



天津百利二通机械有限公司
TIANJIN BAILI ERTONG MACHINERY CO.,LTD.

产 品 介 绍

Product introduction



ISO 9001:2008



公司概况

天津百利二通机械有限公司（原天津市第二通用机械厂）始建于1957年，1964年开始生产阀门电动装置。公司是我国首家研制阀门驱动装置的企业，是中国第一台阀门电动装置的诞生地。

近半个世纪的历程公司在各方面都取得显著成绩。特别是行业内第一个技术引进项目，即引进Limitorque阀门驱动技术，在较短的时间内使我国阀门电动装置技术提升到国际先进水平。

公司具备产品的自主研发能力，所属试验室可完成阀门电动装置全部项目的试验并被国家地方技术监督局确定为产品质量监督检测机构。公司率先在行业内通过DNV ISO9001质量体系认证，产品质量得到有效控制并深受用户好评，荣获部市级名牌产品称号。

上世纪80年代初期，公司首先使用加工中心进行主箱体加工并采用传动零件的真空渗碳热处理工艺。90年代中期又进口了国内唯一的数控旋风铣床，极大地提高了关键零件的制造工艺水平。

公司的零件加工检测、产品装配试验、涂漆包装处理、成品储存等能力和条件均位居国内行业前列。

公司的产品型号规格齐全、控制性能可靠。其中的SMC系列和SMC/HBC系列为引进技术主导产品。还有自主研发的IMT系列和IMC系列非侵入智能型高端技术产品，XZA系列经济型产品，QT、QBR、IQT等系列产品。以上阀门电动装置年产达数万台。这些产品广泛应用于冶金、石化、火电、核电、船舶、市政、机场、港口、轻工、食品等诸多领域。

公司已实现计算机网络化管理，其市场销售、生产采购、试验研发、财务管理、日常办公等业务均能信息共享，各项工作更加优质高效。

2007年的金秋十月，公司迁入世人瞩目的滨海新区，融入科学快速发展的大环境。我们愿与各界朋友继续真诚合作，把握新的契机，巩固已有优势，不断推出客户需求的产品，为我国阀门驱动装置事业的腾飞做出新贡献。





Company profile

The predecessor of the Tianjin Baili Ertong Machinery Co., Ltd. (primary Tianjin No.2 General Machinery Factory) was established in 1957, and started to manufacture valve electric actuators from 1964. Our Company is the first enterprise that researches and manufactures the valve actuator, and the birthplace for the first valve actuator in China.

With a history of about fifty years, our company has made significant achievements in various aspects. Especially, the first technology import project in this industry, introducing Limitorque valve drive technique, has upgraded the valve electric actuator technology in our country to the international advanced level within short time.

Our company has independent research and development ability; our test room can complete all items of tests for the valve electric actuator and is defined as product quality supervision and test mechanism by both state and local Bureau of Technical Supervision. Our company has passed the DNV ISO9001 quality system certification in the industry; the product quality has been controlled effectively and highly commended by users, and entitled as the famous-brand products of ministry and municipal grades.

At the beginning of 1980s, our company first used the machining center to carry out main case processing and adopted vacuum carburizing heat treatment process for transmission components. At the middle of 1990s, we imported the only numerical control whirlwind milling machine in our country; the manufacture process level of the key parts had been improved significantly. Our ability and conditions in part processing and inspection, product assembly and test, coating and package treatment, product storage are on the forefront of this industry in our country.

The models and specifications of our products are complete and the control performance is reliable. The SMC series and SMC/HBC series are our leading products made by using the introduced technology. There are independent researched and developed IMT series and IMC series non-invasive intelligent type top end technical products, XZAs series economic products, products as QT series, QBR series, IQT series and etc. The annual output of above valve electric actuators reaches tens of thousands pieces. These products have been widely applied in the fields such as metallurgy, petrochemical, thermal power, nuclear power, ship, municipal, airport, port, light industry, food and so on.

Our company has implemented computer network management, the information in business areas as marketing, production purchase, test, research and development, financial management, daily office work can be shared, various tasks become superior in quality and high in efficiency.

In October of 2007, our company moved in the Binhai New Area that is catching the eye of the world, settling in a big environment of science and technology rapid development. We hope to continue our sincere cooperation with our friends in various fields, hold the new opportunity, strengthen the advantages that we have, present products that can meet use's demand, and make new contribution to the development of the valve actuator in our country.



产品发展史

公司名称 Company name:

1957-1992年厂名：天津市第二通用机械厂。

1992-2001年厂名：天津市阀门公司。

2001至今厂名：天津百利二通机械有限公司。

1957-1992Tianjin No.2 General Machinery Factory

1992-2001Tianjin Valve Company

2001 till nowTianjin Baili Ertong Machinery Co. Ltd.

1957—1964

研制并生产压片机、粉碎机、高压釜等通用机械设备。

From 1957 to 1964 Developed and manufactured general machinery and equipment such as compressing machine, crusher, high-pressure reaction vessel and etc.

1965—1974

1965-1974 开发、生产我国第一代ZD系列多回转阀门电动装置（B、C、D、E型）和QX系列普通型、防爆型部分回转阀门电动装置。

From 1965 to 1974, we developed and manufactured the first generation of ZD series multi-turn valve electric actuators (Types B, C, D and E) and QX series general type and explosion-proof part-turn valve actuators.

1975—1976

1975-1976 开发、生产第二代Z系列多回转和Q系列部分回转普通型、防爆型阀门电动装置。本时期电动装置的行程、转矩控制机构设计已具备了较高的控制精度与可靠性。

From 1975 to 1976, we developed and manufactured the second generation of Z series multi-turn valve electric actuators and Q series general type and explosion-proof part-turn valve actuators. The stroke and torque control mechanism design of the actuator had much higher control accuracy and reliability at this stage in this phrase.

1977—1980

1977-1980 借鉴国外先进技术，开发、生产第三代TZ系列多回转三合一同轴直联式和TQ系列部分回转产品。至此，基本建立了我国阀门电动装置的相关理论。

From 1977 to 1980, by means of utilizing advanced foreign technology, we developed and manufactured the third generation of TZ series multi-turn 3-in-1 coaxial direct connection valve electric actuators and TQ series part-turn valve actuators. Till then, the valve actuator related theory in our country was established fundamentally.

1981—1990

1981-1990 引进了美国Limitorque公司SMC系列阀门驱动装置技术，并完成了对该技术的吸收、转化工作。从而可生产制造SMC系列多回转阀门电动装置以及派生特殊型产品，如整体型、防爆型、高温高速型、双速型、双线型、自动调节型，以及BA系列多回转、VGC系列、HBC系列部分回转手动装置。通过技术引进使产品技术进入国际先进行列并建立了我国阀门电动装置技术设计、制造、检测等完整的理论体系。此期间还自主完成了WQ微型部分回转电动装置的研制。

From 1981 to 1990, we introduced the SMC series valve actuator technology from Limitorque Corporation of USA, and completed the absorption and transform of this technology. Therefore, we could manufacture SMC series multi-turn valve electric actuators and its special derivatives, such as types of integrated, explosion-proof, high temperature and high speed, double speed, double lines and self-regulating, as well as BA series multi-turn, VGC series, HBC series part-turn manual devices. By means of technology introduction, our product and technology had edged into the advanced ranks in the world and established complete theory system concerning technology, design, manufacture and inspection of the valve electrical devices in our country. During this phrase, we completed the research and manufacturing of the WQ micro part-turn valve actuators independently.

Development history of the products

1991—1994

1991-1994 开发、生产第四代阀门电动装置，ZA系列多回转、QA、QB系列部分回转产品。

From 1991 to 1994, we developed and manufactured the fourth generation of valve actuators, ZA series multi-turn valve electric actuators and QA and QB series part-turn valve actuators.

1995—1998

1995-1998 开发了核电站用1E级阀门电动装置、电站风门用电动装置，以及TAG、TAW系列阀门气动装置和DT系列电动推杆等一批产品。

From 1995 to 1998, we developed one batch of products, such as class 1E electric valve actuators used in nuclear power plant, the electrical devices used for dampers in the power station, TAG and TAW series valve pneumatic actuator, and DT series linear actuators.

1999—2001

1999-2001 为提高产品的竞争力和市场占有率，开发了XZA系列多回转型电动装置和QT系列部分回转型电动装置，以及GT系列角行程阀门气动装置，上述产品均属于高性能产品。同时还开发了SMC系列潜水型等较高技术含量产品。

From 1999 to 2001, in order to enhance the product competitiveness and market share, we developed XZA series multi-turn electric actuator and QT series part-turn electrical actuators, as well as GT series angular stroke valve pneumatic actuator. All above products are of high performance products. At the same time, we developed product with much higher technology content such as SMC series and so on.

2002—2005

2002-2005 根据市场需求，在SMC系列产品基础上研制了K1类核级、工业现场总线型、低温型阀门电动装置、自动巡检阀门电动装置产品。

From 2002 to 2005, according to market demand, we researched and manufactured products as the K1 category nuclear grade, industrial fieldbus type, lower temperature type valve electric actuator, automatic inspection valve electric actuators based on SMC series products.

2006—2008

2006-2014 自主研发了IMT系列、IMT/BA系列、IMT/JA系列、IMT/HBC系列，以及IMC系列、IQT系列非浸入式智能型阀门电动装置，产品控制技术进入智能化阶段。

From 2006 to 2014, we researched and developed IMT series, IMT/BA series, IMT/JA series, IMT/HBC series and IMC series, IQT series non-invasive intelligent valve electric actuators, the control technology of the products had entered the phrase of intellectualization.

天津百利二通机械有限公司

TIANJIN BAILI
Ertong Machinery Co.,Ltd.

3-4



SMC系列多回转阀门电动装置



SMC—3 ~ 5



SMC—00 ~ 2

本系列为引进美国Limatorque技术产品，具有规格齐全、输出转矩范围大、控制可靠性高等特点，并能派生若干特殊型产品，是本公司的主导产品。

This series is of the products made by introducing Limatorque technology of USA, it has features as complete in specifications, wide in output torque range, high in control reliability, and etc., and many kinds of special products can be derived from this series, it is our company's leading products.



SMC—04, 03

可派生以下产品：

Following products can be derived



普通整体型
General integrated type

控制电气元件与主机一体布置
Control electrical element and main machine integrated configuration



防爆型
Explosion-proof type

防爆等级：Grade of explosion-proof
• Exd II BT4 Gb



舰船与潜艇专用型
Ship and submarine dedicated type



核电专用型
Nuclear power dedicated type

符合：In compliance
RCC-E-1993
IEEE382-1996
EJ/T1022·11-1996

安全类别：Safety category
K1, K2, K3



自动调节型
Self-regulating type

符合：In compliance
JB/T8219-1999

SMC series multi-turn valve electric actuator

主要技术参数表

Main technical parameters

| 型号 Model | 项目 Item | 输出转矩 Output Torque (N·m) | 速比范围 Ratio Range | 允许推力 Thrust Allowed (kN) | 允许阀杆直径 Valve Stem Diameter Allowed (mm) | 参考重量 Weight (kg) |
|-------------|------------|--------------------------------|---------------------|--------------------------------|---|------------------------|
| SMC-04 | | 110 | 18~90 | 35 | 24 | 40~45 |
| SMC-03 | | 270 | 15~130 | 45 | 36 | 60~70 |
| SMC-00 | | 500 | 11~148 | 90 | 50 | 100~110 |
| SMC-0 | | 970 | 12~198 | 150 | 65 | 130~150 |
| SMC-1 | | 1800 | 13~230 | 250 | 76 | 170~185 |
| SMC-2 | | 2700 | 10~200 | 300 | 89 | 190~210 |
| SMC-3 | | 5800 | 11~200 | 600 | 127 | 480~520 |
| SMC-4 | | 10000 | 11~200 | 1000 | 127 | 650~720 |
| SMC-5 | | 27000 | 61~230 | / | 159 | 900~1100 |

- 适用阀门：闸阀、截止阀等
- 基本规格：9个机座号
- 控制转矩范围：110 - 27000 N.m
- 输出转速范围：6 - 130r/min
- 户外防护等级：IP67(小转矩规格可为IP68)
- 使用环境温度：-20℃ - 60℃
- The valve used: gate valve, globe valve and etc.
- Basic specification: 9 seat numbers
- The controlled torque range: 110 - 27000 N.m
- Output speed range: 6 - 130r/min
- Outdoor protection grade: IP67(IP68 for small torque Specifications)
- Ambient temperature: -20℃ - 60℃



低温型
Low temperature type

低温 I 型: Lower temperature type I
-25℃ ~ -40℃

低温 II 型: Lower temperature type II
-40℃ ~ -55℃



潜水型
Submerged type

水下长期工作
Long term operating underwater



高温高速型
High temperature and high speed type

输出轴可以吸收阀杆的热膨胀和高速入座时阀瓣对阀座的冲击
The output shaft can absorb the thermal expansion of the stem and impact caused to the valve seat when the disc enters the seat at high speed.



总线控制型 Bus control type





SMC/HBC系列、SMC/JA系列、 SMC/GSQ系列部分回转电动装置



SMC/JA
SMC/GSQ



SMC/HBC整体型
SMC/HBC integrated type



SMC/HBC核级型
SMC/HBC nuclear power type

SMC/HBC系列主要技术参数表

SMC/HBC series part-turn electric actuators

| 型号 Model | 项目 Item | 输出转矩 Output Torque (N·m) | 输出转速 Output Speed (r/min) | 回转90° 时间 Time for 90° Turn (s) | 参考重量 Weight (kg) |
|-------------|------------|--------------------------------|---------------------------------|--------------------------------------|------------------------|
| SMC-04/H0BC | | 450 | 1 | 15 | 74 |
| | | 600 | 1 | | |
| SMC-04/H1BC | | 1100 | 1 | | 90 |
| SMC-03/H1BC | | 2000 | 1 | 15 | 120 |
| SMC-03/H2BC | | 3000 | 0.5 | 30 | 140 |
| | | | 1 | 15 | |
| SMC-00/H3BC | | 7800 | 0.5 | 30 | 220 |
| | | | 1 | 15 | |
| SMC-0/H4BC | | 10000 | 0.5 | 30 | 320 |
| | | 17500 | 0.3 | 45 | |
| SMC-1/H5BC | | 12500 | 1 | 15 | 520 |
| | | 27000 | 0.3 | 45 | |
| SMC-2/H6BC | | 42000 | 0.3 | 45 | 780 |
| | | 50000 | 0.25 | 50 | |
| SMC-3/H6BC | | 63500 | 0.3 | 40 | 1100 |

87400N·m ~ 400000N·m大转矩部分回转
电动装置技术参数, 详见本公司选型样本

87400N.m ~ 400000N.m large torque part-turn
actuator technical data, see the detail in our
company's type choosing sample book

SMC/HBC series, SMC/JA series and SMC/GSQ series part-turn electric actuators

适用阀门: 球阀、蝶阀、旋塞阀、风门挡板等
 控制转矩范围: 50~400000N.m
 输出转速: 0.25~3.0r/min(详见系列技术参数表)
 户外防护等级: IP65-IP67(小转矩规格可为IP68)
 使用环境温度: -20℃~60℃

The valve used: ball valve, butterfly valve, plug valve, damper valve and etc.
 The controlled torque range: 50 to 400,000 N.m
 Output speed: 0.25 to 3.0 r/min (see the technical parameter table for details)
 Outdoor protection grade: IP65 to IP67 (IP68 for small torque specifications)
 Ambient temperature: -20℃ to 60℃



SMC/HBC大转矩
 低温防爆型
 SMC/HBC big torque
 low temperature and
 Explosion-proof type

可提供的特殊型式:

- 整体型
- 防爆型
- 整体防爆型
- 低温型
- 低温防爆型
- 自动调节型
- 总线控制型

Available special types:

- Integrated type
- Explosion-proof type
- Integrated explosion-proof type
- Low temperature type
- Low temperature explosion-proof type
- Self-regulating type
- Bus control type

SMC/JA系列主要技术参数表

SMC/JA series part-turn electric actuators

| 型号 Model | 项目 Item | 输出转矩 Output Torque (N.m) | 输出转速 Output Speed (r/min) | 回转90° 时间 Time for 90° Turn (s) |
|-------------|------------|--------------------------------|---------------------------------|--------------------------------------|
| SMC-04/JA0 | | 50~300 | 0.5~1 | 30~15 |
| SMC-04/JA1 | | 400~900 | 0.5~1 | 30~15 |
| SMC-04/JA2 | | 1200~2500 | 0.5~1 | 30~15 |
| SMC-03/JA3 | | 3000~6000 | 0.5~1 | 30~15 |

SMC/GSQ系列主要技术参数表

SMC/GSQ series part-turn electric actuators

| 型号 Model | 项目 Item | 输出转矩 Output Torque (N.m) | 输出转速 Output Speed (r/min) | 回转90° 时间 Time for 90° Turn (s) |
|-------------|------------|--------------------------------|---------------------------------|--------------------------------------|
| SMC-04/GSQ1 | | 50~300 | 2~4 | 约7.5~4 |
| SMC-03/GSQ2 | | 400~900 | 2~4 | 约7.5~4 |
| SMC-03/GSQ3 | | 1200~2500 | 2~3 | 约7.5~5 |
| SMC-00/GSQ4 | | 3000~6000 | 2~3 | 约7.5~5 |



IMT, IMC系列非侵入式 智能型多回转阀门电动装置

IMT, IMC series non-invasive intelligent multi-turn valve electric actuator

特点：

- 非侵入式设计，免开盖调试，遥控器设定
- 全中文汉字显示，提供友好的用户界面（IMC为中英文双语显示）
- 卓越的机械传动系统，性能稳定
- 行程、转矩测量精确，控制可靠
- 供电电源相序自动纠正功能
- 运行故障诊断功能
- 电机过热保护功能
- 瞬时反转保护功能
- 网络传输功能
- 双密封接线腔
- 防护等级IP65~IP68（IMC为IP67~IP68）
- 防爆等级Exd II BT4 Gb（IMC为Ex dII CT4 Gb）

Features:

- Non-invasive design, uncover-free setup and remote setting
- Full Chinese character display, providing user-friendly interface (IMC: Chinese-English version)
- Excellent mechanical transmission system, stable in Performance
- Accurate in stroke and torque measuring, reliable in control
- Power supply phase sequence automatic correction function
- Operation malfunction diagnosis function
- Motor over heat protection function
- Instantaneous reversal protection function
- Network transmission function
- Dual seal terminal chamber
- Protection grade: IP65~IP68 (IMC: IP67~IP68)
- Explosion-proof class: Ex dII BT4 Gb (IMC: Ex dII CT4 Gb)



IMT

IMT、IMC系列非侵入式 智能型多回转阀门电动装置

IMT, IMC series non-invasive intelligent multi-turn valve electric actuator

IMT系列主要技术参数表

IMT series multi-turn electric actuators

| 型号 Model | 项目 Item | 输出转矩范围 Range of Output Torque (N·m) | 输出转速范围 Range of Output Speed(r/min) | 允许轴向推力 Thrust Allowed (kN) | 允许阀杆直径 Valve Stem Diameter Allowed (mm) | 参考重量 Weight (kg) |
|-------------|------------|---|---|----------------------------------|---|------------------------|
| IMT-04 | | 25~110 | 14~100 | 35 | 24 | 35~40 |
| IMT-03 | | 60~270 | 10~100 | 45 | 36 | 45~55 |
| IMT-00 | | 110~500 | 6~100 | 90 | 50 | 85~95 |
| IMT-0 | | 250~970 | 6~100 | 150 | 65 | 120~135 |
| IMT-1 | | 400~1800 | 6~100 | 250 | 76 | 155~170 |
| IMT-2 | | 600~2700 | 6~100 | 300 | 89 | 175~200 |
| IMT-3 | | 3000~5800 | 6~40 | 600 | 127 | 480~520 |
| IMT-4 | | 5000~10000 | 6~40 | 1000 | 127 | 650~720 |

IMC系列主要技术参数表

IMC series multi-turn electric actuators

| 型号 Model | 项目 Item | 规格 Size | 输出 转矩 Torque (N·m) | 输出转速 Rotation Speed (r/min) | 允许推力 Thrust Allowed (KN) | 最大允许直径 Allowed Stem Dia (mm) | | 参考重量 Weight (kg) |
|-------------|------------|------------|-----------------------------|--------------------------------------|-----------------------------------|------------------------------------|--------------|------------------------|
| | | | | | | 孔×键 Hole×Key | 螺孔 Thread | |
| IMC15 | IMC10 | 100 | 24 | 80 | Φ22×8 | M30 | 35 | |
| | | | | | | | | 48 |
| IMC15 | 150 | 24 | 48 | 100 | Φ32×10 | M34 | 56 | |
| | | | | | | | | 48 |
| IMC25 | 200 | 24 | 48 | 150 | Φ54×16 | M46 | 76 | |
| | | | | | | | | 48 |
| IMC25 | 250 | 24 | 48 | 200 | Φ70×20 | M65 | 130 | |
| | | | | | | | | 48 |
| IMC30 | 300 | 24 | 48 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |
| IMC60 | 400 | 18 | 36 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |
| IMC60 | 600 | 18 | 36 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |
| IMC80 | 800 | 18 | 36 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |
| IMC100 | 1000 | 18 | 36 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |
| IMC100 | 1200 | 18 | 36 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |
| IMC300 | 2000 | 18 | 36 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |
| IMC300 | 3000 | 18 | 36 | / | Φ70×20 | M65 | 160 | |
| | | | | | | | | 48 |

天津百利二通机械有限公司

TIANJIN BAILI
Ertong Machinery Co., Ltd.

9-10



智能一体化工业现场总线型 阀门电动装置

1. 智能一体化工业现场总线型阀门电动装置产品概述

工业现场总线技术是实现现场级控制设备数字化通信的一种工业现场层网络通信技术。工业现场总线产品可使用一条通信电缆将现场设备(智能化带有通信接口)连接、用数字化通信代替4-20mA/24VDC信号,完成现场设备控制、检测等功能。

天津百利二通机械有限公司作为国内著名的阀门控制设备生产厂家,率先于2001年推出智能一体化工业现场总线型阀门电动装置产品。公司先后与国内知名学府北京航空航天大学以及德国现场总线产品厂家WAGO公司合作,经过共同努力,最终将工业现场总线技术成功引入到本公司引进美国“里米托克”(Limatorque)SMC系列产品中,从而构成基本工业现场总线技术的SMC系列派生产品智能一体化现场总线型阀门电动装置产品。

1. General description on integrated intelligent industrial fieldbus Type valve electric actuator products

Industrial fieldbus technology is a network technology that realized field level equipment digital communications. The industrial fieldbus products can carry out the functions as field equipment control, test and so on by connecting with the field equipment through a communication cable (intelligent with communication interface), replacing the 4 to 20 mA/24 VDC signal with digitalized communication.

As one of the famous valve control equipment manufacturers in our country, Tianjin Baili Ertong Machinery Co., Ltd. has presented the market with integrated intelligent industrial fieldbus type valve electric actuator products first in 2001. Through the cooperation with Beijing University of Aeronautics and Astronautics that is famous university in China and WAGO Company who is the German field bus manufacturer, and through the joint efforts, our company has successfully introduced the industrial fieldbus technology into the SMC series of products made by importing the technology from Limatorque Corporation of the United State of America. Building the integrated intelligent industrial site bus type valve actuator products developed from the SMC series products based upon the industrial fieldbus technology.



2. 智能一体化工业现场总线型阀门电动装置产品分类

智能一体化工业现场总线型阀门电动装置产品按照阀门控制方式划分为两大类:现场总线开关型和现场总线调节型。上述分类方式是符合于阀门电动装置对应不同阀门控制流程的要求,现场总线开关型阀门电动装置产品主要应用在需要全开和全关的管道阀门,用来接通或截断管道中的介质,现场总线调节型阀门电动装置产品,用来调节、控制管道内介质的流量和压力。

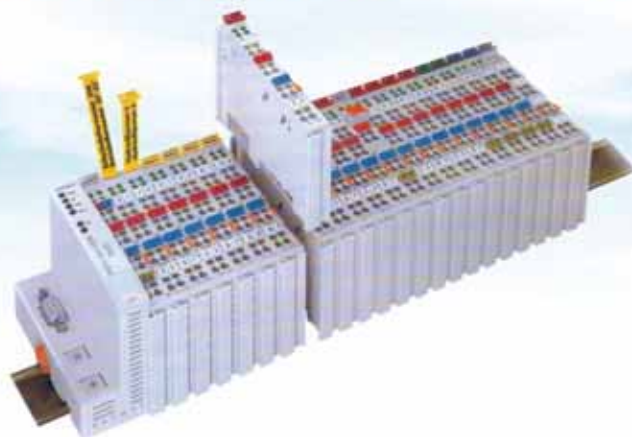
2. Classification of the integrated intelligent industrial Fieldbus type valve electric actuator products

According to the mode that the valve carries out control, the integrated intelligent industrial fieldbus type valve electric actuator products can be classified into two categories, field bus switch and field bus regulation. Above two categories of modes are in accordance to the requirements of different valve control flows corresponding to the valve electric actuators. The field bus switch type valve electric actuator products are mainly used in the pipeline valves that require full open and full close to turn on and off the medium in the pipelines, the field bus regulation type valve actuator products are used for regulating and controlling the flow rate and pressure of the medium in the pipelines.

The integrated intelligent industrial fieldbus type valve electric actuator

3. 功能强大的现场总线 I/O 模块

我公司智能一体化工业现场总线型阀门电动装置产品内部现场总线通讯组件采用的是德国WAGO公司原装进口的WAGO-I/O-SYSTEM750系列产品。750系列产品的突出特点在于其插接组合构成方式，给不同要求的控制选择带来极大的方便，因而广泛用于世界多个国家自动化现场总线设备中，具有很高的知名度。



3. The powerful function field bus I/O module.

The internal field bus communication components of the integrated intelligent industrial fieldbus type valve electric actuator products made by our company uses the WAGO-I/O SYSTEM 750 series products made by WAGO Company in Germany. The outstanding feature of 750 series products is its plug-in combination mode, making it very easy for control selection of the different requirements. Therefore, it is widely used in automatic field bus equipment in many countries around the world, and sharing a very high reputation.

4. 支持多种总线协议标准

智能一体化工业现场总线型阀门电动装置产品内可安装多种现场总线通讯适配器，支持当今世界通行的多种总线协议标准，如：PROFIBUS、DeviceNet、MODBUS、ETHERNET、CANopen、INTERBUS等。

4. Support multi kinds of bus protocols and standards

Multi kinds of industrial field bus communication adaptors can be installed in the integrated intelligent industrial field bus type valve electric actuator products, supporting multi kinds of bus protocols and standards that are widely used in the world, such as PROFIBUS, DeviceNet, MODBUS, ETHERNET, CANopen, INTERBUS and etc.

5. 产品故障自诊断

智能一体化工业现场总线型阀门电动装置产品可以将产品运行参数，如电机驱动、行程控制、转矩控制、现场（也称就地）控制、故障保护等信号全部接入现场总线通讯模块，并以数字量通讯方式上传给中控室，同时设备内部测控与通讯之间还具备信号与硬件故障的自行诊断功能。产品一旦出现故障只需硬件指示灯或通过相应检测设备即可迅速查明故障位置及原因。

5. Self diagnosis of the faults with the product

The integrated intelligent industrial field bus type valve electric actuator products can integrate the operation data of the product, such as the signals as motor drive, stroke control, torque control, field (also called as in-place) control, fault protection, into field bus communication module and upload them to the control room in the form of the digitalized communication. Meanwhile, there is self-diagnosis function for the signal and hardware faults between internal monitor and communication of the equipment. In case fault occurs in this product, the only thing to do is to examine the hardware indicator, or by using the corresponding detection devices to find out the location and cause of the fault.

天津百利二通机械有限公司

TIANJIN BAILI
Ertong Machinery Co.,Ltd.

11-12



XZA系列多回转阀门电动装置

XZA series multi-turn valve electric actuator

XZA系列产品是我公司在综合同类产品特点基础上最新研制的一档多回转阀门电动装置，适用于闸阀、截止阀等阀瓣做直线运动的各种阀门的自动化控制。该产品可广泛应用于石油、化工、冶金、建筑、市政工程、造纸、发电厂等实用管道阀门的领域。

XZA系列产品的基本型为户外型，其防护等级为IP67。产品也可以支撑防爆型，其防爆等级为ExdIIBT4。

Series XZA is a kind of new independent model multi-turn valve electric actuator products based on synthesizing the similar products. It applies to automatically control the gate valve etc. Which valve travel is be-line. It is widely used in such fields using pipeline valve as Petrolane, chemical industry, metallurgical industry, construction, municipal works, papermaking, power station etc.

The basic model of series XZA products is outdoor model; the protection class is IP67, the products also can manufactured to Ex-proof model, the Ex-proof class is Ex d II BT4.



XZA



XZA/JA



XZA/HBC



XZA/BA

XZA系列多回转阀门电动装置

XZA series multi-turn valve electric actuator

XZA系列技术参数表

XZA series Multi-turn electric actuators

| 项目 Item 型号 model | 规格 Size | 最大 控制转矩 Max. Control Torque (N·m) | 输出转速 Output Speed (r/min) | 允许最大 阀杆直径 Permissible max. diameter of stem (mm) | 参考净重 Net Weight (kg) | | | |
|---------------------------|------------|---|---------------------------------|--|----------------------------|-----|-----|-----|
| XZA2 | XZA10-18 | 100 | 18 | 36 | 50 | | | |
| | XZA10-36 | | 36 | | 55 | | | |
| | XZA15-18 | 150 | 18 | | 36 | 57 | | |
| | XZA15-36 | | 36 | | | | | |
| | XZA20-18 | 200 | 18 | | | 36 | 58 | |
| | XZA20-36 | | 36 | | | | | |
| | XZA30-18 | 300 | 18 | | | | 36 | 70 |
| | XZA30-36 | | 36 | | | | | |
| XZA3 | XZA45-18 | 450 | 18 | 65 | | | | 110 |
| | XZA45-36 | | 36 | | | | | 112 |
| | XZA60-15 | 600 | 18 | | 65 | | | 117 |
| | XZA60-36 | | 36 | | | | | |
| XZA4 | XZA90-18 | 900 | 18 | 80 | | 200 | | |
| | XZA90-36 | | 36 | | | 208 | | |
| | XZA120-18 | 1200 | 18 | | 80 | 213 | | |
| | XZA120-36 | | 36 | | | | | |
| XZA5 | XZA160-18 | 1600 | 18 | 100 | | 230 | | |
| | XZA160-36 | | 36 | | | 239 | | |
| | XZA240-18 | 2400 | 18 | | 100 | 250 | | |
| | XZA240-36 | | 36 | | | | | |
| XZA6 | XZA400-7 | 4000 | 18 | | | 100 | 430 | |
| | XZA400-14 | | 36 | | | | 439 | |
| | XZA600-7 | 6000 | 18 | | | | 100 | 450 |
| | XZA600-14 | | 36 | | | | | |



QT系列部分回转电动装置 QT series part-turn valve electric actuator

QT系列产品是本公司上世纪末借鉴国际先进技术研究开发的一种独立式部分回转阀门电动装置，它具有体积小、重量轻、外观质量优良、密封性能可靠、防护等级高、使用维护方便、适用性强、性能价格比合理等诸多优点。它是控制中小口径部分回转阀门的一种理想的电动装置。

随着产品的技术进步和市场需求，本公司在QT系列的基础上进行了再研发。新型QTIN系列普通整体型，QTINEx系列整体防爆型以及IQT系列非侵入式智能型电动装置都在很大程度上拓展了独立式部分回转产品的功能，极大地提高了产品的适用性。

QT series is a kind of separate part-turn valve electric actuator that our company researched and manufactured by using international advanced technology at the end of last century. It is featured with many advantages as compact in size, light in weight, good with appearance quality, reliable in sealing performance, high in protection grade, easy for operation and maintenance, strong in serviceability, reasonable in price performance ratio and etc. It is a kind of ideal valve electric actuator that controls middle and small diameter part-turn valve.

Along with the technological progress and market demand of the products, our company carried out further research and development on the basis of QT series. New QTIN series general integrated type, QTINEx series integrated explosion-proof type and IQT series non-invasive intelligent electric actuators have expanded the functions of the separated part-turn products, the serviceability of the products has been improved significantly.



IQT系列非侵入式智能型电动装置 IQT series non-invasive intelligent electric actuators



IQT系列非侵入式智能型阀门电动装置用微电子技术、计算机技术、集成电路技术、红外线遥控技术、磁控开关技术、液晶数字显示技术等先进控制技术取代传统控制方式。无须打开产品控制壳体即可用遥控器或机上磁力旋钮完成电动装置的调整与设置。由于产品的调整是在整机结构密闭的状态下进行，因而产品的户外性能明显提高，可靠性也相应提高。根据需要该产品可提供多种控制功能以适用不同控制系统。另外，该产品也可制成防爆型，防爆级别为Exd II CT4(或Exd II CT6)，防护等级IP68。

IQT series non-invasive intelligent valve electric actuators use the advanced control technology to take the place of the conventional control modes, such as microelectronic technology, computer technology, integrated circuit technology, infrared remote control technology, magnetic switch technology, liquid crystal digital display technology and so on. The setup and setting of the electric actuator can be carried out by using the remote control or magnetic knob on the machine without open the control case of the product. As the setup of the product is carried out under the entire mechanism sealing state, the outdoor performance of the product has been improved significantly, and the reliability also increased correspondingly. This product can provide multi kinds of control functions to be suitable to different control system upon request. Furthermore, this product can also be made into explosion-proof type, and the explosion-proof grade is Exd II CT4 (or Exd II CT6), the protection grade is Ip68.

QT、IQT主要技术参数表(220V单相电机)

QT、IQT series part-turn electric actuators

| 项目 Item 型号 Type | 规格 Specification | 输出转矩 Output Torque (N·m) | 输出转速 Output Speed (r/min) | 最大阀杆 直径 Max Dia (mm) | 电容 Cap city uF/450V | 参考净重 Reference Net weight (kg) |
|--------------------------|---------------------|-----------------------------------|------------------------------------|-------------------------------|---------------------------|---|
| QT0 | QT-05 | 50 | 0.8 | 14 | 1.2 | 2 |
| QT1 (IQT1) | QT-04 | 40 | 0.86 | 14 | 4 | 6 |
| | QT-06 | 60 | | 22 | 7 | 9 |
| | QT-09 | 90 | | | 7 | 10 |
| QT2 (IQT2) | QT-05 | 50 | 0.73/1.5 | 22 | 7 | 12 |
| | QT-10 | 100 | | | 7 | |
| | QT-15 | 150 | | 32 | 10 | 13 |
| | QT-20 | 200 | | | 10 | |
| QT3 (IQT3) | QT-30 | 300 | 0.57/1.2 | 32 | 10 | 17 |
| | QT-40 | 400 | | | 12 | 18 |
| | QT-50 | 500 | | | 15 | 19 |
| QT4 (IQT4) | QT-60 | 600 | 0.57/1.2 | 42 | 15 | 22 |
| | QT-80 | 800 | | | 30 | 23 |
| | QT-100 | 1000 | | | 30 | 25 |
| QT4/JS (IQT4/JS) | QT-150 | 1500 | 0.17/0.34 | 50 | 20 | 48 |
| | QT-200 | 2000 | | | 20 | 50 |
| | QT-250 | 2500 | | | 20 | 50 |



QT ExIN



QT IN



QT0



QT、IQT主要技术参数表 (380V三相电机)

QT、IQT series part-turn electric actuators

| 项目 Item 型号 Type | 规格 Specification | 输出转矩 Output Torque (Nm) | 输出转速 Output Speed (r/min) | 允许阀杆 直径 Permissible Valve stem Diameter (mm) | 90° 运行时间 Operation Time For 90° turn (s) | 参考净重 Reference Net weight (kg) |
|--------------------------|---------------------|----------------------------------|------------------------------------|---|---|---|
| QT1 (IQT1) | QT6-1 | 60 | 1 | 22 | 15 | 9 |
| | QT9-1 | 90 | | | | |
| QT2 (IQT2) | QT5-1 | 50 | 1 | 22 | 18 | 10 |
| | QT10-1 | 100 | 1 | | 18 | 10 |
| | QT10-2 | | 2 | | 9 | 12 |
| | QT15-1 | 150 | 1 | 32 | 18 | 12 |
| | QT15-2 | | 2 | | 9 | |
| | QT20-1 | 200 | 1 | 32 | 18 | 13 |
| | QT20-2 | | 2 | | 9 | |
| QT3 (IQT3) | QT30-0.5 | 300 | 0.5 | 32 | 24 | 17 |
| | QT30-1 | | 1 | | 12 | |
| | QT30-2 | | 2 | | 6 | |
| | QT40-0.5 | 400 | 0.5 | | 24 | 18 |
| | QT40-1 | | 1 | | 12 | |
| | QT40-2 | | 2 | | 6 | |
| QT4 (IQT4) | QT60-0.5 | 600 | 0.5 | 42 | 28 | 22 |
| | QT60-1 | | 1 | | 14 | |
| | QT60-2 | | 2 | | 7 | |
| | QT80-0.5 | 800 | 0.5 | | 28 | 25 |
| | QT80-1 | | 1 | | 14 | |
| | QT80-2 | | 2 | | 7 | |
| | QT100-0.5 | 1000 | 0.5 | | 28 | |
| | QT100-1 | | 1 | | 14 | |
| QT4/JS (IQT4/JS) | QT150-0.3 | 1500 | 0.3 | 50 | 45 | 48 |
| | QT200-0.3 | 2000 | | | | 50 |
| | QT250-0.3 | 2500 | | | | 50 |

IQT5~IQT7主要技术参数表

IQT5-IQT7 series part-turn electric actuators

| 项目 Item | 规格 Specification | 输出转矩 Output Torque (N·m) | 输出转速 Output Speed (r/min) | 90° 运行时间 Operation Time For 90°turn (s) | 参考净重 Reference Net weight (kg) |
|------------|---------------------|--------------------------------|---------------------------------|---|--------------------------------------|
| 型号 Type | | | | | |
| IQT5 | IQT120-0.5 | 1200 | 0.5 | 30 | 75 |
| | IQT120-1 | | 1 | 15 | |
| | IQT120-2 | | 2 | 7.5 | |
| | IQT200-0.5 | 2000 | 0.5 | 30 | |
| | IQT200-1 | | 1 | 15 | |
| | IQT200-2 | | 2 | 7.5 | |
| | IQT250-0.5 | 2500 | 0.5 | 30 | |
| | IQT250-1 | | 1 | 15 | |
| | IQT250-2 | | 2 | 7.5 | |
| IQT6 | IQT400-0.25 | 4000 | 0.25 | 60 | 125 |
| | IQT400-0.5 | | 0.5 | 30 | |
| | IQT500-0.25 | 5000 | 0.25 | 60 | |
| | IQT500-0.5 | | 0.5 | 30 | |
| | IQT500-1 | | 1 | 15 | |
| | IQT600-0.25 | 6000 | 0.25 | 60 | |
| | IQT600-0.5 | | 0.5 | 30 | |
| IQT7 | IQT800-0.25 | 8000 | 0.25 | 60 | 215 |
| | IQT800-0.5 | | 0.5 | 30 | |
| | IQT800-1 | | 1 | 15 | |
| | IQT1000-0.25 | 10000 | 0.25 | 60 | |
| | IQT1000-0.5 | | 0.5 | 30 | |
| | IQT1200-0.25 | 12000 | 0.25 | 60 | |
| | IQT1200-0.5 | | 0.5 | 30 | |





QBR系列部分回转电动装置 QBR series part-turn valve electric actuator



QBR型部分回转阀门电动装置是我公司在QB型基础上最新研制的换代型产品。适用于控制中型蝶阀，球阀等做90度回转的阀门。该产品体积小，重量轻，具有高效率，高可靠性，高防护性能及多种控制形式等特点。可现场手动或电动操作，也可远距离多种控制形式控制，可广发用于石油，化工，冶金，电厂，水处理等行业。

可生产基本型，整体型，防爆型，防爆整体型以及整体调节型等，该产品基本防护等级为IP67，防爆等级ExdIIBT4。

As an alternation product of generation, the model QBR quarter-turn valve electric actuators are newly developed by the model QB of our company. These actuators are suitable for use on butterfly valve, ball valve and cock valve etc. which are required to turn 90°. These actuators are featured by small size, light, high efficiency, high reliability, high protection capability, low noise and so on. Both operation at site and remote controlling can be carried out. So they have been applied in petroleum and chemical industries, power generating plant, water treatment and paper-making industries.

We can produce the basic model, integral model, explosion proof model, integral explosion proof model and integral adjustable model, etc. The basic level of protection and the level of explosion proof of the products are respectively IP67 and ExdIIBT4.



QBR系列部分回转电动装置

QBR series part-turn electric actuators

标准输出转速产品参数表 Main technical parameters

| 型号 Type | 项目 Item | 规格 Size | 输出转矩 Output Torque (N.m) | 输出转速 Output Speed (r/min) | 90° 运行时间 Operation time for 90° turn (s) | 参考重量 Reference weight (kg) |
|------------|------------|-------------|--------------------------------|---------------------------------|---|-------------------------------------|
| QBR3 | | QB90-0.5 | 900 | 0.5 | 30 | 70 |
| | | QB90-1 | | 1 | 15 | |
| | | QB120-0.5 | 1200 | 0.5 | 30 | |
| | | QB120-1 | | 1.0 | 15 | |
| | | QB120-2 | | 2.0 | 7.5 | |
| | | QB200-0.5 | 2000 | 0.5 | 30 | |
| | | QB200-1 | | 1.0 | 15 | |
| | | QB200-2 | | 2.0 | 7.5 | |
| | | QB250-0.5 | 2500 | 0.5 | 30 | |
| | | QB250-1 | | 1.0 | 15 | |
| | | QB250-2 | | 2.0 | 7.5 | |
| QBR4 | | QB400-0.25 | 4000 | 0.25 | 60 | 120 |
| | | QB400-0.5 | | 0.5 | 30 | |
| | | QB500-0.25 | 5000 | 0.25 | 60 | |
| | | QB500-0.5 | | 0.5 | 30 | |
| | | QB500-1 | | 1.0 | 15 | |
| | | QB600-0.25 | 6000 | 0.25 | 60 | |
| | | QB600-0.5 | | 0.5 | 30 | |
| QBR5 | | QB800-0.25 | 8000 | 0.25 | 60 | 210 |
| | | QB800-0.5 | | 0.5 | 30 | |
| | | QB800-1 | | 1.0 | 15 | |
| | | QB1000-0.25 | 10000 | 0.25 | 60 | |
| | | QB1000-0.5 | | 0.5 | 30 | |
| | | QB1200-0.25 | 12000 | 0.25 | 60 | |
| | | QB1200-0.5 | | 0.5 | 30 | |



部分车间与设备

Workshop and Equipment



① 产品展厅

Exhibition hall of actuators

② 数控机床

Numerical control machines

③ 加工中心车间

Work shop of machining center

④ 零件库房

Machine parts storehouse

⑤ ⑥ 产品喷漆、包装车间

Work shop of painting and packing

应用现场

Field Application



- ① 电厂 Power Plant
- ② ③ 油库 Oil Depot
- ④ 化工 Chemical Engineering
- ⑤ 水处理 Water Treatment



天津百利二通机械有限公司
TIANJIN BAILI
Ertong Machinery Co., Ltd.

21-22



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产品设计如有更改，以实物为准，恕不另行通知。
Subject to change of the product design without prior notice,
so the actual item may be different from the picture.