the organization's justification for excluding:

No Exclusions Identified as Applicable

Effective Date: AUGUST 21, 2019
Expiration Date: AUGUST 21, 2022
Registered Since: AUGUST 21, 2019

Anna C. Ferguson
Vice President of Global Industry Services

The certificate is valid for the period specified herein. The registered organization must continually meet all requirements of API Spec Q1, Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual I&I system audits. This certificate has been issued from API offices located at 200 Massachusetts Avenue, NAB Suite 1100, Washington, DC 20001-5571, U.S.A. It is the property of API, and must be returned upon request. To verify the authenticity of this certificate, go to www.api.org/compostelid.

2018-154 | 02-19 | Digital



QMS REGISTERED

Certificate of Registration

APIQR[®] REGISTRATION NUMBER 4484

This certifies that the quality management system of

WUXI FORCE & TORQUE TECHNOLOGY CO., LTD.
No. 26 Xinhua Road
Xinwu District
Wuxi, Jiangsu
People's Republic of China

has been assessed by the American Petroleum Institute Quality Registrar (APIQR[®]) and found it to be in conformance with the following standard:

ISO 9001:2015

The scope of this registration and the approved quality management system applies to the

Design, Manufacture, and Sale of Valve Pneumatic Actuators and Accessories

APIQR[®] approves the organization's justification for excluding:

No Exclusions Identified as Applicable

Effective Date: AUGUST 21, 2019
Expiration Date: AUGUST 21, 2022
Registered Since: AUGUST 21, 2019

Anna C. Ferguson
Vice President of Global Industry Services

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of APIQR's Registration Program and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual I&I system audits. Further clarification regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIQR offices located at 200 Massachusetts Avenue, NAB Suite 1100, Washington, DC 20001-5571, U.S.A. It is the property of APIQR, and must be returned upon request. To verify the authenticity of this certificate, go to www.api.org/compostelid.

2018-154 | 02-19 | Digital



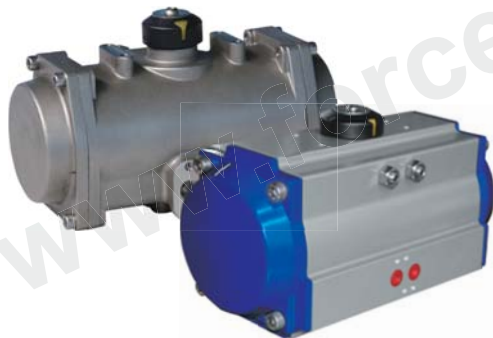
特殊设计、性能可靠，应用于过程控制的完美解决方案

凭借过程行业多年的应用经验，我们可以为您的过程设备提供一整套的解决方案，以保证其可靠、高效的运行。专门为过程应用而开发的气动执行机构可以实现精确的驱动和超乎想象的低故障率。

在一个现代化的过程控制工厂，阀门执行机构动作的传动精度和可靠性尤为重要。无论是直行程的阀门还是角行程的阀门，我们都可以提供符合要求的产品。满足各种恶劣工况，危险环境的使用。


以下是我们的解决方案适用的过程行业一览。
其中包含用于危险区域的产品。

- 化工和石化行业
- 近海和海洋工业
- 石油和天然气行业
- 制药行业
- 制浆和造纸行业
- 食品和饮料行业
- 水处理和污水处理行业
- 矿产开采和冶金行业



防爆区域应用





Bescheinigung über die Hinterlegung der Dokumentation
Acknowledgement of receipt

Hinterlegungsnummer <small>Deposit number</small>	557/Ex-Ab 2793/17
Gegenstand: Gerät / Typ <small>Subject: Equipment / type</small>	Technische Dokumentation Technical documentation Rack and Pinion Actuator
Anschrift <small>Address</small>	WUXI FORCE & TORQUE TECHNOLOGY CO.,LTD. No. 26 Xinhua Road, Xinwu District, Wuxi Jiangsu, China


Die Unterlagen sind bei uns am 7/31/2017 eingegangen und werden unter o. g. Hinterlegungs-Nr. ordnungsgemäß gelagert bis 7/31/2027.
The documents are received 7/31/2017 and stored properly until 7/31/2027 under deposit number above.

Die TÜV Rheinland Industrie Service GmbH ist mit der Kenn-Nr. 0035 benannte Stelle für den Geltungsbereich der Richtlinie 2014/34/EU.
TÜV Rheinland Industrie Service GmbH has notified body number 0035 with the identification of the scope of Directive 2014/34/EU.

TÜV Rheinland Industrie Service GmbH
Anerkannte ATEX-Zertifizierungsstelle / ATEX-Notified Body No. 0035
Am Grauen Stein - 51105 Köln - Germany
(bearbeitende Stelle/executing unit:
Moltkeplatz 1, 45138 Essen)

[Signature]
i.A. / o. Michael Behrens 7/31/2017

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 **TÜVRheinland**[®]
Precisely Right.



Bescheinigung über die Hinterlegung der Dokumentation
Acknowledgement of receipt

Hinterlegungsnummer <small>Deposit number</small>	557/Ex-Ab 2792/17
Gegenstand: Gerät / Typ <small>Subject: Equipment / type</small>	Technische Dokumentation Technical documentation Scotch Yoke Actuators
Anschrift <small>Address</small>	WUXI FORCE & TORQUE TECHNOLOGY CO.,LTD. No. 26 Xinhua Road, Xinwu District, Wuxi Jiangsu, China

Die Unterlagen sind bei uns am 7/31/2017 eingegangen und werden unter o. g. Hinterlegungs-Nr. ordnungsgemäß gelagert bis 7/31/2027.
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i.A. / o. Michael Behrens 7/31/2017

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**By TÜV Rheinland, Division Explosion Protection and Prevention Services
Protective Device Certification according the European ATEX 2014/34/EU Directive**

ATEX 指令2014/34/EU (取代原始的ATEX 指令 94/9/EC)。

ATEX指令适用于:

1. 旨在用于潜在爆炸性环境的设备和保护系统；
2. 打算在潜在爆炸性环境以外但在爆炸危险方面需要或有助于设备和保护系统安全运行的安全装置、控制装置和调节装置；
3. 旨在纳入 (a) 点所述设备和保护系统的部件。

基本技术概念

危险领域 (潜在爆炸性环境) 根据相关IEC (针对IECEx) 和EN (针对ATEX) 标准的区域和安全区域进行定义, 取决于现存爆炸性环境的预期频率和持续时间。



区 0	连续或长时间或频繁存在爆炸性气体的区域
区 1	连续或偶尔在正常运行中存在爆炸性气体的区域
区 2	在正常运行中不会存在爆炸性气体, 即使存在, 也只在短暂时间内存在
区 20	爆炸性灰尘以空气中的尘埃形式连续或长时间频繁存在的区域
区 21	爆炸性灰尘以空气中的尘埃形式连续或偶尔在正常运行中存在的区域
区 22	在正常运行中不会有爆炸性灰尘以空气中的尘埃形式存在的区域, 即使存在, 也只在短暂时间内存在。
安全或非危险领域	爆炸性气体或大气粉尘因为对设备的构造、安装或使用采取了特殊预防措施所以不会大量存在的安全区域

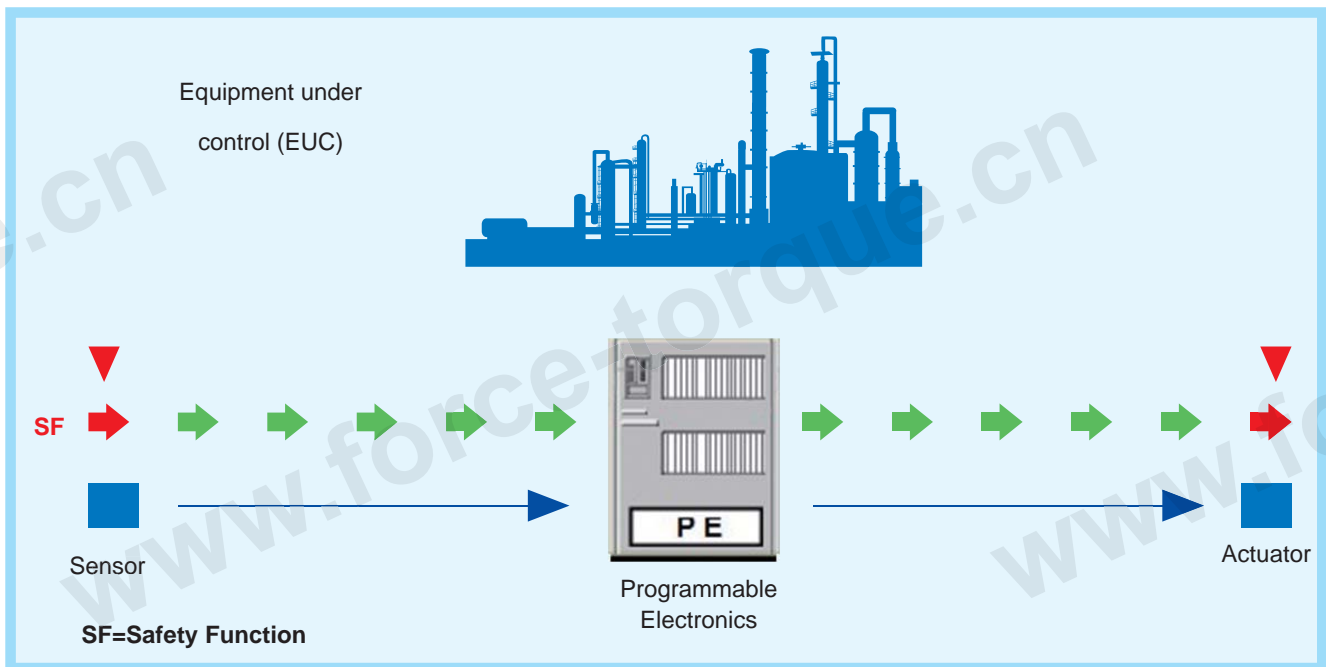
除区域划分外, 危险领域还根据气体或灰尘组 (取决于气体或灰尘的爆炸特性) 以及温度等级 (取决于爆炸性气体的自燃温度) 进一步细分。

气体或灰尘组	代表性气体或粉尘	表面温度 °C	设备温度等级
I (煤矿易燃)	甲烷	< 450°C	T1
IIA	丙烷	< 300°C	T2
IIB	乙烯	< 200°C	T3
IIC	乙炔&氢	< 135°C	T4
IIIA	可燃纤维/飞絮, 如棉绒, 亚麻或人造丝	< 100°C	T5
IIIB	非导电性粉尘, 如面粉、粮食、木材和塑料	< 85°C	T6
IIIC	导电粉尘, 如镁		

安全仪表系统应用



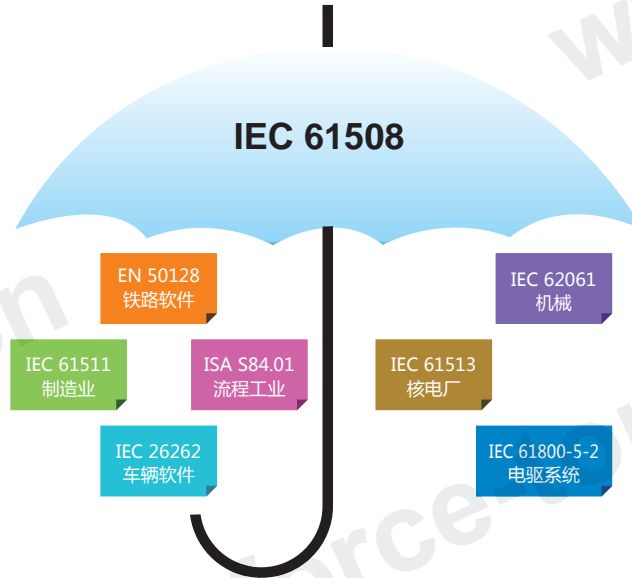
功能安全标准要求



■ 不规范产品引发的安全事故造成人员和财产重大损失



**By TÜV Rheinland, Division Explosion Protection and Prevention Services
Functional Safety and IEC 61508 & SIL (Safety Integrity Level) - 安全完整性等级**



为了防止事故的发生,减少由此带来的损失,保证企业的高度稳定运转,一套能够检测装置的异常动作,并对可能发生的潜在危害作出相应动作的系统是必不可少的。

安全仪表系统(Safety Instrumented System, SIS)正是基于该目的被提出来的。安全仪表系统包括传感器、逻辑运算器和最终执行元件。

Functional safety is a concept applicable across all industry sectors. It is fundamental to the enabling of complex technology used for safety-related systems. It provides the assurance that the safety-related systems will offer the necessary risk reduction required to achieve safety for the equipment.

The oil and gas industry, nuclear plants and the machinery sector, to name but a few, all rely heavily on functional safety to achieve safety for the equipment giving rise to the hazards.



安全仪表系统应用

Certificate



No.: 968/V 1067.00/18

Product tested	Pneumatic Actuators	Certificate holder	Wuxi Force & Torque Technology Co., Ltd. No. 26 Xinhua Road Xinwu District Wuxi Jiangsu P.R. China
Type designation	P series scotch yoke actuators Pxyxy-abc/Pxyxy-abx (For detailed information see test report)		
Codes and standards	IEC 61508 Parts 1-2 and 4-7:2010		
Intended application	Safety Function: On demand, the complete pneumatic actuator assembly actuate a valve into a safety position. The safety position of the actuator can correspond to either "closed" or "open". The actuators are suitable for use in a safety instrumented system up to SIL 2 (low demand mode). Under consideration of the minimum required hardware fault tolerance HFT = 1 the actuators may be used in a redundant architecture up to SIL 3.		
Specific requirements	The instructions of the associated Installation, Operating and Safety Manual shall be considered.		

Summary of test results see back side of this certificate.
Valid until 2023-09-27

The issue of this certificate is based upon an examination, whose Report No. 968/V 1067.00/18 dated 2018-09-27.
This certificate is valid only for products which are identical with it.

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein 5
Köln, 2018-09-27
Certification Body Safety & Security

www.tuv.com

Certificate



No.: 968/V 1067.00/18

Product tested	Pneumatic Actuators	Certificate holder	Wuxi Force & Torque Technology Co., Ltd. No. 26 Xinhua Road Xinwu District Wuxi Jiangsu P.R. China
Type designation	P series rack and pinion actuators PRaxxx/PRaxxx-by (For detailed information see test report)		
Codes and standards	IEC 61508 Parts 1-2 and 4-7:2010		
Intended application	Safety Function: On demand, the complete pneumatic actuator assembly actuate a valve into a safety position. The safety position of the actuator can correspond to either "closed" or "open". The actuators are suitable for use in a safety instrumented system up to SIL 2 (low demand mode). Under consideration of the minimum required hardware fault tolerance HFT = 1 the actuators may be used in a redundant architecture up to SIL 3.		
Specific requirements	The instructions of the associated Installation, Operating and Safety Manual shall be considered.		

Summary of test results see back side of this certificate.
Valid until 2023-09-27

The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/V 1067.00/18 dated 2018-09-27.
This certificate is valid only for products which are identical with the product tested.

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51109 Köln
Köln, 2018-09-27
Certification Body Safety & Security for Automation & Grid
Dr.-Ing. Thorsten Gantewort

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Inspection Certificate



Certificate No. 968/INS 216.00/19

Client / Certificate Owner	Beijing Research Center of CNOOC China Ltd. Building B, CNOOC Plaza, No.6 Taiyanggong south Chaoyang District Beijing P.R. China
Product	Final Element Combination of trunnion mounted ball valves and actuators
Type designation	Ball Valve; Suzhou Dousun 12" / class 1500 Actuator: Wuxi Force & Torque P series
Standards applied for inspection	IEC 61508-2:2010 (in extracts)
Inspection Results	The scope of this inspection is the reliability calculation requirements of IEC 61508 / SIL 2 of the final element subsystem consisting out of already certified trunnion valves and actuators. Result: The reliability data of the final element comply the requirements of relevant standards. The instructions of the Safety Manuals and the individual certifications must be considered before and during any use in safety related applications.
Inspection Period	2018-11-01 - 2019-10-01

2018-11-01 - 2019-10-01

Dr.-Ing. Thorsten Gantewort
TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51109 Köln

Cologne, 2019-10-25

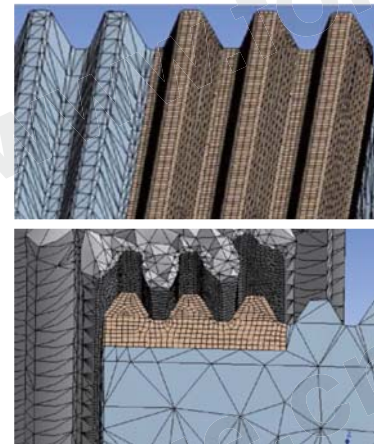
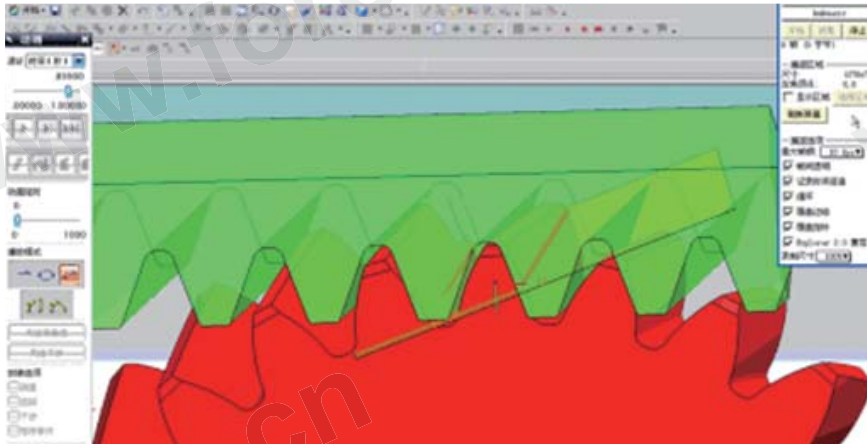
TÜV Rheinland Industrie Service GmbH
Am Grauen Stein
D-51109 Köln

Inspection Report: TÜV Rheinland Industrie Service GmbH
Business Area Energy Systems and Automation
Business Field Calculation - Functional Safety, www.safesil.com

www.tuv.com

P Series 产品优化升级

■ 齿轮齿条执行器传动参数的优化研究



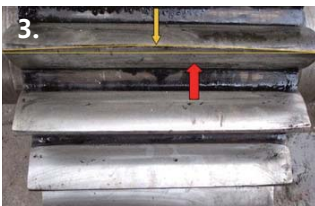
执行器齿轮或齿条失效原因分析：



1. 齿轮折断：由设计不当，过载，压铸裂纹等引起。
Tooth Broken : Caused by improper design, overloading, casting defect.
措施：优化设计，避免过载，提高质量控制环节。
Measures : Optimize design, avoid overload, improve quality control.



2. 齿面点蚀：由于齿面粗糙，多次运转后，细微裂纹扩大，随着动作循环次数增大，表面脱落。
Tooth pastry erosion : Tooth surface roughness caused fine crack to less after running many times.
措施：提高齿面加工精度，减小表面粗糙度，提高表面硬度，提高润滑脂粘度。
Measures : Improve machining precision, reduce roughness and improve hardness, increase grease viscosity.



3. 齿面磨损：颗粒杂质进入齿面引起磨损，两齿面存在相对滑动摩擦导致研磨磨损。
Tooth surface abrasion : caused by impurities on tooth and relative sliding friction between two tooth.
措施：减小表面粗糙度，提高表面硬度改善装配环境。
Measures : Reduce tooth surface roughness, improve hardness and assembly environment.



优化升级：

1. 齿轮轴：采用高强度不锈钢或者齿轮钢精密加工，并经FT特殊硬化防腐工艺处理。
 2. 齿条：齿面精密加工，表面精度不低于Ra1.6。
 3. 润滑脂：采用特殊的合成润滑脂，提高润滑作用。
- 以上三点，提高齿轮的精度等级和齿面硬度，有效降低齿面点蚀和齿面磨损的概率，提高执行器的使用寿命。

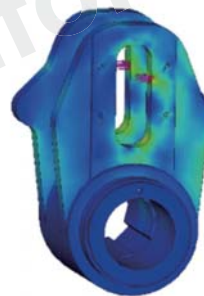
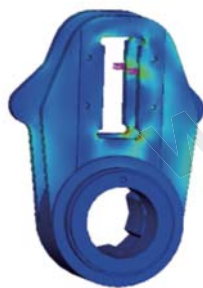
Product Upgrade :

1. Pinion : Use high strength stainless steel or precision machining for pinion steel with special harden and anti corrosion treatment.
2. Tooth: Precision machining for tooth surface with accuracy no less than Ra1.6.
3. Grease: Use special synthetic grease to increase lubrication.

The above improvements could effectively improve machining precision and hardness of piston and reduce the probability of tooth pastry erosion and abrasion to increase service life.

■ 拨叉参数的优化研究

不断分析优化设计，改善部件材料，添置高精度加工设备，附加各种热处理及表面处理加工工艺，保证主要零部件的强度及使用寿命。



大气腐蚀性分类和典型环境实例

腐蚀级别	温和气候条件下的典型环境实例	
	外部 (户外)	内部 (室内)
中腐蚀C3	城市和工业大气,中等的二氧化硫污染,低盐度沿海区域	湿度和有些空气污染的生产厂房内部,如食品加工厂、酒厂、乳制品工厂、温室种植大棚等
强腐蚀C4	中等盐度的工业区和沿海区域如火电厂、滨海建筑物	化工厂、游泳池、海船和造船厂(高湿度、有冷凝水、存在污染)
很强腐蚀(工业) C5-I	高湿度和高大气污染的工业区域	总有冷凝水和存在高污染的建筑物和区域
很强腐蚀(海洋) C5-M	高含盐度的沿海和近海区域	总有冷凝水和存在高污染的建筑物和区域

油漆涂装根据腐蚀环境和使用寿命来确定,参考ISO12944推荐的大气腐蚀环境等级、耐久性要求,涂层体系干膜厚度(μm)列于下表:

腐蚀级别	富锌底漆	其它底漆	富锌底漆	其它底漆	富锌底漆	其它底漆
中腐蚀C3		120		160	160	200
强腐蚀C4	160	200	200	240	240	280
很强腐蚀(工业) C5-1		200	240	300	320	320
很强腐蚀(海洋) C5-M			240	300	320	320



■ FT特殊硬化及防腐工艺



在石化化工及水处理等相关行业中腐蚀无处不在，也无法在潮湿环境中避免普通材质快速生锈、腐蚀以及由此引发的一系列问题。

Force-Torque采用美国Whitford公司Xylan[®]的先进技术解决了诸多此类难题。Xylan[®]技术可以应用在海岸或海上环境里，不受氯化物或含氯化物环境的影响。

1、**防锈、耐腐蚀**：在ASTM B-177盐雾测试中，持续长达2500小时，而红锈面积小于15%。

2、**防电化学腐蚀**：当两种电极电位相差很大的金属被导体（如水分）连接时，就会发生电化学腐蚀。而Xylan[®]涂层的绝缘强度可达500-1200伏特每微英寸（mil），从而达到抑制电化腐蚀的效果。

3、**柔韧耐用**：良好的耐磨、耐腐蚀、耐崩裂性能。

4、**良好的抗湿性**：Xylan[®]涂层表面不沾水和油质，生产操作时也不易沾溶液，若沾有少量污垢，简单擦拭即可清除。

5、**成本**：与不锈钢相比，Xylan[®]涂料技术可以节省不少成本。

Xylan[®]涂料符合USDA，FDA，BGA，JIS及其他国家的标准。产品通过TUV认证。

Corrosion is ubiquitous in petrochemical, chemical and water treatment related industries, and it is impossible to avoid rapid rust, corrosion and a series of problems caused by ordinary materials in humid environment.

Force-Torque solved many of these problems with advanced technology from Whitford's Xylan[®]. Xylan[®] technology can be applied in the coastal or marine environments, and is not affected by chloride or chloride-containing environments.

1. Anti-rust and anti-corrosion: In the ASTM B-177 salt spray test, it lasts for 2,500 hours, while the red rust area is less than 15%.

2. Anti-electrochemical corrosion: Electrochemical corrosion occurs when two metals with large different electrode potentials are connected by a conductor such as moisture. The insulation strength of Xylan[®] coating can reach 500-1200 volts per micro-inches (mil) to suppress the electrochemical corrosion.

3. Flexible and durable: good wear resistance, corrosion resistance and crack resistance.

4. Good moisture resistance: Xylan[®] coating surface could avoid water and oil. It is not easy to get the solution during production operation. If stained with a small amount of dirt, it is simply wipe to remove.

5. Cost: Xylan[®] coating technology can save a lot of cost compared to stainless steel.

Xylan[®] coatings conforms to USDA, FDA, BGA, JIS and other national standards.

The products are certified by TUV (Technical Supervision Association).



■ 铸造铝合金热处理工艺

为了进一步提高铸造铝合金部件的强度，对铝铸件进行热处理。铝合金铸件的热处理一般采用固溶+时效处理。通过固溶处理，使铝合金材料合金元素和第二相固溶于基体，并在随后的时效处理中均匀析出细小的强化相，达到提升铝铸件机械强度的效果。

Heat treatment could improve the strength of aluminium alloy casting parts ,both solution treatment and aging treatment are used.

The alloy elements and the second phase of aluminum alloy material are dissolved in the matrix by solution treatment, and fine strengthening phases are uniformly precipitated in the subsequent aging treatment to improve the mechanical strength of aluminum castings.

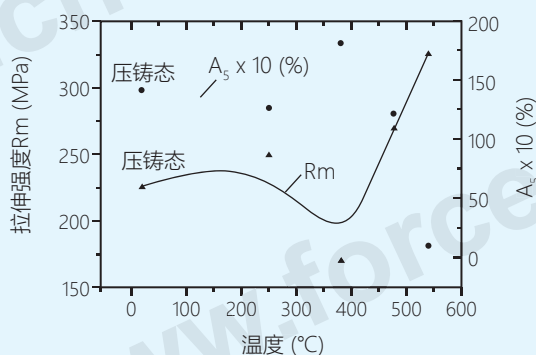


图1 固溶温度对铝铸件力学性能的影响

Fig.1 Variation of mechanical properties of aluminium alloy castings with solution treatment temperature

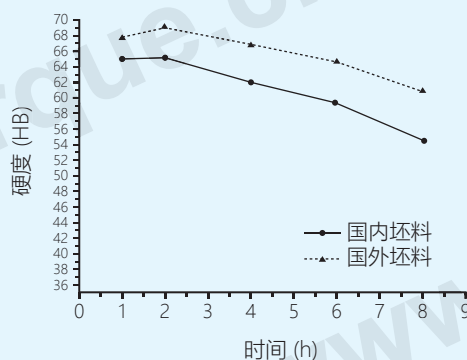


图2 保温时间对铝铸件硬度的影响

Fig.2 Variation of hardness of aluminium alloy castings with solution treatment time

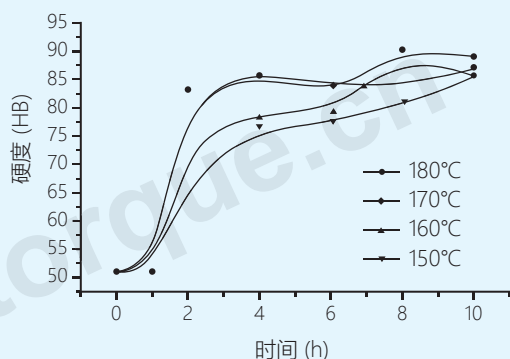


图3 实效温度对铝铸件硬度的影响

Fig.3 Variation of hardness of aluminium alloy castings with aging temperature

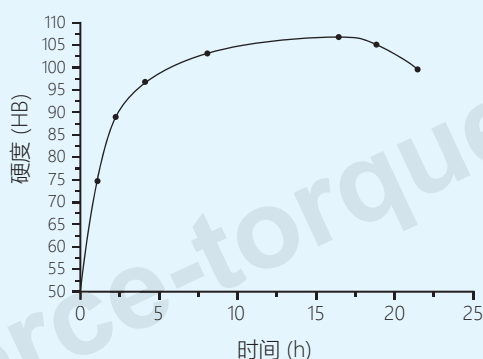
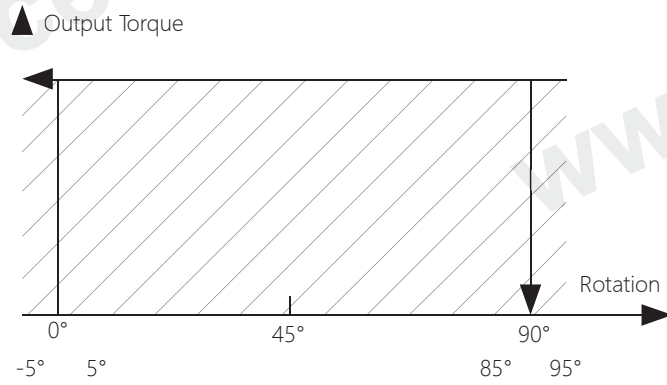


图4 实效时间对铝铸件硬度的影响

Fig.4 Variation of hardness of aluminium alloy castings with aging time

Output Torque of Double Acting Actuators 双作用输出力矩

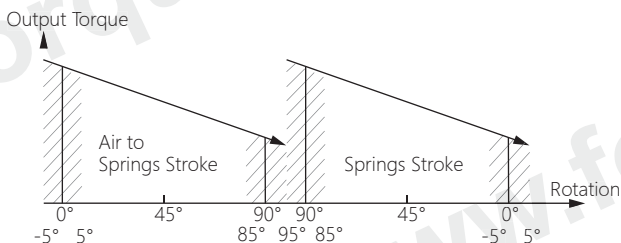


unit: Nm

型号Model	气源压力Air supply pressure (Unit: bar)									
	2	2.5	3	4	4.5	5	5.5	6	7	8
PRD032	3	4	5	6	7	8	8	9	11	12
PRD040	5	6	7	10	11	12	13	14	17	19
PRD052	8	10	12	16	18	20	22	24	28	32
PRD063	15	18	22	29	33	36	40	44	51	58
PRD075	20	25	30	40	45	50	55	60	70	80
PRD083	31	39	47	63	70	78	86	94	110	125
PRD092	45	56	68	90	102	113	124	135	158	181
PRD105	66	83	99	132	149	165	182	198	231	264
PRD125	100	125	150	200	226	251	276	301	351	401
PRD140	171	214	256	342	385	427	470	513	598	684
PRD160	266	332	399	532	598	665	731	798	931	1064
PRD190	426	532	638	851	958	1064	1170	1277	1490	1702
PRD210	532	665	798	1064	1197	1330	1463	1596	1862	2128
PRD240	769	962	1154	1539	1731	1924	2116	2308	2693	3078
PRD270	1170	1462	1754	2339	2632	2924	3216	3509	4094	4679
PRD300	1526	1908	2289	3052	3434	3815	4197	4578	5341	6104
PRD350	2285	2856	3427	4570	5141	5712	6283	6854	7997	9139
PRD400	3256	4070	4884	6512	7326	8140	8954	9768	11396	13024



Output Torque of Spring Return Actuators 单作用输出力矩



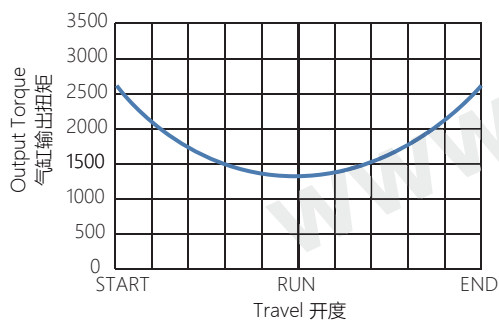
unit: Nm

气压Air pressure		输出扭矩Output torque of air to springs																Springs' output	
型号Model	Spring Qty.	2.5BAR		3BAR		4BAR		5BAR		6BAR		7BAR		8BAR		90° Start	0° End		
		0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End				
PRS052C(O)	K5	5.7	3.8	7.6	5.7											6.2	4.3		
	K6	4.9	2.5	6.9	4.5	10.9	8.5									7.4	5.0		
	K7	4.0	1.3	6.0	3.3	9.8	7.3	14.0	10.4							8.6	5.9		
	K8			5.2	2.0	9.2	6.0	13.2	9.1	17.2	14.1					9.9	6.7		
	K9			4.3	0.8	8.3	4.8	12.3	7.9	16.3	12.8	20.3	16.8			11.1	7.6		
	K10					7.4	3.6	11.5	6.7	15.5	11.6	19.5	15.6			12.4	8.5		
	K11					6.6	2.3	10.6	5.4	14.6	10.4	18.6	14.3	22.6	18.3	13.6	9.3		
K12								9.7	4.2	13.8	9.1	17.8	12.2	21.8	17.1	14.8	10.2		
PRS063C(O)	K5	11.4	7.7	15.0	11.4	22.3	14.9									10.4	6.8		
	K6	10.1	5.7	13.6	9.3	20.9	16.6	28.3	23.9							12.5	8.2		
	K7	8.6	3.6	12.5	7.2	19.5	14.5	26.8	21.9							14.6	9.6		
	K8			10.9	5.1	18.2	12.4	25.5	19.8	32.8	27.0	40.1	34.3			16.7	10.9		
	K9					16.8	10.4	24.1	17.7	31.4	24.9	38.7	32.2			18.8	12.3		
	K10					1.4	8.2	22.8	15.6	30.0	22.8	37.3	30.1	44.7	37.4	20.9	13.7		
	K11							21.5	13.5	28.7	20.7	36.0	28.0	43.3	35.3	22.9	15.0		
K12							20.0	11.4	27.3	18.6	34.6	25.9	41.9	33.3	25.0	16.4			
PRS075C(O)	K5	14.5	10.6	19.4	15.5	29.5	25.7									14.5	10.5		
	K6	12.4	7.6	17.3	12.6	27.4	22.7	37.5	32.8							17.4	12.7		
	K7	10.4	4.8	15.2	9.7	25.3	19.9	35.4	29.9							20.3	14.8		
	K8			13.1	6.8	23.1	16.9	33.3	27.0	43.2	37.0	53.3	47.0			23.2	16.9		
	K9					21.0	14.1	31.2	24.1	41.1	34.1	51.2	44.2			26.1	19.0		
	K10					19.0	11.1	28.8	21.2	39.0	31.2	49.1	41.2	59.1	51.2	29.0	21.1		
	K11							27.0	18.3	37.0	28.3	47.0	38.4	57.0	48.4	31.9	23.2		
K12							24.9	15.4	34.9	25.4	44.9	35.4	54.9	45.4	34.7	25.3			
PRS083C(O)	K5	23.3	16.1	31.1	24.0	46.8	39.7									23.0	15.8		
	K6	20.1	11.5	28.0	19.3	43.7	35.1	59.4	50.7							27.6	19.0		
	K7	17.0	6.9	24.8	14.8	40.5	30.5	56.2	46.2							32.2	22.1		
	K8			21.7	10.1	37.4	25.8	53.1	41.5	68.8	57.2	84.5	72.9			36.8	25.3		
	K9					34.2	21.3	49.9	37.0	65.6	52.6	81.2	68.3			41.4	28.5		
	K10					31.0	16.6	46.7	32.3	62.4	48.0	78.1	63.7	93.8	79.3	46.0	31.6		
	K11							43.6	27.7	59.3	43.4	75.0	59.1	90.6	74.8	50.6	34.8		
K12							40.4	23.2	56.1	38.9	71.7	54.5	87.4	70.2	55.2	38.0			
PRS092C(O)	K5	33.1	22.0	44.2	33.2	66.8	55.9									34.4	23.3		
	K6	28.4	15.2	39.6	26.4	62.2	49.0	84.8	71.6							41.2	28.0		
	K7	23.8	8.2	34.9	19.4	57.5	42.1	80.2	64.7							48.1	32.7		
	K8			31.3	12.6	52.9	35.2	75.5	57.9	98.1	80.5	120.7	103.0			55.0	37.3		
	K9					48.2	28.4	70.9	51.0	93.5	73.6	116.0	96.1			61.9	42.0		
	K10					43.6	21.5	66.2	44.1	88.8	66.7	111.3	89.2	134.0	111.8	68.7	46.7		
	K11							61.5	37.2	84.1	59.9	106.6	82.4	129.2	105.0	75.6	51.4		
K12							56.8	30.4	79.4	53.0	101.9	75.5	124.5	98.1	82.5	56.0			
PRS105C(O)	K5	51.0	33.4	67.5	49.9	100.6	83.0									49.2	31.6		
	K6	44.7	23.5	61.1	40.0	94.2	73.2	127.3	106.2							59.1	38.0		
	K7	38.4	13.7	54.9	30.3	87.9	63.4	121.0	96.4							68.9	44.3		
	K8			48.5	20.4	81.6	53.5	114.7	86.5	147.7	119.6	180.8	152.7			78.7	50.6		
	K9					75.3	43.7	108.4	76.8	141.5	109.8	174.5	142.9			88.6	56.9		
	K10					68.9	33.4	102.0	66.5	135.1	99.6	168.2	132.6	201.2	165.7	98.4	63.3		
	K11							95.7	57.0	128.7	90.1	161.8	123.1	194.8	156.2	108.3	69.6		
K12							89.4	47.5	122.5	80.6	155.5	113.6	188.6	146.7	118.1	75.9			
PRS125C(O)	K5	73	47	98	72	148	122									79	52		
	K6	63	31	88	56	138	107	188	157							94	63		
	K7	52	15	77	40	127	90	178	141							110	73		
	K8			67	25	117	75	167	125	217	176	268	226			125	84		
	K9					107	59	157	109	207	159	257	210			141	94		
	K10					96	44	146	94	196	144	247	194	297	245	157	105		
	K11							136	78	186	128	236	178	286	228	173	115		
K12							125	63	176	113	226	163	276	213	188	125			
PRS140C(O)	K5	128	85	171	127	256	213									129	86		
	K6	111	59	154	102	239	187	325	273							155	103		
	K7	94	33	137	76	222	162	308	247							181	120		
	K8			120	50	205	136	291	221	376	307	462	392			206	137		
	K9					187	110	273	196	358	281	444	367			232	155		
	K10					170	84	256	169	341	255	427	340	512	426	258	172		
	K11							238	143	324	229	409	314	495	400	284	189		
K12							221	118	307	203	392	289	478	374	310	206			

unit: Nm

气压 Air pressure		输出扭矩 Output torque of air to springs														Springs' output	
型号 Model	Spring Qty.	2.5Bar		3Bar		4Bar		5Bar		6Bar		7Bar		8Bar		90°	0°
		0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End		
PRS160C(O)	K5	193	124	259	191	392	324									208	140
	K6	165	83	232	149	365	282	498	415							250	168
	K7	137	41	203	107	336	240	469	373							292	196
	K8			176	66	309	199	442	237	575	465	708	598			333	223
	K9					280	157	413	290	546	423	679	556			375	251
	K10					253	115	386	248	519	381	652	514	785	647	417	279
	K11							358	207	491	340	624	473	757	606	458	307
	K12							330	165	463	298	596	431	729	564	500	335
PRS190C(O)	K5	332	222	438	329	651	542									309	200
	K6	292	161	398	267	611	480	824	693							371	240
	K7	252	99	358	205	571	418	784	631							433	280
	K8			318	143	531	356	744	569	957	782	1169	995			495	320
	K9					491	295	704	507	917	720	1130	933			557	360
	K10					451	233	664	446	877	658	1090	871	1302	1084	618	400
	K11							624	384	837	597	1050	809	1263	1022	680	440
	K12							584	322	797	535	1010	748	1223	960	742	480
PRS210C(O)	K5	390	285	523	418	789	684									380	275
	K6	335	209	468	342	734	608	1000	874							456	330
	K7	280	133	413	266	679	532	945	798							532	385
	K8			358	190	624	456	890	722	1156	988	1422	1254			608	440
	K9					569	380	835	646	1101	912	1367	1178			684	495
	K10					514	304	780	570	1046	836	1312	1102	1578	1368	760	550
	K11							725	494	991	760	1257	1026	1523	1292	836	605
	K12							670	418	936	684	1202	950	1468	1216	912	660
PRS240C(O)	K5	552	409	744	600	1129	985									554	410
	K6	470	297	662	489	1047	874	1432	1259							665	492
	K7	388	187	580	379	964	764	1349	1149							775	575
	K8			498	268	883	653	1267	1037	1652	1422	2037	1807			886	656
	K9					800	542	1185	926	1569	1311	1954	1696			998	739
	K10					718	431	1103	816	1488	1201	1872	1586	2257	1970	1108	821
	K11							1021	705	1406	1090	1791	1474	2176	1859	1219	903
	K12							939	594	1323	979	1708	1363	2093	1748	1330	985
PRS270C(O)	K5	903	675	1195	968	1779	1552									787	560
	K6	790	519	1083	811	1667	1396	2252	1981							943	672
	K7	679	361	972	654	1556	1238	2141	1823							1101	783
	K8			860	497	1444	1081	2029	1666	2614	2252	3199	2836			1258	895
	K9					1332	923	1917	1509	2502	2094	3087	2678			1416	1007
	K10					1220	767	1805	1352	2390	1937	2974	2521	3560	3107	1572	1119
	K11							1693	1194	2278	1779	2862	2364	3448	2949	1730	1231
	K12							1582	1037	2167	1623	2751	2207	3336	2792	1887	1342
PRS300C(O)	K5	1097	729													1061	730
	K6	935	494	1316	875											1273	876
	K7	772	258	1153	639	1916	1402									1485	1022
	K8			991	403	1754	1166	2517	1929							1697	1168
	K9					1592	930	2355	1693	3118	2456					1909	1314
	K10					1430	695	2193	1458	2956	2221	3719	2984	4482	3747	2122	1460
	K11							2030	1222	2793	1985	3556	2748	4319	3511	2334	1606
	K12							1868	986	2631	1749	3394	2512	4157	3275	2546	1752
PRS350C(O)	K5	1553	964													1702	1173
	K6	1292	586	1863	1157											2043	1408
	K7	1031	208	1602	779	2745	1922									2383	1642
	K8			1341	401	2484	1544	3626	2686							2724	1877
	K9					2224	1165	3336	2307	4508	3449					3064	2112
	K10					1963	787	3105	1929	4247	3071	5390	4214	6532	5356	3405	2346
	K11							2844	1551	3986	2693	5129	3836	6271	4978	3745	2581
	K12							2584	1172	3726	2314	4869	3457	6011	4599	4086	2816
PRS400C(O)	K7	2028	869													2880	1837
	K8	1736	411	2550	1225											3292	2100
	K9			2259	768	3887	2396									3703	2362
	K10			1967	311	3595	1939	5223	3567							4115	2624
	K11					3303	1482	4931	3110	6559	4738					4526	2887
	K12					3012	1025	4640	2653	6268	4281	7895	5908	9523	7536	4938	3149
	K13							4348	2195	5976	3823	7603	5450	9231	7078	5349	3412
	K14							4057	1738	5685	3366	7312	4993	8940	6621	5761	3674
K15							3765	1281	5393	2909	7020	4536	8648	6164	6172	3937	
K16									5101	2452	6728	4079	8356	5707	6584	4199	

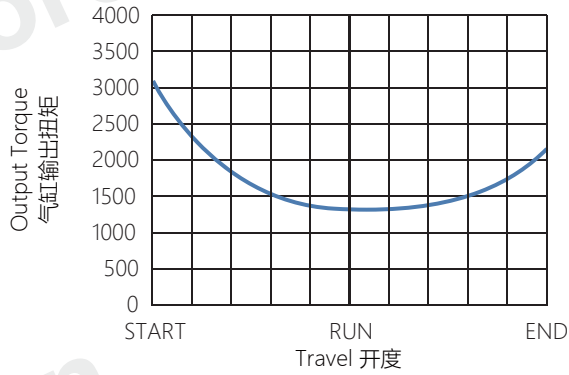
Output Torque of P Series Scotch Yoke Double Acting Actuator (Symmetric)
P系列对称式拨叉执行器双作用输出扭矩



unit: Nm

型号Model	0.35(bar)			0.4(bar)			0.5(bar)			0.6(bar)		
	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P0105-DCC	384	222	384	439	253	439	549	317	549	659	380	659
P0206-DCC	728	417	728	832	477	832	1041	596	1041	1249	715	1249
P0308-DCC	1269	670	1269	1451	766	1451	1814	958	1814	2154	1138	2154
P0409-DCC	2000	1056	2000	2286	1207	2286	2857	1509	2857	3428	1810	3428
P0410-DCC	2599	1372	2599	2970	1568	2970	3712	1960	3712	4455	2352	4455
P0511-DCC	3836	2026	3836	4384	2315	4384	5480	2894	5480	6576	3473	6576
P0512-DCC	5035	2659	5035	5754	3039	5754	7193	3798	7193	8631	4558	8631
P0514-DCC	6039	3189	6039	6902	3644	6902	8627	4556	8627			
P0612-DCC	7193	3798	7193	8220	4341	8220	10275	5426	10275	12330	6511	12330
P0616-DCC	9440	4985	9440	10789	5697	10789	13486	7122	13486	16184	8546	16184
P0618-DCC	11988	6330	11988	13700	7235	13700	17126	9043	17126			
P0718-DCC	14306	7555	14306	16350	8634	16350	20438	10792	20438	24525	12951	24525
P0720-DCC	17723	9359	17723	20255	10696	20255	25318	13369	25318	30382	16043	30382
P0722-DCC	22297	11774	22297	25483	13456	25483	31854	16820	31854	38224	20184	38224
P0724-DCC	25635	13537	25635	29297	15470	29297	36621	19338	36621			
P0824-DCC	30797	16263	30797	35197	18586	35197	43996	23232	43996	52796	27879	52796
P0825-DCC	33986	17946	33986	38841	20510	38841	48552	25638	48552	58262	30765	58262
P0820-DDC	42584	22487	42584	48668	25699	48668	60835	32124	60835			
P0828-DCC	42031	22195	42031	48036	25365	48036	60044	31707	60044			
P0822-DDC	53576	28291	53576	61230	32332	61230						
P0832-DCC	54993	29039	54993	62849	33188	62849						
P0928-DCC	50399	26614	50399	57599	30416	57599	71999	38019	71999	86399	45623	86399
P0922-DDC	64145	33872	64145	73308	38711	73308	91635	48388	91635	109963	58066	109963
P0932-DCC	65984	34843	65984	75410	39820	75410	94263	49776	94263	113115	59731	113115
P0924-DDC	73786	38963	73786	84327	44529	84327	105409	55661	105409	126491	66794	126491
P0925-DDC	81454	43012	81454	93090	49156	93090	116362	61446	116362			
P0936-DCC	83646	44169	83646	95595	50479	95595	119494	63099	119494			
P0928-DDC	100799	53227	100799	115199	60831	115199						
P0940-DCC	103386	54593	103386	118155	62392	118155						
P1036-DCC	112390	59348	112390	128446	67826	128446	160558	84783	160558	192669	101740	192669
P1028-DDC	135271	71430	135271	154596	81635	154596	193245	102043	193245	231894	122452	231894
P1040-DCC	138964	73380	138964	158816	83863	158816	198519	104829	198519	238223	125795	238223
P1032-DDC	177229	93586	177229	202547	106956	202547	253184	133695	253184			
P1036-DDC	224781	118696	224781	256893	135653	256893						

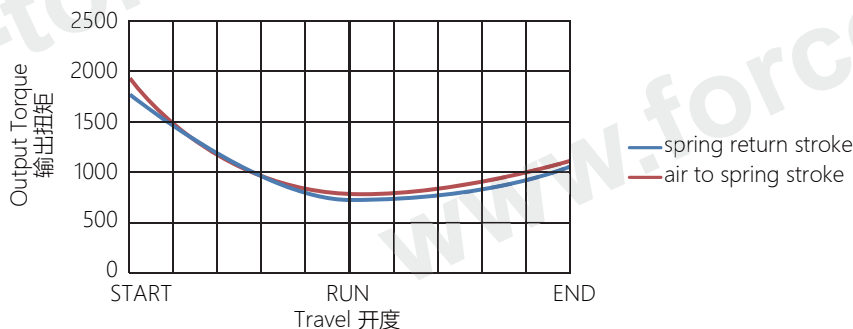
Output Torque of P Series Scotch Yoke Double Acting Actuator (Canted)
P系列偏置式拨叉执行器双作用输出扭矩



unit: Nm

型号 Model	0.35(bar)			0.4(bar)			0.5(bar)			0.6(bar)		
	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P1308-DCC	1523	663	1068	1741	758	1220	2176	948	1525			
P1409-DCC	2400	1045	1682	2743	1194	1922	3428	1493	2403	4114	1792	2883
P1410-DCC	3118	1358	2185	3564	1552	2498	4455	1940	3122			
P1511-DCC	4603	2005	3226	5261	2291	3687	6576	2864	4609	7891	3436	5531
P1512-DCC	6042	2631	4234	6905	3007	4839	8631	3759	6049			
P1614-DCC	8631	3759	6049	9864	4296	6913	12330	5369	8642	14796	6443	10370
P1616-DCC	11329	4933	7939	12947	5638	9074	16184	7047	11342	19420	8457	13610
P1618-DCC	14385	6264	10082	16441	7159	11522						
P1718-DCC	17168	7476	12032	19620	8544	13750	24525	10680	17188	29430	12816	20626
P1720-DCC	21267	9261	14905	24306	10584	17034	30382	13230	21293			
P1722-DCC	26757	11652	18752	30579	13316	21431						
P1822-DCC	32146	13998	22529	36738	15998	25747	45922	19997	32184	55107	23997	38621
P1824-DCC	36957	16093	25901	42237	18392	29601	52796	22990	37001	63355	27589	44401
P1825-DCC	40783	17760	28582	46610	20297	32666	58262	25371	40832			
P1828-DCC	50437	21963	35348	57643	25101	40398						
P1928-DCC	60479	26336	42386	69119	30099	48441	86399	37623	60551	103679	45148	72662
P1922-DDC	76974	33519	53946	87970	38307	61652	109963	47884	77065	131955	57461	92478
P1932-DCC	79181	34480	55492	90492	39406	63420	113115	49257	79275	135738	59109	95130
P1924-DDC	88544	38557	62054	101193	44065	70919	126491	55082	88649			
P1925-DDC	97744	42564	68503	111708	48644	78289						
P1936-DCC	100375	43709	70346	114714	49954	80396						
P2032-DCC	106337	46306	74525	121528	52921	85171	151911	66151	106464	182293	79381	127757
P2036-DCC	134869	58730	94520	154136	67120	108023	192669	83900	135029	231203	100680	162035
P2028-DDC	162326	70686	113763	185515	80784	130015	231894	100981	162519			
P2040-DCC	166756	72616	116868	190579	82989	133564	238223	103737	166955			
P2032-DDC	212675	92611	149050	243057	105842	170342						

Output Torque of P Series Scotch Yoke Spring Return Acting Actuator (Symmetric-FC) P系列对称式拨叉执行器(FC)单作用输出扭矩



unit: Nm

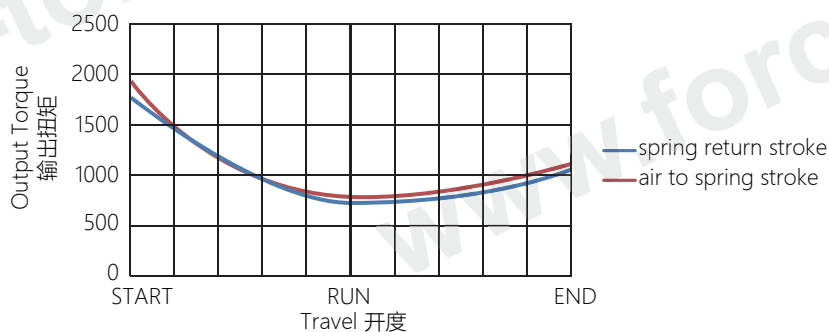
Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P0105-SC4	269	105	125	292	110	148	373	160	230	292	110	148	478	213	334	292	110	148
P0105-SC5							336	132	160	362	137	186	441	186	264	362	137	186
P0105-SC6													404	158	188	438	165	222
P0206-SC4	511	199	241	549	207	279	710	300	440	549	207	279	907	401	638	549	207	279
P0206-SC5							640	248	306	683	258	349	838	349	504	683	258	349
P0206-SC6													769	298	365	822	310	418
P0308-SC4	934	383	549	902	383	517	1296	575	911	902	383	517	1659	766	1274	902	383	517
P0308-SC5							1167	479	686	1128	479	646	1530	670	1049	1128	479	646
P0308-SC6													1391	567	806	1370	582	785
P0309-SC4	1116	452	635	1128	479	646	1557	685	1076	1128	479	646	1997	917	1516	1128	479	646
P0309-SC5							1418	582	833	1370	582	785	1858	814	1274	1370	582	785
P0309-SC6													1701	698	1000	1644	698	942
P0409-SC4	1449	587	834	1452	620	837	2020	889	1405	1452	620	837	2591	1190	1976	1452	620	837
P0409-SC5							1830	748	1075	1782	761	1027	2401	1049	1646	1782	761	1027
P0409-SC6													2132	850	1180	2248	960	1296
P0410-SC4	1943	807	1188	1782	761	1027	2685	1199	1930	1782	761	1027	3428	1591	2673	1782	761	1027
P0410-SC5							2416	1000	1464	2248	960	1296	3159	1392	2207	2248	960	1296
P0410-SC6													2828	1147	1633	2822	1205	1627
P0411-SC4	2445	1016	1493	2248	960	1296	3381	1509	2429	2248	960	1296	4316	2003	3364	2248	960	1296
P0411-SC5							3050	1264	1855	2822	1205	1627	3985	1758	2790	2822	1205	1627
P0411-SC6													3612	1481	2142	3470	1482	2000
P0511-SC4	2821	1157	1670	2714	1158	1563	3917	1736	2766	2714	1158	1563	5013	2315	3862	2714	1158	1563
P0511-SC5							3478	1411	2004	3476	1483	2002	4574	1990	3100	3476	1483	2002
P0511-SC6													4116	1651	2305	4271	1822	2460
P0512-SC4	3752	1556	2278	3476	1483	2002	5191	2315	3717	3476	1483	2002	6629	3075	5155	3476	1483	2002
P0512-SC5							4733	1976	2922	4271	1822	2460	6171	2736	4360	4271	1822	2460
P0512-SC6													5408	2171	3034	5597	2387	3223
P0514-SC4	4442	1822	2631	4271	1822	2460	6167	2734	4356	4271	1822	2460	7892	3645	6081	4271	1822	2460
P0514-SC5							5404	2169	3030	5597	2387	3223	7129	3080	4755	5597	2387	3223
P0514-SC6													6323	2483	3356	6996	2984	4029

unit: Nm

Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	0° START	45° RUN	90° END	90° START	45° RUN	0° END	0° START	45° RUN	90° END	90° START	45° RUN	0° END	0° START	45° RUN	90° END	90° START	45° RUN	0° END
P0516-SC4	5819	2388	3445	5597	2387	3223	8080	3582	5706	5597	2387	3223	10340	4775	7966	5597	2387	3223
P0516-SC5							7274	2985	4307	6996	2984	4029	9534	4178	6567	6996	2984	4029
P0516-SC6													8729	3581	5168	8395	3581	4834
P0616-SC4	6943	2848	4110	6679	2849	3846	9640	4273	6807	6679	2849	3846	12338	5697	9505	6679	2849	3846
P0616-SC5							8603	3505	5005	8481	3617	4883	11301	4929	7703	8481	3617	4883
P0616-SC6													10080	4024	5582	10602	4522	6104
P0618-SC4	8817	3618	5219	8481	3617	4883	12243	5426	8645	8481	3617	4883	15668	7235	12070	8481	3617	4883
P0618-SC5							11022	4521	6524	10602	4522	6104	14447	6330	9949	10602	4522	6104
P0618-SC6													13226	5426	7829	12722	5426	7325
P0718-SC4	10522	4317	6232	10118	4317	5828	14610	6475	10320	10118	4317	5828	18697	8634	14407	10118	4317	5828
P0718-SC5							13186	5420	7847	12591	5372	7252	17273	7579	11934	12591	5372	7252
P0718-SC6													15500	6266	8857	15668	6685	9025
P0720-SC4	13003	5324	7664	12591	5372	7252	18066	7997	12727	12591	5372	7252	23130	10671	17791	12591	5372	7252
P0720-SC5							16293	6684	9650	15668	6685	9025	21357	9358	14714	15668	6685	9025
P0720-SC6													19028	7633	10671	19711	8410	11354
P0722-SC4	16458	6771	9815	15668	6685	9025	22829	10135	16186	15668	6685	9025	29199	13499	22556	15668	6685	9025
P0722-SC5							20500	8410	12143	19711	8410	11354	26870	11774	18513	19711	8410	11354
P0722-SC6													24600	10092	14570	23654	10092	13624
P0725-SC4	20977	8662	12619	19711	8410	11354	29059	12930	20702	19711	8410	11354	37142	17198	28784	19711	8410	11354
P0725-SC5							26788	11248	16759	23654	10092	13624	34871	15516	24842	23654	10092	13624
P0725-SC6													31210	12804	18486	30010	12804	17286
P0825-SC4	24997	10255	14784	24057	10255	13844	34708	15383	24495	24057	10255	13844	44418	20510	34205	24057	10255	13844
P0825-SC5							31246	12819	18481	30071	12819	17306	40956	17946	28191	30071	12819	17306
P0825-SC6													35860	14171	19335	38927	16594	22402
P0828-SC4	30730	12546	17964	30071	12819	17306	42739	18888	29973	30071	12819	17306	54748	25229	41982	30071	12819	17306
P0828-SC5							37643	15113	21118	38927	16594	22402	49651	21454	33126	38927	16594	22402
P0828-SC6													44052	17306	23396	48657	20742	28002
P0832-SC4	40447	16594	23922	38927	16594	22402	56160	24891	39635	38927	16594	22402	71872	33188	55347	38927	16594	22402
P0832-SC5							50560	20743	29904	48657	20742	28002	66272	29040	45616	48657	20742	28002
P0832-SC6													60671	24891	35884	58390	24891	33603
P0932-SC4	48531	19910	28703	46707	19910	26879	67384	29865	47556	46707	19910	26879	86236	39820	66408	46707	19910	26879
P0932-SC5							60189	24536	35054	59209	25240	34074	79041	34491	53906	59209	25240	34074
P0932-SC6													70523	28181	39104	74011	31550	42592
P0936-SC4	61522	25240	36387	59209	25240	34074	85421	37860	60285	59209	25240	34074	109319	50479	84184	59209	25240	34074
P0936-SC5							76902	31550	45483	74011	31550	42592	100801	44169	69382	74011	31550	42592
P0936-SC6													92283	37860	54580	88813	37860	51110
P1032-SC4	65176	26739	38729	62545	26739	36098	90495	40108	64047	62545	26739	36098	115813	53478	89365	62545	26739	36098
P1032-SC5							80809	32934	47266	79327	33913	45783	106128	46304	72584	79327	33913	45783
P1032-SC6													94682	37825	52752	99158	42392	57229
P1036-SC4	82663	33913	49120	79327	33913	45783	114775	50870	81231	79327	33913	45783	146887	67826	113343	79327	33913	45783
P1036-SC5							103329	42392	61400	99158	42392	57229	135441	59348	93511	99158	42392	57229
P1036-SC6													121910	49325	70067	122603	52414	70759
P1040-SC4	101587	41472	59657	99158	42392	57229	141291	62437	99361	99158	42392	57229	180995	83403	139065	99158	42392	57229
P1040-SC5							127760	52414	75917	122603	52414	70759	167464	73380	115621	122603	52414	70759
P1040-SC6													153312	62897	91100	147123	62897	84911

The torque of the springs can be customized to your needs.
可以根据需要定制弹簧数据。

Output Torque of P Series Scotch Yoke Spring Return Acting Actuator (Symmetric-FO) P系列对称式拨叉执行器(FO)单作用输出扭矩



unit: Nm

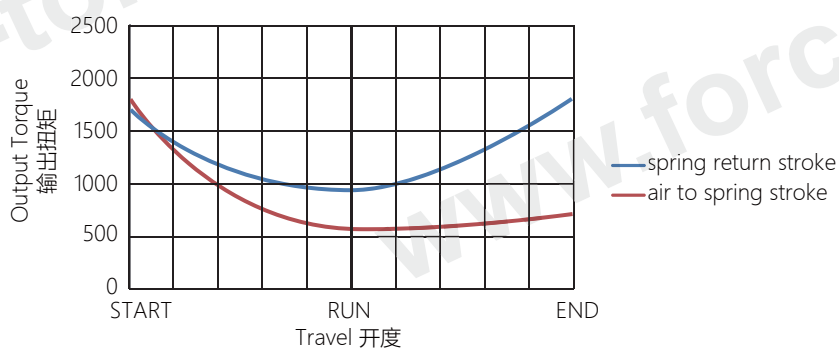
Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P0105-SO4	269	105	125	292	110	148	373	160	230	292	110	148	478	213	334	292	110	148
P0105-SO5							336	132	160	362	137	186	440	186	264	362	137	186
P0105-SO6													404	158	188	438	165	222
P0206-SO4	511	199	241	549	207	279	710	300	440	549	207	279	907	401	638	549	207	279
P0206-SO5							640	248	306	683	258	349	838	349	504	683	258	349
P0206-SO6													769	298	365	822	310	418
P0308-SO4	934	383	549	902	383	517	1296	575	911	902	383	517	1659	766	1274	902	383	517
P0308-SO5							1167	479	686	1128	479	646	1530	670	1049	1128	479	646
P0308-SO6													1391	567	806	1370	582	785
P0309-SO4	1116	452	635	1128	479	646	1557	685	1076	1128	479	646	1997	917	1516	1128	479	646
P0309-SO5							1418	582	833	1370	582	785	1858	814	1274	1370	582	785
P0309-SO6													1701	698	1000	1644	698	942
P0409-SO4	1449	587	834	1452	620	837	2020	889	1405	1452	620	837	2591	1190	1976	1452	620	837
P0409-SO5							1830	748	1075	1782	761	1027	2401	1049	1646	1782	761	1027
P0409-SO6													2132	850	1180	2248	960	1296
P0410-SO4	1943	807	1188	1782	761	1027	2685	1199	1930	1782	761	1027	3428	1591	2673	1782	761	1027
P0410-SO5							2416	1000	1464	2248	960	1296	3159	1392	2207	2248	960	1296
P0410-SO6													2828	1147	1633	2822	1205	1627
P0411-SO4	2445	1016	1493	2248	960	1296	3381	1509	2429	2248	960	1296	4316	2003	3364	2248	960	1296
P0411-SO5							3050	1264	1855	2822	1205	1627	3985	1758	2790	2822	1205	1627
P0411-SO6													3612	1481	2142	3470	1482	2000
P0511-SO4	2821	1157	1670	2714	1158	1563	3917	1736	2766	2714	1158	1563	5013	2315	3862	2714	1158	1563
P0511-SO5							3478	1411	2004	3476	1483	2002	4574	1990	3100	3476	1483	2002
P0511-SO6													4116	1651	2305	4271	1822	2460
P0512-SO4	3752	1556	2278	3476	1483	2002	5191	2315	3717	3476	1483	2002	6629	3075	5155	3476	1483	2002
P0512-SO5							4733	1976	2922	4271	1822	2460	6171	2736	4360	4271	1822	2460
P0512-SO6													5408	2171	3034	5597	2387	3223
P0514-SO4	4442	1822	2631	4271	1822	2460	6167	2734	4356	4271	1822	2460	7892	3645	6081	4271	1822	2460
P0514-SO5							5404	2169	3030	5597	2387	3223	7129	3080	4755	5597	2387	3223
P0514-SO6													6323	2483	3356	6996	2984	4029

unit: Nm

Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P0516-SO4	3445	2388	5819	5597	2387	3223	5706	3582	8080	5597	2387	3223	7966	4775	10340	5597	2387	3223
P0516-SO5							4307	2985	7274	6996	2984	4029	6567	4178	9534	6996	2984	4029
P0516-SO6													5168	3581	8729	8395	3581	4834
P0616-SO4	4110	2848	6943	6679	2849	3846	6807	4273	9640	6679	2849	3846	9505	5697	12338	6679	2849	3846
P0616-SO5							5005	3505	8603	8481	3617	4883	7703	4929	11301	8481	3617	4883
P0616-SO6													5582	4024	10080	10602	4522	6104
P0618-SO4	5219	3618	8817	8481	3617	4883	8645	5426	12243	8481	3617	4883	12070	7235	15668	8481	3617	4883
P0618-SO5							6524	4521	11022	10602	4522	6104	9949	6330	14447	10602	4522	6104
P0618-SO6													7829	5426	13226	12722	5426	7325
P0718-SO4	6232	4317	10522	10118	4317	5828	10320	6475	14610	10118	4317	5828	14407	8634	18697	10118	4317	5828
P0718-SO5							7847	5420	13186	12591	5372	7252	11934	7579	17273	12591	5372	7252
P0718-SO6													8857	6266	15500	15668	6685	9025
P0720-SO4	7664	5324	13003	12591	5372	7252	12727	7997	18066	12591	5372	7252	17791	10671	23130	12591	5372	7252
P0720-SO5							9650	6684	16293	15668	6685	9025	14714	9358	21357	15668	6685	9025
P0720-SO6													10671	7633	19028	19711	8410	11354
P0722-SO4	9815	6771	16458	15668	6685	9025	16186	10135	22829	15668	6685	9025	22556	13499	29199	15668	6685	9025
P0722-SO5							12143	8410	20500	19711	8410	11354	18513	11774	26870	19711	8410	11354
P0722-SO6													14570	10092	24600	23654	10092	13624
P0725-SO4	12619	8662	20977	19711	8410	11354	20702	12930	29059	19711	8410	11354	28784	17198	37142	19711	8410	11354
P0725-SO5							16759	11248	26788	23654	10092	13264	24842	15516	34871	23654	10092	13624
P0725-SO6													18486	12804	31210	30010	12804	17286
P0825-SO4	14784	10255	24997	24057	10255	13844	24495	15383	34708	24057	10255	13844	34205	20510	44418	24057	10255	13844
P0825-SO5							18481	12819	31246	30071	12819	17306	28191	17946	40956	30071	12819	17306
P0825-SO6													19335	14171	35860	38927	16594	22402
P0828-SO4	17964	12546	30730	30071	12819	17306	29973	18888	42739	30071	12819	17306	41982	25229	54748	30071	12819	17306
P0828-SO5							21118	15113	37643	38927	16594	22402	33126	21454	49651	38927	16594	22402
P0828-SO6													23396	17306	44052	48657	20742	28002
P0832-SO4	23922	16594	40447	38927	16594	22402	39635	24891	56160	38927	16594	22402	55347	33188	71872	38927	16594	22402
P0832-SO5							29904	20743	50560	48657	20742	28002	45616	29040	66272	48657	20742	28002
P0832-SO6													35884	24891	60671	58390	24891	33603
P0932-SO4	28703	19910	48531	46707	19910	26879	47556	29865	67384	46707	19910	26879	66408	39820	86236	46707	19910	26879
P0932-SO5							35054	24536	60189	59209	25240	34074	53906	34491	79041	59209	25240	34074
P0932-SO6													39104	28181	70523	74011	31550	42592
P0936-SO4	36387	25240	61522	59209	25240	34074	60285	37860	85421	59209	25240	34074	84184	50479	109319	59209	25240	34074
P0936-SO5							45483	31550	76902	74011	31550	42592	69382	44169	100801	74011	31550	42592
P0936-SO6													54580	37860	92283	88813	37860	51110
P1032-SO4	38729	26739	65176	62545	26739	36098	64047	40108	90495	62545	26739	36098	89365	53478	115813	62545	26739	36098
P1032-SO5							47266	32934	80809	79327	33913	45783	72584	46304	106128	79327	33913	45783
P1032-SO6													52752	37825	94682	99158	42392	57229
P1036-SO4	49120	33913	82663	79327	33913	45783	81231	50870	114775	79327	33913	45783	113343	67826	146887	79327	33913	45783
P1036-SO5							61400	42392	103329	99158	42392	57229	93511	59348	135441	99158	42392	57229
P1036-SO6													70067	49325	121910	122603	52414	70759
P1040-SO4	59657	41472	101587	99158	42392	57229	99361	62437	141291	99158	42392	57229	139065	83403	180995	99158	42392	57229
P1040-SO5							75917	52414	127760	122603	52414	70759	115621	73380	167464	122603	52414	70759
P1040-SO6													91100	62897	153312	147123	62897	84911

The torque of the springs can be customized to your needs.
可以根据需要定制弹簧数据。

Output Torque of P Series Scotch Yoke Spring Return Acting Actuator (Canted-FC) P系列偏置式拨叉执行器(FC)单作用输出扭矩



unit: Nm

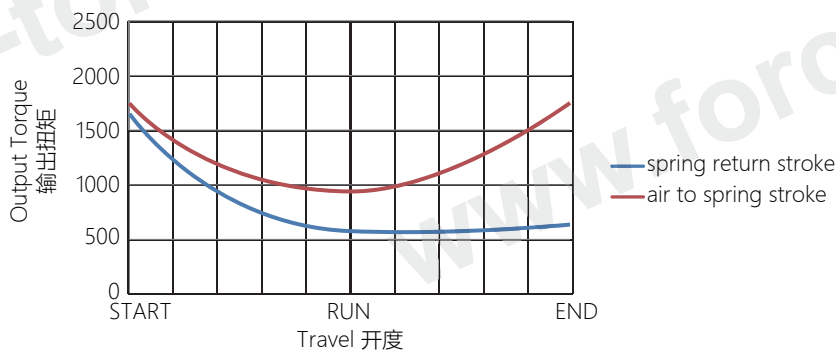
Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P1308-SC4	870	279	305	915	479	870	1306	468	610	915	479	870	1741	658	915	915	479	870
P1308-SC5							1088	348	381	1144	599	1088	1523	538	686	1144	599	1088
P1308-SC6													1290	409	440	1390	728	1322
P1309-SC4	1027	322	338	1144	599	1088	1556	552	708	1144	599	1088	2084	782	1079	1144	599	1088
P1309-SC5							1322	423	463	1390	728	1322	1851	653	833	1390	728	1322
P1309-SC6													1586	508	555	1668	874	1586
P1409-SC4	1353	427	460	1462	768	1390	2038	725	941	1462	768	1390	2724	1024	1421	1462	768	1390
P1409-SC5							1680	527	564	1838	966	1748	2366	826	1045	1838	966	1748
P1409-SC6													1887	561	541	2342	1230	2227
P1410-SC4	1816	586	659	1838	966	1748	2707	974	1284	1838	966	1748	3598	1362	1908	1838	966	1748
P1410-SC5							2227	710	780	2342	1230	2227	3118	1098	1404	2342	1230	2227
P1410-SC6													2606	814	865	2882	1513	2740
P1411-SC4	2262	725	804	2342	1230	2227	3385	1213	1591	2342	1230	2227	4507	1702	2377	2342	1230	2227
P1411-SC5							2872	930	1051	2882	1513	2740	3994	1419	1838	2882	1513	2740
P1411-SC6													3367	1073	1179	3541	1860	3367
P1511-SC4	2630	839	921	2766	1452	2630	3946	1411	1842	2766	1452	2630	5261	1984	2764	2766	1452	2630
P1511-SC5							3206	1003	1065	3544	1861	3370	4521	1576	1986	3544	1861	3370
P1511-SC6													3750	1150	1176	4355	2286	4141
P1512-SC4	3535	1146	1295	3544	1861	3370	5261	1898	2505	3544	1861	3370	6988	2650	3715	3544	1861	3370
P1512-SC5							4490	1472	1694	4355	2286	4141	6217	2224	2904	4355	2286	4141
P1512-SC6													5098	1606	1727	5532	2904	5260
P1514-SC4	4141	1320	1449	4355	2286	4141	6211	2222	2900	4355	2286	4141	8282	3123	4351	4355	2286	4141
P1514-SC5							5092	1604	1724	5532	2904	5260	7163	2506	3175	5532	2904	5260
P1514-SC6													5927	1823	1875	6832	3586	6496
P1516-SC4	5591	1821	2073	5532	2904	5260	8303	3002	3974	5532	2904	5260	11016	4184	5875	5532	2904	5260
P1516-SC5							7067	2320	2674	6832	3586	6496	9780	3501	4575	6832	3586	6496
P1516-SC6													8138	2595	2848	8559	4493	8138
P1616-SC4	6473	2064	2266	6808	3574	6473	9710	3474	4534	6808	3574	6473	12947	4883	6803	6808	3574	6473
P1616-SC5							7963	2509	2697	8645	4538	8220	11200	3919	4965	8645	4538	8220
P1616-SC6													9428	2941	3102	10508	5516	9992

unit: Nm

Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P1618-SC4	8220	2621	2877	8645	4538	8220	12330	4411	5758	8645	4538	8220	16441	6201	8638	8645	4538	8220
P1618-SC5							10559	3433	3894	10508	5516	9992	14669	5223	6775	10508	5516	9992
P1618-SC6													12330	3932	4316	12967	6807	12330
P1718-SC4	9810	3127	3434	10317	5417	9810	14715	5263	6871	10317	5417	9810	19620	7399	10309	10317	5417	9810
P1718-SC5							12263	3909	4292	12896	6771	12263	17168	6045	7730	12896	6771	12263
P1718-SC6													14239	4428	4650	15976	8388	15191
P1720-SC4	12043	3813	4138	12896	6771	12263	18120	6459	8397	12896	6771	12263	24196	9105	12655	12896	6771	12263
P1720-SC5							15191	4842	5317	15976	8388	15191	21267	7489	9575	15976	8388	15191
P1720-SC6													17346	5324	5452	20100	10553	19112
P1722-SC4	15388	4928	5455	15976	8388	15191	23033	8257	10813	15976	8388	15191	30678	11586	16171	15976	8388	15191
P1722-SC5							19112	6092	6689	20100	10553	19112	26757	9421	12047	20100	10553	19112
P1722-SC6													23896	7842	9039	23108	12132	21973
P1725-SC4	19809	6396	7177	20100	10553	19112	29539	10633	13997	20100	10553	19112	39269	14870	20816	20100	10553	19112
P1725-SC5							23305	7191	7441	26656	13995	25346	33035	11428	14260	26656	13995	25346
P1725-SC6													29191	9305	10217	30699	16118	29191
P1825-SC4	21759	6584	6531	26135	13712	24851	33411	11658	14697	26135	13712	24851	45063	16732	22863	26135	13712	24851
P1825-SC5							29131	9297	10196	30636	16074	29131	40783	14371	18362	30636	16074	29131
P1825-SC6													33888	10566	11110	37888	19879	36027
P1828-SC4	28512	9027	9762	30636	16074	29131	42922	15302	19861	30636	16074	29131	57333	21578	29961	30636	16074	29131
P1828-SC5							36027	11497	12609	37888	19879	36027	50437	17773	22709	37888	19879	36027
P1828-SC6													41280	12719	13078	47519	24932	45184
P1832-SC4	39392	12963	14968	37888	19879	36027	58247	21173	28182	37888	19879	36027	77102	29384	41396	37888	19879	36027
P1832-SC5							49089	16120	18551	47519	24932	45184	67944	24331	31765	47519	24932	45184
P1832-SC6													56564	18052	19798	59487	31211	56564
P1932-SC4	45246	14438	15836	47584	24968	45246	67869	24289	31691	47584	24968	45246	90492	34141	47546	47584	24968	45246
P1932-SC5							55758	17606	18954	60321	31651	57357	78381	27457	34809	60321	31651	57357
P1932-SC6													65955	20601	21742	73388	38508	69783
P1936-SC4	57357	18302	20075	60321	31651	57357	86036	30791	40174	60321	31651	57357	114714	43279	60273	60321	31651	57357
P1936-SC5							73610	23934	27106	73388	38508	69783	102289	36423	47205	73388	38508	69783
P1936-SC6													86036	27454	30113	90481	47477	86036
P2032-SC4	60764	19336	21267	63904	33585	60764	91146	32566	42560	63904	33585	60764	121528	45796	63853	63904	33585	60764
P2032-SC5							74843	23555	25414	81050	42596	77068	105225	36785	46707	81050	42596	77068
P2032-SC6													88036	27284	28630	99127	52097	94257
P2036-SC4	77068	24524	26974	81050	42596	77068	115602	41304	53980	81050	42596	77068	154136	58084	80985	81050	42596	77068
P2036-SC5							98413	31803	35902	99127	52097	94257	136946	48583	62908	99127	52097	94257
P2036-SC6													113847	35815	38615	123420	64864	117357
P2040-SC4	96322	30893	34437	99127	52097	94257	143967	51640	67828	99127	52097	94257	191611	72387	101219	99127	52097	94257
P2040-SC5							120867	38872	43535	123420	64864	117357	168511	59620	76926	123420	64864	117357
P2040-SC6													142934	45483	50027	150319	79001	142934

The torque of the springs can be customized to your needs.
可以根据需要定制弹簧数据。

Output Torque of P Series Scotch Yoke Spring Return Acting Actuator (Canted-FO) P系列偏置式拨叉执行器(FO)单作用输出扭矩



unit: Nm

Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P1308-SO4	915	471	870	870	287	305	1221	660	1306	870	287	305	1526	850	1741	870	287	305
P1308-SO5							1144	589	1088	1088	359	381	1449	778	1523	1088	359	381
P1308-SO6													1368	701	1290	1322	436	463
P1309-SO4	1101	562	1027	1088	359	381	1472	792	1556	1088	359	381	1843	1023	2084	1088	359	381
P1309-SO5							1390	715	1322	1322	436	463	1761	945	1851	1322	436	463
P1309-SO6													1668	858	1586	1586	523	555
P1409-SO4	1436	735	1353	1390	459	487	1916	1033	2038	1390	459	487	2397	1332	2724	1390	459	487
P1409-SO5							1798	921	1699	1729	572	605	2278	1220	2385	1729	572	605
P1409-SO6													2104	1055	1887	2227	736	780
P1410-SO4	1892	980	1835	1729	572	605	2517	1368	2726	1729	572	605	3141	1756	3617	1729	572	605
P1410-SO5							2342	1204	2227	2227	736	780	2967	1591	3118	2227	736	780
P1410-SO6													2787	1422	2606	2740	906	959
P1411-SO4	2367	1219	2262	2227	736	780	3153	1707	3385	2227	736	780	3940	2196	4507	2227	736	780
P1411-SO5							2974	1538	2872	2740	906	959	3761	2027	3994	2740	906	959
P1411-SO6													3541	1819	3367	3367	1113	1179
P1511-SO4	2766	1422	2630	2630	869	921	3688	1994	3946	2630	869	921	4610	2567	5261	2630	869	921
P1511-SO5							3429	1750	3205	3371	1114	1180	4351	2322	4520	3371	1114	1180
P1511-SO6													4051	2039	3663	4228	1397	1480
P1512-SO4	3659	1893	3534	3371	1114	1180	4869	2645	5260	3371	1114	1180	6079	3396	6987	3371	1114	1180
P1512-SO5							4569	2361	4403	4228	1397	1480	5779	3113	6130	4228	1397	1480
P1512-SO6													5404	2759	5058	5300	1751	1855
P1514-SO4	4324	2209	4054	4228	1397	1480	5776	3111	6124	4228	1397	1480	7227	4013	8195	4228	1397	1480
P1514-SO5							5400	2757	5052	5300	1751	1855	6851	3658	7123	5300	1751	1855
P1514-SO6													6432	3263	5926	6497	2147	2274
P1516-SO4	5750	2974	5551	5300	1751	1855	7651	4155	8263	5300	1751	1855	9552	5336	10976	5300	1751	1855
P1516-SO5							7232	3759	7066	6497	2147	2274	9133	4941	9779	6497	2147	2274
P1516-SO6													8559	4398	8138	8138	2689	2848
P1616-SO4	6808	3499	6473	6473	2139	2266	9076	4908	9710	6473	2139	2266	11345	6318	12947	6473	2139	2266
P1616-SO5							8487	4352	8028	8156	2695	2855	10756	5762	11264	8156	2695	2855
P1616-SO6													10110	5153	9420	10000	3304	3500

unit: Nm

Model 型号	Air to Spring (4Bar)			Spring Return			Air to Spring (5Bar)			Spring Return			Air to Spring (6Bar)			Spring Return		
	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°	90°	45°	0°	0°	45°	90°
	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END	START	RUN	END
P1618-SO4	8667	4464	8285	8156	2695	2855	11548	6254	12395	8156	2695	2855	14429	8044	16505	8156	2695	2855
P1618-SO5							10903	5645	10551	10000	3304	3500	13783	7435	14661	10000	3304	3500
P1618-SO6													12967	6665	12330	12330	4074	4316
P1718-SO4	10317	5302	9810	9810	3242	3434	13755	7438	14715	9810	3242	3434	17192	9574	19620	9810	3242	3434
P1718-SO5							12896	6627	12263	12263	4052	4292	16334	8763	17168	12263	4052	4292
P1718-SO6													15309	7796	14239	15191	5020	5317
P1720-SO4	12742	6532	12043	12263	4052	4292	17001	9178	18120	12263	4052	4292	21259	11824	24196	12263	4052	4292
P1720-SO5							15976	8210	15191	15191	5020	5317	20234	10856	21267	15191	5020	5317
P1720-SO6													19144	9826	18152	18307	6050	6407
P1722-SO4	16114	8296	15388	15191	5020	5317	21472	11625	23033	15191	5020	5317	26830	14954	30678	15191	5020	5317
P1722-SO5							20381	10595	19917	18307	6050	6407	25739	13924	27562	18307	6050	6407
P1722-SO6													24456	12713	23896	21973	7261	7690
P1725-SO4	19587	9687	16948	21973	7261	7690	26406	13924	26678	21973	7261	7690	33225	18161	36408	21973	7261	7690
P1725-SO5							25225	12810	23305	25346	8376	8718	32044	17047	33035	25346	8376	8871
P1725-SO6													30699	15776	29191	29191	9646	10217
P1825-SO4	23968	12090	21759	24851	8206	8698	32134	17164	33411	24851	8206	8698	40300	22239	45063	24851	8206	8698
P1825-SO5							30375	15505	28386	29876	9866	10457	38542	20579	40038	29876	9866	10457
P1825-SO6													36389	18548	33888	36027	11897	12609
P1828-SO4	29941	15235	27767	29876	9866	10457	40041	21511	42177	29876	9866	10457	50140	27786	56588	29876	9866	10457
P1828-SO5							37888	19480	36027	36027	11897	12609	47988	25755	50437	36027	11897	12609
P1828-SO6													44783	22731	41280	45184	14921	15814
P1832-SO4	40247	20945	39392	36027	11897	12609	53461	29156	58247	36027	11897	12609	66675	37366	77102	36027	11897	12609
P1832-SO5							50256	26132	49090	45184	14921	15814	63470	34342	67945	45184	14921	15814
P1832-SO6													59487	30584	56564	56564	18679	19798
P1932-SO4	47584	24463	45246	45246	14943	15836	63439	34314	67869	45246	14943	15836	79294	44165	90492	45246	14943	15836
P1932-SO5							59200	30314	55758	57357	18943	20075	75055	40166	78381	57357	18943	20075
P1932-SO6													70706	36062	65956	69782	23046	24424
P1936-SO4	60321	31011	57357	57357	18943	20075	80420	43499	86036	57357	18943	20075	100518	55987	114714	57357	18943	20075
P1936-SO5							76071	39396	73611	69782	23046	24424	96170	51884	102290	69782	23046	24424
P1936-SO6													90481	46516	86036	86036	28414	30113
P2032-SO4	63904	32823	60764	60764	20097	21267	85197	46054	91146	60764	20097	21267	106489	59284	121528	60764	20097	21267
P2032-SO5							79490	40661	74843	77068	25490	26974	100783	53891	105225	77068	25490	26974
P2032-SO6													94040	47519	85958	96335	31862	33717
P2036-SO4	81050	41630	77068	77068	25490	26974	108055	58410	115602	77068	25490	26974	135061	75190	154136	77068	25490	26974
P2036-SO5							101312	52038	96335	96335	31862	33717	128318	68818	134869	96335	31862	33717
P2036-SO6													120346	61284	112092	119112	39396	41689
P2040-SO4	99847	51127	94244	96335	31862	33717	133238	71875	141889	96335	31862	33717	166629	92622	189533	96335	31862	33717
P2040-SO5							125266	64341	119112	119112	39396	41689	158657	85089	166756	119112	39396	41689
P2040-SO6													150319	77210	142934	142934	47275	50027

The torque of the springs can be customized to your needs.
可以根据需要定制弹簧数据。

公司业绩

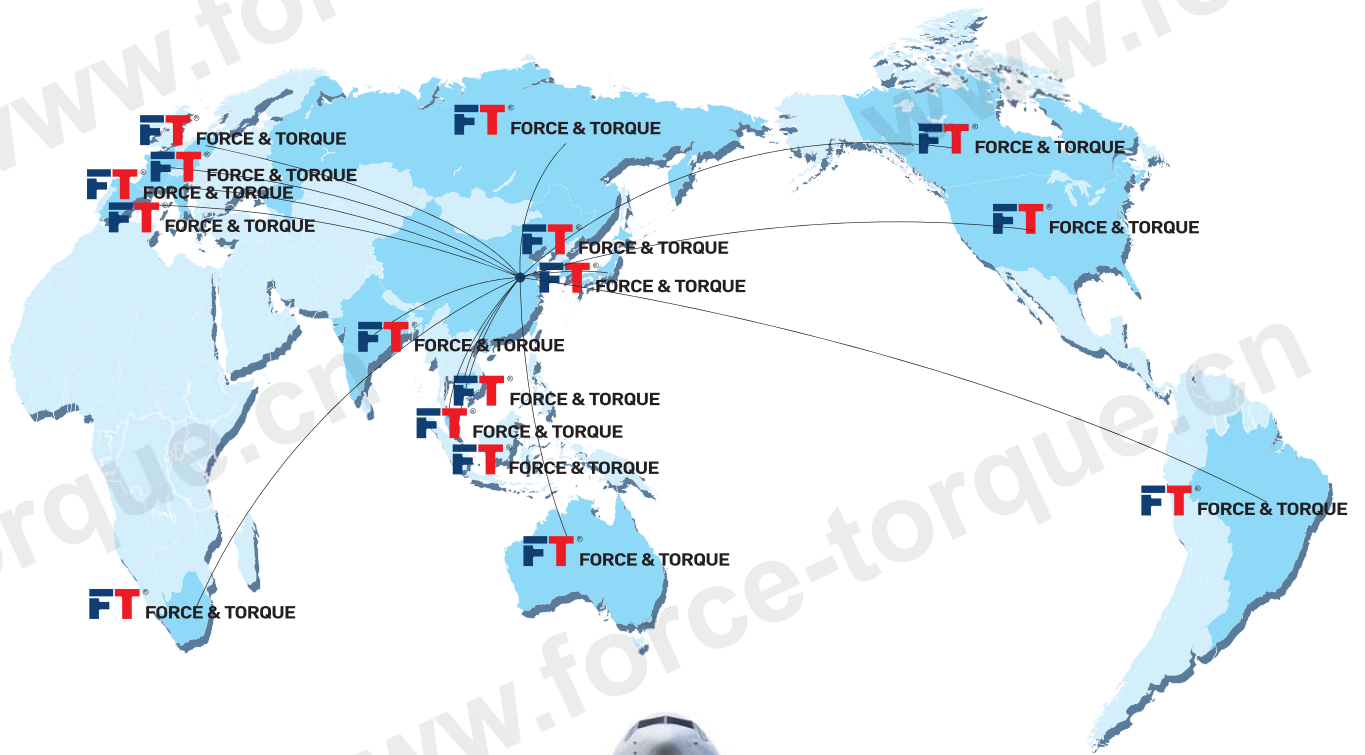
国内部分



- 新疆**
 - 中石油塔里木油田哈喇哈塘油田二期
 - 新疆天盈石化30万吨/年乙二醇项目
 - 新疆心连心能源化工
 - 新疆心连心能源化工
 - 新特能源股份有限公司
- 内蒙古**
 - 内蒙古易高煤化(14万/年甲醇制组份油项目)
 - 鄂尔多斯化学工业合成氨尿素技改扩能项目
 - 内蒙古三维煤化科技有限公司
 - 内蒙古庆华煤化工有限公司
 - 久泰能源(准格尔)有限公司
 - 中煤鄂尔多斯能源化工有限公司
 - 博大实地5080化肥项目
 - 内蒙古博源控股集团
 - 内蒙古盾安项目
 - 中煤蒙大化工
 - 内蒙古霍林河电厂
 - 内蒙古伊泰煤化工
 - 内蒙古京隆电厂
 - 内蒙古博大
- 东北**
 - 七台河弘泰兴清洁能源液氨18万吨/年, 尿素30万吨/年的生产装置
 - 双鸭山龙煤天泰甲醇制汽油项目
 - 中国石油辽石化公司
 - 长庆油田采气一厂、二厂项目
 - 中石油长岭气田项目
 - 通辽金煤化工
- 山东**
 - 山东荣信10万吨粗苯加氢精制项目切断路工程
 - 山东滨海-青州输油管道工程中化弘润石油化工成品油质量升级配套工程
 - 鲁西化工
 - 山东黄山发电厂
 - 山东垦利石化
- 山西**
 - 山西省长治市南耀集团煤气化替代焦炉煤气综合利用项目
 - 稷山焦炉气综合利用生产尿素联产LNG转型升级项目
 - 山西阳煤丰喜稷山煤气化项目
 - 山西瑞恒化工
 - 孟县阳煤化工
 - 太原钢铁
- 河南**
 - 河南骏化发展股份有限公司原料路线改造项目合成、变换、净化工段
 - 河南利源焦炉气制LNG项目
 - 河南心连心化肥
 - 河南骏化集团
- 海南**
 - 中海油东方石化有限责任公司丙烯腈项目
 - 海南汇智石化精细化工有限公司30万吨年工业异辛烷
- 贵州**
 - 中国铝业遵义氧化铝
 - 贵州华锦铝业清镇氧化铝项目
- 宁夏**
 - 神华宁煤400万吨/年煤炭间接液化项
 - 宁夏金昱化工年产100万吨真空控制盐节能减排综合利用项目
 - 宁夏海原净水厂
 - 宁夏六盘山热电厂

- 北京**
 - 国家核电研究院综合热工水力试验设施项目
 - 国核华清(北京)核电技术-非能动堆芯冷却系统项目
 - 清华同方股份北京
 - 燕山石化
- 上海**
 - 上海金山石化
 - 巴斯夫上海聚醚醚项目
 - 上海赛科石油化工
 - 上海宝钢集团
 - 上海市自来水市北有限公司闸北水厂
- 重庆**
 - 重庆璧山水厂
 - 重庆北碚红河水厂
- 浙江**
 - 浙江华祥海运14000LNG船项目
 - 中海油大树石化馏分油综合利用项目
 - 绍兴化工高浓度废液处理项目
 - 浙江石化4000万吨/年炼化一体化项目
 - 浙江巨化集团
 - 紫金铜业
 - 浙江巨石集团
 - 浙江远东石化
 - 浙江三江化工
 - 浙江逸盛石化
 - 宁波钢铁
 - 华能长兴电厂
 - 浙江华祥海运14000LNG船项目
- 广东**
 - 东莞虎门港海湾石油仓储码头石化仓储项目
 - 中国海油惠州炼化二期项目1000万吨/年炼油项目
 - 中海油湛江湖洲1-2油田群二期开发工程
 - 东莞虎门港海湾石油仓储码头
 - 广州自来水厂
 - 广东茂名热电厂
 - 珠海中海油电厂
- 陕西**
 - 陕西清洁能源化工
 - 中煤陕西榆林180万吨甲醇
 - 陕西神华神木化工
- 江苏**
 - 连云港莱泰化工仓储有限公司罐区工程
 - 江苏斯邦石化有限公司醇基多联产项目
 - 连云港港旗台作业区液体散货泊位
 - 内部专用铁路工程
 - 南京诺奥新材料年产10万吨醋酸项目
 - 中海油气(泰州)石化一体化项目
 - 江苏南通醋酸纤维项目技改
 - 浦项钢铁韩国及张家港项目
 - 金东纸业(江苏)
 - 南京梅山钢铁
 - 江苏吴江水处理厂
 - 徐州华润电力
 - 华能金陵电厂
 - 江苏斯邦石化
 - 徐州华润电力
- 安徽**
 - 安徽丰原集团有限公司
 - 马钢二铁球团竖炉改造
 - 安徽昊源化工
- 湖北**
 - 中韩(武汉)石油化工有限公司
 - 优化原料储运设施项目
 - 宜昌新瑞化工
 - 湖北三宁化工
 - 武汉钢铁
- 四川**
 - 四川成达泸天化煤化工项目
 - 长庆油田四川项目
- 甘肃**
 - 甘肃金川烧碱项目
- 福建**
 - 福建漳州湾电厂
- 河北**
 - 邢台卡博特化工
- 广西**
 - 中海油涠洲岛项目
- 云南**
 - 云南云天化

■ 海外部分



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