



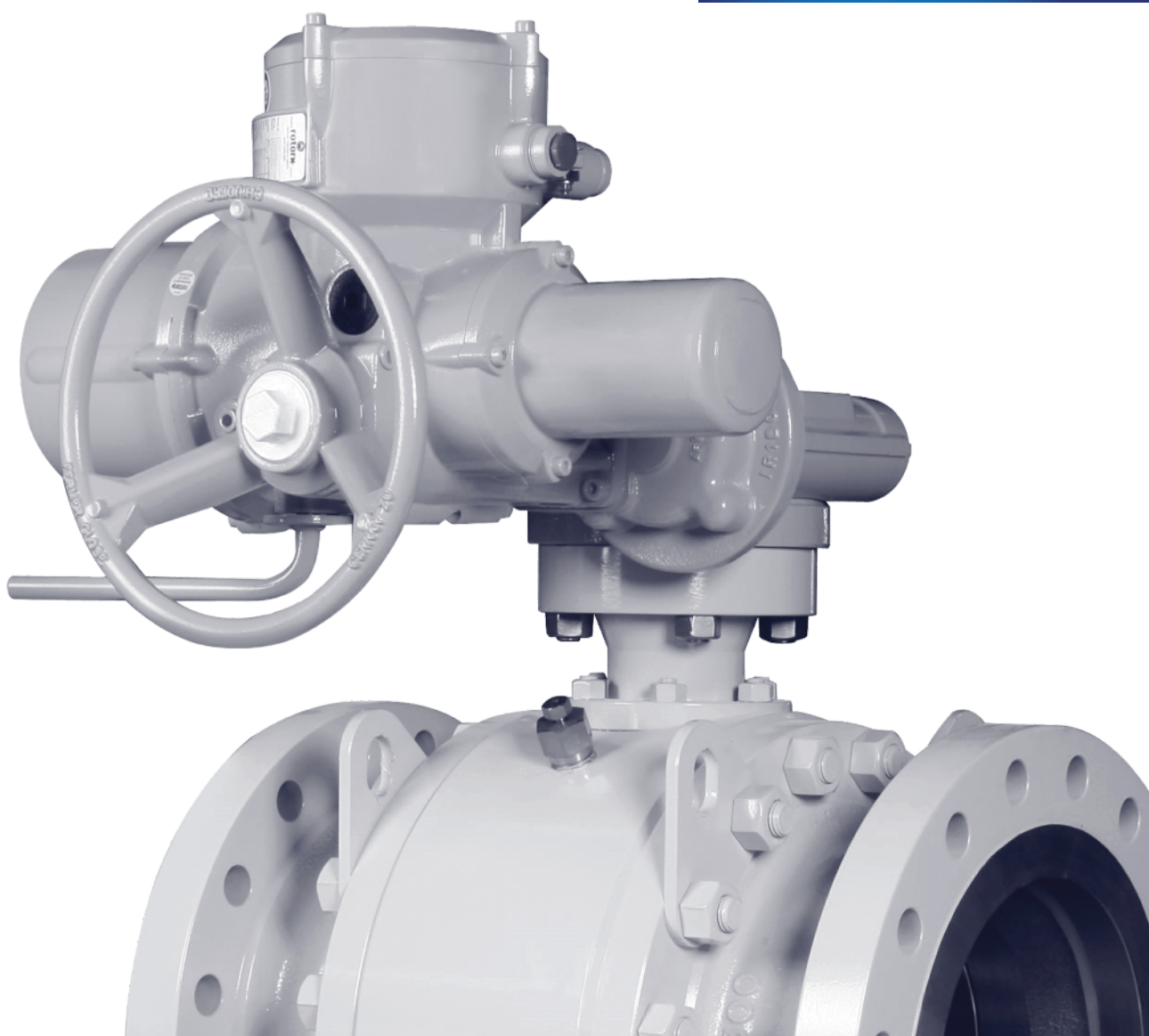
# Valve Automation

**SWI**  
VALVE

SWI Valve Co., Ltd.

Reliable Performance In Extreme Conditions

[www.swivalve.com](http://www.swivalve.com)



## ● SWI Global Footprint

Wherever industrial valves are needed in the world, SWI is nearby. We maintain strong partnerships with authorized stocking distributors on every continent. For your nearest authorized stocking distributor or representative, full contact details can be obtained from our web site: [www.swivalve.com](http://www.swivalve.com)



## ● Foreword

SWI Valve Co., Ltd. is a leading industrial valve manufacturing company, specializing in the design and manufacture of Ball, Gate, Globe, Check, Cryogenic, Bellows Seal and Automated valves.

Our facilities incorporate all aspects of valve design, development and manufacture ensuring that SWI can offer a degree of flexibility rarely encountered elsewhere.

At SWI, we stand for three values - quality, innovation and service. We know the worlds Oil, Chemical, Petrochemical and Process industries require precision flow control products. We have dedicated ourselves to supplying that need with an extensive range of industrial valves, manufactured in our own factories and designed for environmental sensitivity.

The Quality Policy of SWI Valve Co., Ltd. is to consistently provide product that meets customer and applicable regulatory requirements, with the aim to enhance customer satisfaction by providing exactly what has been agreed contractually, to the required quality and time stated.

The company operates under the Quality Assurance Scheme which is in accordance with ISO 9001 and API Monogram.

We are pleased to introduce our Valve Automation Division and trust this catalogue will assist our customers in the selection and application of SWI Products and Services.



## CENTER OF EXCELLENCE

SWI Automation is an independent highly flexible and versatile Division of SWI Valve Co., Ltd. specializing in the manufacture and supply of complete valve actuation. Over many years SWI has built up a reputation for providing high quality valves. To maintain and extend our reputation, we have aligned ourselves with highly accredited and respected Automation & Control Manufacturers enabling SWI to provide a comprehensive range of valve actuators, control & accessories, as well as a variety of actuator services including fire proofing, commissioning, preventative maintenance and retrofit solutions.

We are dedicated to providing the marketplace with some of the latest technology consistent with high quality, innovative solutions and design coupled with excellent reliability and superior performance in the industry.

This combined with our technically advanced world class valve automation facility and our extensive knowledge of the valves and actuator requirements ensures SWI can offer superior well engineered products. From general ON/OFF duty valves with position indication, solenoid control to complete modulating packages with smart positioners, regulators, partial stroke test facilities, ESD and quick acting units incorporating some of the most sophisticated control systems are all available from SWI.

Production is centered at our 14,500 m<sup>2</sup> world class facility near Seoul with all manufacturing processes covered by the same documentation that ensures compliance to our standardized quality assurance programs. Product quality has been subject to continued enhancements and all products are continuously monitored so as to improve quality and reliability.



## Quality Assurance

SWI operate under a Quality Assurance system which is approved by Bureau Veritas to ISO 9001:2008 / KS Q ISO 9001: 2009 / KEPIC-MN and the company is licensed to use the API Monogram in respect of API 6D ball valves. In line with the companies high reputation for quality of design and manufacture, SWI products have been independently accredited by Bureau Veritas for design, manufacture and materials compliant with the safety requirements of the Directive 97/23/EC (PED).

## CAPABILITIES & FACILITIES

Our business is to design, manufacture and supply all types of automated valve and control systems. SWI's philosophy has always been to provide comprehensive, fit for purpose and cost effective valve automation products in order to achieve maximum efficiency, safety and reliability to the industry sectors they serve.

To properly support our customers globally and provide correctly engineered and tested automated products, SWI valve automation center (VAC) has been equipped with some of the most advanced and sophisticated assembly & testing equipments not to be found elsewhere in the industry. Our capabilities and services include;

- Application Engineering
- Design & Stress analysis of mounting and drive train components
- Mounting of Electric, Pneumatic or Hydraulic actuators on valves
- Panel mounting of control components or installation within control cabinets
- Assembly of control systems for ESD, BDV, SDV & XV applications
- Electronic valve torque measurement up to 40,000 Nm
- Delta P testing up to 484 Kg/cm<sup>2</sup>
- Hydraulic, Pneumatic leak testing of complete assembly
- High Pressure Gas Testing up to 422 Kg/cm<sup>2</sup>
- Fugitive Emission Testing according to ISO 15848
- Electrical & functional testing of control system; EExd and EEx 'ia' capability
- Actuator / controls service and repair
- Supply and retrofitting of actuators & controls
- Installation, commissioning and on-site service / SAT integration
- Single warranty for total automated package
- Full project documentation & certification



## ENGINEERED PRODUCTS

SWI recognize the importance of correctly engineered automated products to ensure correct functionality and longevity for reliable performance. In this regard, SWI has implemented rigorous engineering procedures and carries out every element of design, assembly and material selection with consideration to latest industry requirements. Our technical department works with the latest CAD design and sizing software ensuring products meet and / or exceed virtually all major operating company standard practices guaranteeing all actuators are correctly sized and do not over stress the valve throughout its drive train.

Design appraisal for each assembly starts right at the beginning with a methodical step by step approach by qualified engineers following carefully developed procedures to ensure well engineered products for any application from standard general ON / OFF service to Emergency Shutdown Duty (ESD).

ESD valves can be provided with documented calculation requirements in accordance with Von Mises criterion in order to determine the maximum allowable torque on a valve stem with further verification of all stem parts, stem key and mounting hardware verification.

## ACTUATORS & CONTROLS

At the heart of any SWI automated valve is the use of high quality heavy duty actuators and controls from some of the most respected manufacturers in the industry. To complement the actuator, SWI offers a full line of control systems from well known and commonly specified manufacturers. The components are connected by means of a versatile, leak tight coupling system and mounted on a vibration resistant and shock proof stainless steel base plate or via modular manifold system which minimizes complex arrangements using pipes and fittings and is pre-assembled ready for use. The manifold system is quick and easy to install and maintain, offering significant savings in the total installed cost.

SWI recognize the need for standardization and consistency within existing plants and facilities and can offer any preferred / specified brand of actuator or control accessory according to client request or approved vendor lists.

### Quarter Turn or Linear Actuators

- Electric
- Pneumatic
- Hydraulic, Gas/Hydraulic, Direct Gas, Electro/Hydraulic
- Spring return and double acting
- On/off or modulating service

Control Systems are generally an integral part of any actuator valve assembly / installation. SWI is able to supply advanced engineering technology for all types of operation. Typical actuator applications are ON/OFF, modulating and emergency shut down. Control systems can be either mounted directly on the actuator, panel mounted or enclosed within an IP65 weatherproof cabinet.

- Pneumatic, hydraulic and electrical/PLC control systems
- Partial closure testing: mechanical, simple and SMART
- Positioning / modulating controls with or without backup tank
- Self contained hydraulic power packs
- Control systems for high integrity shutdown ESD
- Gas/hydraulic systems for high pressure gas pipelines
- Direct gas systems for high pressure gas pipelines
- High integrity slam shut control
- ESD valve/actuator condition monitoring



### INSPECTION & TESTING

In accordance with most operating companies requirements, SWI has specialized test equipment to perform full functionality testing of valve / actuator assemblies and controls (FAT) to confirm that the products meet the requirements of the standards and specifications of the Purchase Order.

Products that are to specifications shall be guaranteed by an adequate inspection certificate, conformity certificate, material certificate, test certificate, etc., as applicable.

Factory Acceptance Test (FAT) shall include, but may not be limited to the following inspections:

- Visual inspection of quality, workmanship, layout, labels, paint finish and verification of licensing / zoning certification etc....
- Full functional test of actuator (fail safe position, closing/opening time, opening/closing at min/max supply pressure, maximum allowable working pressure), and accessories including operation of the local controls / station.
- Functional tests of each actuated valve fully integrated with its dedicated actuator and local controls / station. These tests can be performed at full valve differential pressure and at minimum and maximum motive power supply pressure.

The following requirements shall be recorded during these tests:

- Valve test differential pressure
- Minimum motive power supply pressure
- Maximum motive power supply pressure
- Closing / opening stroke times
- Closing / opening torque values; optional

On site testing capabilities include;

- Electronic valve torque measurement up to 40,000 Nm with an accuracy of  $\leq 1\%$  providing instant chart / torque curve certificate
- Hydrostatic & Pneumatic leakage performance testing of complete valve / actuator assembly, chart recorded
- Enhanced valve / actuator functional / cycle testing against full sizing differential pressure
- Specialist Electrical / Functional Control testing station for EExd and EEx'ia' apparatus
- Dedicated High Pressure Gas Testing facility in blast proof safe area
- Sound level measurement and operational speed recording
- Fugitive Emission Test Facility (ADIXEN/ASM142, (Measures Down to  $1 \times 10^{-12}$  Pa.m<sup>3</sup>/s/Helium)
- Cryogenic testing facility down to minus 196°C



## QUALITY & COMMITMENT

SWI is a product & service orientated company where quality is a given. We believe that quality is not just of the product itself, but also quality of the service our products and company supply.

Quality control is continuously monitored in order to ensure that the products reach the customer as expected and all valve / actuator & control systems are tested according to SWI internal test procedures, which include full functionality operational test, static and dynamic leakage test and torque test.

Every aspect of SWI activities complies with ISO 9001: 2008 and all valves , actuators and controls used conform to European Directive PED 97/23/EC and ATEX 94/9/EC.

Our clients can count on first class after sales support thanks to our efficient after sales service department, which coordinates together with our service support centers and sub-supplier network located in most of the key territories around the world.

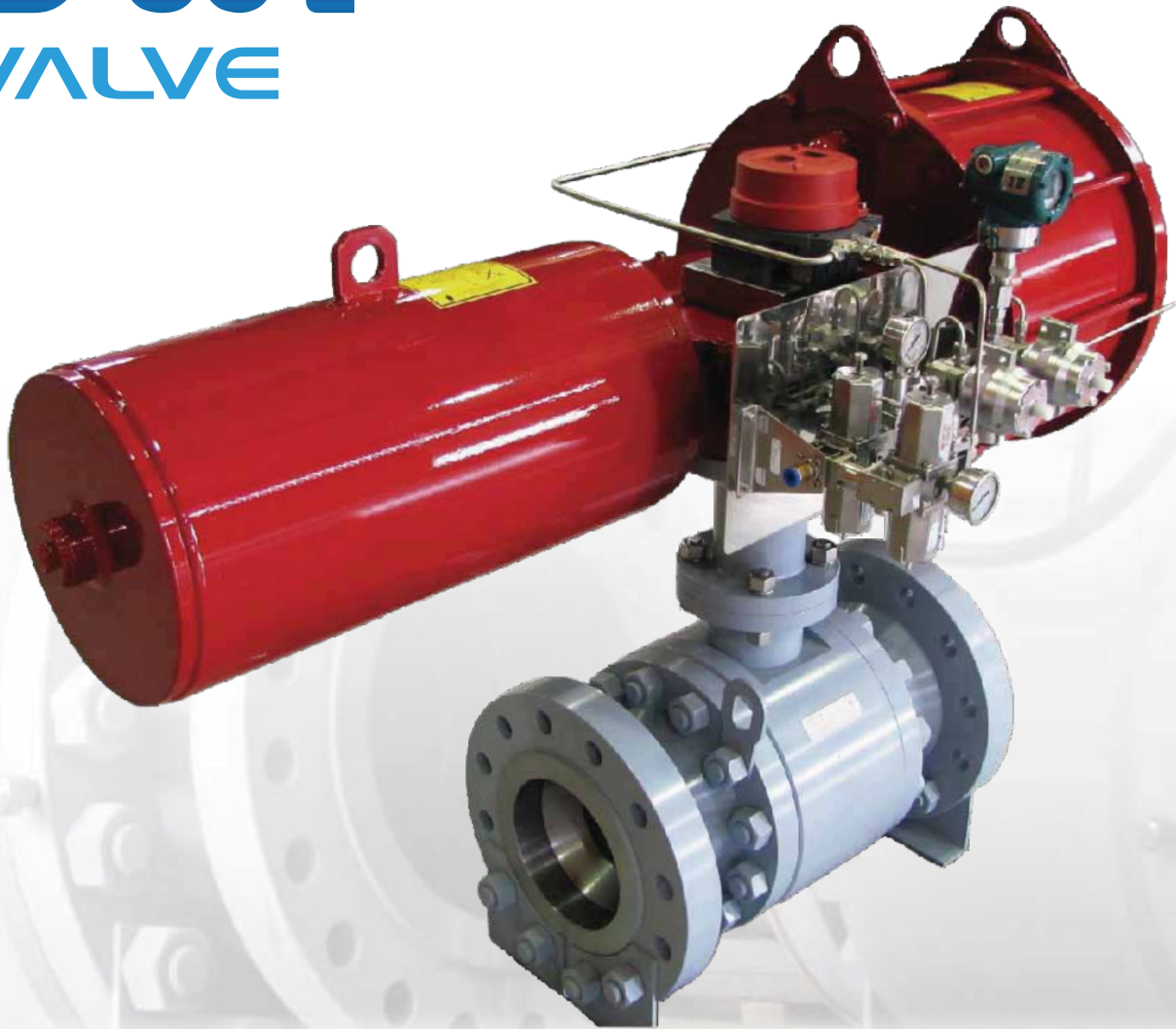


## QUALITY ASSURANCE

SWI Valves operate under a Quality Assurance system which is approved by Bureau Veritas to ISO 9001:2008 / KS Q ISO 9001: 2009 / KEPIC-MN and API Q1. The company is licensed to use the API Monogram in respect of API 6D ball valves and our facilities are always open to customer audits.

SWI valves have been independently accredited for Design and Fire Safety. In addition, manufacture and materials comply with the essential safety requirements of the Pressure Equipment Directive 97/23/EC (PED) & 94/9/EC (ATEX).





## Products Manufactured by SWI Include :

- Ball Valves, Soft & Metal Seated
- Forged Steel Gate, Globe & Check Valves
- Cast & Forged Bellows Seal Gate and Globe Valves
- Cryogenic Valves down to minus 196 °C
- High Alloy Valves
- Top Entry Valves
- Fully Automated Valves, Pneumatic, Electric, Hydraulic & Gas Over Oil Systems

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