# BEIER CONTROL VALVE

General Catalogue





## **Corporate Introduction**

Founded in 1987, BEIER Control valve is a professional manufacture of multi-types control valve for industrial automation, a national high-tech enterprise. BEIER dedicating to implement of effective process control by inspiring, innovative valve solutions. Focusing on control valves has bring the expertise of Control valve Sizing, selection, manufacturing and maintenance.

Our manufacturing process and product quality have the necessary approval of ISO 9001,14001, CE and API. Over 30 patents and self design Globe valve, Rotary shaft control vale, company gained reputation in varies industry fields including Chemical, petrochemical, Power Generation, Pulp& Paper, etc

With a 3000 m<sup>2</sup> brand new facility under constructing, 12 branch office in domestic China.Beier is continue to grow and ready to take a leap to deliver our product and service worldwide.





## CONTENTS

Corporate Introduction

Corporate History

**BEIER Qualification** 

Research&Development

**Machining Center** 

**Assembly Center** 

Inspection Center

Sliding Stem Control Valve

Rotary Shaft Control Valve

Actuator

Application

Technical Service

Sales Network



## **Corporate History**

#### 1987

Ruian Guanghua Instrument Factory (the predecessor of BEIER Company) was established.

#### 1989

Started to be engaged in manufacturing and selling control valves

#### 1992

Honored as one of the control valve manufacturers in China that were firstly issued the manufacturing license

#### 1997

The factory certified to the ISO9000 international quality system.

#### 2001

Made investment in establishing Kaifeng Aisaite Control Valve Co., Ltd. in Kaifeng, Henan Province

#### 2002

Specialized in manufacturing control valves for the air separation industry

#### 2003

Completed the latest technological research and development of 9 series trim for linear motion control valves and granted 15 self-owned patented technologies

#### 2004

Competed the latest technological research and development of high performance butterfly valves, granted 5 self-owned patented technologies and started batch production

#### 2005

Competed the technological research and development or eccentric rotary valves, granted 3 self-owned patented technologies and started mass production

#### 2006

Competed the technological research and development of triple-eccentric butterfly valves, granted 2 self-owned patented technologies and started batch production

#### 2007

Obtained national manufacturing safety certification of special equipment (AZ certification)

The company through the eu product safety sign the authentication (CE)

#### 2008-2009

Established offices in Jinan, Beijing, Jilin, Kaifeng, Wuhan, Chengdu, Ningbo, Xi'an, etc.

#### 2010

The sales amount reached RMB 100 million Yuan.

#### 2011

Honored as a Star Enterprise of Growth in Zhejiang Province

The three major products (control valves, butterfly valves and ball valves) of our company were issued class A manufacturing license of special equipment (pressure pipes) (new edition).

#### 2012

Our company obtained the ISO14000 environmental management system certification and ISO18000 occupational health and safety management system certification.

The new factory with an investment of RMB 80 million Yuan of our company began construction in Binhai High-tech Zone, Ruian.

#### 2014

Release Self Design New Electro-Hydraulic Actuator.











### **BEIER Qualification**

Treating quality as the foundation of Corporation development, BEIER strictly complies with national regulations, industrial standards, and customer requirement, pushes all-round quality monitoring. Keep pace with world leading test method and standards to ensure every valve we delivery can serve customer well with minimum maintenance.











## Research and Development

BEIER always give priority to technical research and development, unceasingly improves product performance as well as new product release to meet customer demand. In 2008, company introduced design software like solidworks, Cosmos qualitative analysis to enhance the technical design strength which had already gain over 30 patent for the company. Not only standard Control valve for common service, BEIER also provide engineered solution to help customer consider every aspect they may challenged by special and serve services.

The integrated software of *BEIER control valve selection* is based on BEIER's 30 years accumulating, help customer to identity what's best for their applications, understand performance detail of BEIER valve.





## **Machining Center**

BEIER Owns a space of 3,000 m² for machining centers, To ensure processing precision and product quality stability, high precision automatic processing equipment and special automatic inspecting instruments were invested including CNC processing center, CNC lathe, CNC grinding, CNC drilling, CNC vertical lathe, CNC boring machine, CNC milling machine. All the equipments running by well trained and experienced engineer or technician who has a high sense of responsibility for products.

















## **Assembly Center**

BEIER responds fast to meet customer short time delivery request. The assembly center have 2,000  $\rm m^2$  and stored spare parts which worth over 20 million RMB to ensure quick acting on urgent orders. Highly trained assembly engineer guarantee both lead-time and Quality.





## **Inspection Center**

BEIER invest large on its laboratory to implementing total quality management. Including Devices like micro-contact three-coordinate measuring machine, spectrum analyzer, cryogenic inspection system, material analyzer, valve tester, ultrasonic flaw detector, etc. The products are also subjected to stress test, material test and analysis under different temperatures and pressures.





## SLIDING STEM CONTROL VALVE

Size range: 3/4 "  $\sim 16$  "; DN20 $\sim$  DN400

Pressure rating: ANSI CLASS 150 ~ 2500; PN1.6 ~ PN42.0

Temperature rating: - 196 ~ 570 °C





## ADVANCED TECHNOLOGY IN THE INDUSTRY

Control valves Solutions for severe service



#### L-20200 Top Guided Globe Valve

L-20200 Series features top guide unbalanced structure, high strength, heavy loading, S streamline channel, flow coefficient with wide range ability and high precision flow characteristics. applicable to all kinds of pressure and temperature of the fluid or gas control, adapted to various actuators, regulation.

The cage adopts press-in type seat design, which reduces lateral load and plug vibration, lowers friction and prolongs life cycle of the control valve. With the flow to open design, the medium flow direction tends to the opening direction of the control valve with good controllability of small flow status. Special cages with noise reduction and anti-cavitation functions can be offered according to the service conditions (see L-20800/20900 Series for details).

Size Range: 3/4"~12" DN20~DN300 Pressure Rating: ANSI 150~2500# PN1.6~PN42.0 Mpa

Temperature: -196°C~538°C Leakage: CLASS VI

#### L-20300 Top Guided Pressure Relief Globe Valve

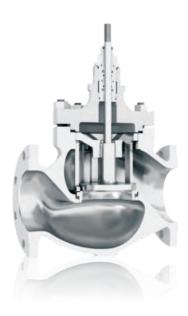
L-20300 Series features double trim design which coordinate with Seat to ensure leakage free. Small trim actuated to offer control or pressure relief function in front, and in specific location to drive big trim move to control of fully open. Remedy cage guided single seat valve high temperature non-resistance shortage.

Size Range: 4"~12" DN100~DN300 Pressure Rating: ANSI 150~600# PN1.6~PN6.4 Mpa Temperature: -196°C~538°C

Leakage: CLASS VI







#### L20400 Top Guided Shut-off Globe Valve

L-20400 series use for on-off application. Its circular arc surface sealing and centric located pressure relief design can effectively ensure leakage with ASNI Class VI. Actuated with different thrust to improve allowable closing pressure drop range. Bodies can easily modified by change of trim parts with pressure relief double seated trim to provide wide application for services like cryogenic, high temperature, high pressure drop.

Size Range: 3/4"~12" DN20~DN300 Pressure Rating: ANSI 150~900# PN1.6~PN16.0 Mpa

Temperature: -196°C~538°C Leakage: CLASS VI

#### L20800 Top Guided Labyrinthine Pressure Drop Control Valve

L-20800 series feature labyrinthine path cage with unbalance trim design, different stage of labyrinthine design according to the fluid parameter to divided the main flow path to many small sinuous path or even many stage to force flow change direction constantly to gradually reduce flow pressure. It protect valve from cavitation , prolong life cycle. Unbalance single seat structure ensure a low leakage. Applicable for Cavitation service with small body size.

Size Range: 3/4"~4" DN20~DN100 Pressure Rating: ANSI 150~2500# PN1.6~PN42.0 Mpa Temperature: -196°C~538°C Leakage: CLASS V





#### L-20900 Top Guided Multi-hoe Pressure Drop Control Valve

L-20900 unbalance trim combine with multiple-hole pressure drop cage , Flow energy gradually consumed by passing through multi-stage cages to reduce pressure. It protect valve from cavitation , prolong life cycle. Unbalance single seat structure ensure a low leakage. Applicable for Cavitation service with small body size.

Size Range: 3/4"~4" DN20~DN100 Pressure Rating: ANSI 150~2500# PN1.6~PN42.0 Mpa

Temperature: -196°C~538°C

Leakage: CLASS V



#### L-40500 Cage Guided Double-Seat Globe Valve

L-40500 cage guided pressure balance trim is design for heavy loading application. S-path tunnel compact structure, high capacity and control range. Cage guided plugs furnish stable operation for

Reduced dynamic forces acting on plug permit choosing a smaller actuator than would be necessary for a single seat valve body.

Size Range: 1 1/2"~16" DN40~DN400

Pressure Rating: ANSI 150~900# PN1.6~PN16.0 Mpa

Temperature: -196°C~538°C Leakage: CLASS IV





#### L-40600 Cage Guided Single-seat Globe Valve

By replacing up seat to a balance seal ring from L-40500 double seat valve. Provide better sealing performance, The cage guided pressure balance trim is design for heavy loading application. S-path tunnel compact structure, high capacity and control range. Cage guided plugs furnish stable operation for severe service conditions.

Size Range: 1 ½"~16" DN40~DN400

Pressure Rating: ANSI 150~600# PN1.6~PN6.4 Mpa

Temperature: -60°C~250°C Leakage: CLASS V

#### L-40700 Noise Reducing Globe Valve

L-40700 high performance control valve with good dynamic stability that is suitable for severe service conditions. In this structure, the fluid often flows from the outside of the cage to its inside. Thus the jet impact and flocculating flow are controlled within the cage, the downstream fluids of a stable point are formed, the large-scale separation effect is reduced. Therefore noise is reduced and the frequency spectrum that produces noise is changed. Valve lower the noise by 15~20 db. Through narrow the hole diameter on the cage, the noise can be further reduced. This structure is called single-stage multi-hole type (SS), and the noise can be reduced by about 5 decibels.

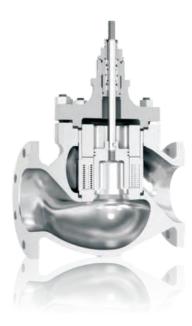
Size Range: 1 ½"~12" DN40~DN300 Pressure Rating: ANSI 150~2500# PN1.6~PN42.0 Mpa

Temperature: -196°C~538°C

Leakage: CLASS V







#### L40800 Cage Guided Labyrinthine Pressure Drop Control Valve

L40800 series is by changing L-20800 trim to Cage guided type. Create balance force to provide larger Size available. Applicable to serve services. The balanced trim can select with:

- Cage single-seat type (high shut-off class, low working temperature range)
   Cage double-seat type (low shut-off class, high working temperature range)

Size Range: 1 ½"~12" 40~DN300 Pressure Rating: ANSI 150~2500# PN1.6~PN42.0 Mpa

Temperature: -196°C~538°C

Leakage: CLASS V

#### L-40900 Cage Guided Multi-hoe Pressure Drop Control Valve

L40900 series is by changing L-20900 trim to Cage guided type. Create balance force to provide larger Size available. Applicable to serve services. The balanced trim can select with :

1. Cage single-seat type (high shut-off class, low working temperature range)

2. Cage double-seat type (low shut-off class, high working temperature range)

Size Range: 1  $\frac{1}{2}$ "~12" 40~DN300 Pressure Rating: ANSI 150~2500# PN1.6~PN42.0 Mpa Temperature: -196°C~538°C Leakage: CLASS V





#### L23100 Three Way Control Valve

L-23100 H/F provide general converging(flow-mixing)/ diverging(flow-spliting) service. Optional with both unbalance double seat trim and balanced trim. Can also choose specific trim for noise and cavitation service.

Size Range: 3/4"~12" DN20~DN300 Pressure Rating: ANSI 150~600# PN1.6~PN6.4 Mpa

Temperature: -196°C~538°C

Leakage: CLASS IV



## ADVANCED TECHNOLOGY IN THE INDUSTRY

#### Control valves Solutions for severe service



#### L20230 Cryogenic Valve

L-20230 feature port guided unbalance structure, outstanding dynamic stability and sealing performance. Plug sealing use Bellows and standard packing dual secure to protect valve from low temperature fluid influence. So plug work in absolute sealing condition with motion effective. Valve body and other parts use austenitic stainless steel or Ai-Mg alloy low temperature resistence material, High strength for long use. Ease of maintenance by changing trim. Optional with nosie reducing and anti-cavation trim according to your service requirement.

Size Range: 3/4"~12" DN20~DN300 Pressure Rating: ANSI 150~900# PN1.6~PN16.0 Mpa Temperature: -196°C~-300°C Leakage: CLASS VI

#### L-21241C PTFE Lining Valve

L-21241C Series globe valve body and trim fully lined with PTFE, effectively protect mental material from corrosive fluids. Valve plug sealed by RTFE bellows and "V" type PTFE combined packing, eliminate external leakage. Unbalanced fully fluorine lined global valve specific for low pressure corrosive

Size Range: 4"~12" DN20~DN300 Pressure Rating: ANSI 150# PN1.6 Mpa

Temperature: -45°C~-150°C Leakage: CLASS VI





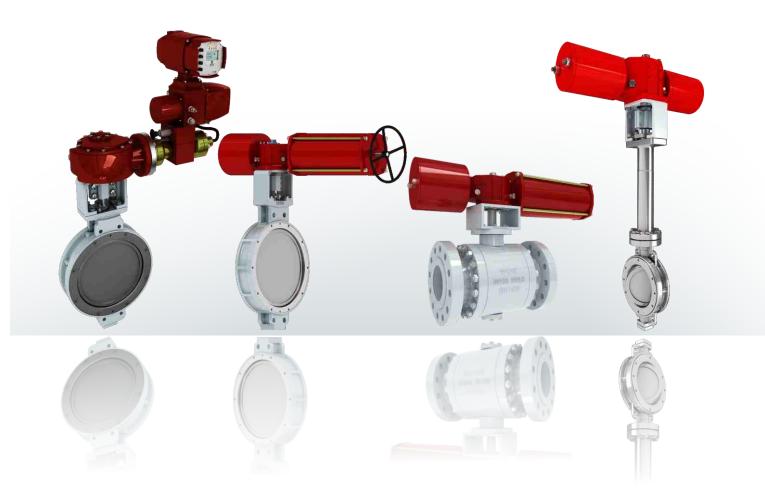


## ROTARY SHAFT CONTROL VALVES

Size: 2 " --120 "; DN50--DN3000

Pressure grade range: ANSI CLASS125--600; PN0.6--PN6.4MPa

Temperature range: -196--1100 °C





## ADVANCED TECHNOLOGY IN THE INDUSTRY Solutions of control valves in severe service conditions



#### R-71700 High Performance Butterfly Valve

R-71700 series high performance butterfly valve feature double eccentric design which the positioning of the valve shaft/disk connections cause the disk to take a slightly eccentric path on opening. This allows the disk to be swung out of contact with the seal as soon as it is opened. thereby reducing friction and wear. Combine with the compensational seat design to prolong product lifecycle with stable sealing performance.

Size Range: 2"~48" DN50~DN1200

Pressure Rating: ANSI 150~300# PN1.0~PN4.0 Mpa

Temperature: -45°C~250°C Leakage: CLASS VI

#### R71800 Triple Eccentric Butterfly Valves

R-71800 series high performance butterfly valve feature triple eccentric design which provide zero friction between dick and seal in 0-90° rotation. Multi level of seat that mixed with mental and non-metal material, effectively protect the valve from leakage. They are frequently applied in high temperatures services.

Size Range: 2"~48" DN50~DN1200

Pressure Rating: ANSI 150~600# PN1.0~PN11.0 Mpa

Temperature: -196°C~538°C Leakage: CLASS VI





## ADVANCED TECHNOLOGY IN THE INDUSTRY

Solutions of control valves in severe service conditions



#### R-71600 Low Load Butterfly Valve

R-71600 series low load butterfly valve adopts metal face sealing design of central lined structure. Simple structure, compact, mature manufacturing technology and convenient maintenance, applicable to flow and pressure control in low pressure service and suitable for fluids of very high temperature. It is widely used in Mining, petrochemical industry, power station and other industries. Available in size up to 120"(DN3000) , a great economy solution.

Size Range:4"~120" DN100~DN3000
Pressure Rating: ANSI 125~300# PN0.25~PN4.0 Mpa
Temperature: -196°C~1100°C
Leakage: CLASS II

#### R-71500X Rubber Lining Butterfly Valve

R-71500X series butterfly valve lined with rubber, valve body and disk lined with synthetic rubber or alloy steel disk to protect valve from erosive and leakage. This valve used to cut off for application like water, air, gas with economy cost.

Size Range:2"~24" DN50~DN600
Pressure Rating: ANSI 125~150# PN0.6~PN1.6 Mpa
Temperature: -20°C~80°C
Leakage: CLASS VI







#### R-71500C High Performance PTFE Lining Butterfly Valve

R-71500C Series high performance butterfly valve lined with lined with PTFE, F46 or other anti-corrosive materials so as to effectively protect valve from strong corrosive media. It has good sealing performance. Mainly used for control of corrosive fluids in industrial process such as chemical industry. It is an ideal solution to control and shut-off applications of various chemical corrosive medium.

Size Range:2"~24" DN50~DN600 Pressure Rating: ANSI 125~150# PN0.6~PN1.6 Mpa Temperature: -20°C~180°C Leakage: CLASS VI

#### R-71030 Cryogenic Butterfly Valve

L-71030 Cryogenic butterfly modify from R-71730 High performance and R-71800 triple eccentric valve structure, Specific for cryogenic service. reliable performance by using alloy material with proper treatment, extension bonnet double-sealing with shaft, ensure sealing ability and prolong life cycle.

Size Range:4"~24" DN100~DN600 Pressure Rating: ANSI 150~600# PN1.6~PN6.4 Mpa Temperature: -196°C~538°C Leakage: CLASS V







#### R-51200 Segmented Ball Valves.

R-51200 Series Segmented Ball valves features V/C type ball in valve trim , work wit positioner to modulating the fluids. Spring Load seat remains the ball in contact with seal during rotation, which produces a shearing effect as the ball closes and minimizes clogging. The V ball produces an equal-percentage flow characteristic , it has good range ability, control and shutoff capability, also the self clean function make it suited to control erosive , viscous, and slurries containing entrained solids or fibers.

Size Range:1"~24" DN25~DN600

Pressure Rating: ANSI 150~900# PN1.0~PN16.0 Mpa

Temperature: -196°C~538°C Leakage: CLASS V

#### R-51100 Eccentric Rotary Valve

R51100 series eccentric segmental ball valve provide simple fluid path which brings small resistance, valve body is compact and light, wide range ability and accuracy. Eccentric segmental ball structure minimizes contact with the seat ring when opening, reducing seat wear and friction, prolonging seat life, and improving throttling performance.

This style of rotary control valve suits erosive, slurry working condition. Rugged mental trim

and big output torque ensure dependable working in rated pressure drop.

Size Range:1"~16" DN25~DN600 Pressure Rating: ANSI 150~600# PN1.0~PN11.0 Mpa







#### R-51300 Trunnion O Ball Valve

R-51300 Series O-type Ball valves is an rotary motion cut off valve. Can be used to throttling in some conditions Actuated by electric or pneumatic actuation to implement remote control. Or Hand wheel , gear box to realize handle control. It is widely used in cutting off , distribute and change of fluids direction. Can be fully open or closed by 90° of stem rotation. simple, compact and light. easy to maintain.

Size Range:1"~24" DN25~DN600

Pressure Rating: ANSI 150~900# PN1.0~PN16.0 Mpa

Temperature: -196°C~538°C

Leakage: CLASS VI





#### ER-100 Rotary Motion Electro-hydraulic Actuator

ER-100 series Rotary Motion Electro-hydraulic actuators require only electrical power to the motor and an electrical input signal from the controller, it's ideal option for isolated location where pneumatic supply pressure is not available but where precise control of valve plug position is needed. The intelligent device include Data recording to monitor related control data and alarm information. Shows anytime you need to diagnose/analysis every running condition.

#### BR-S Single Action Rotary Motion Pneumatic Actuators

BR-S Series piston type single acting pneumatic actuator adopts double guide design. With stable and reliable piston movement. It has high output torque, convenient installation and maintenance. Through the piston seal ring sealing, the air supply pressure acts on the piston to produce movement and drives the push rod to move leftwards or rightwards. When there is no air supply pressure, spring reset to produce movement and drive the push rod. Through the switching of the fork, Maximum angle of 100°.





#### BR Double Action Rotary Motion Pneumatic Actuators

BR Series piston type double acting pneumatic actuator adopts double guide design. With stable and reliable piston movement, high output torque, convenient installation and maintenance. Through piston seal ring sealing, the air supply pressure acts on the piston to produce movement and drives the push rod to move leftwards or rightwards. Maximum angle of 100°.



#### L-600 Linear Motion Pneumatic Piston Actuator

L-600 series single/double acting piston furnish maximum thrust output and fast stroking speeds. Force are given by both direction or spring return to provide air to open or air to close operation.





#### L-400 Linear Motion Pneumatic Diaphragm Actuators

L-400 is the most popular type of Pneumatic diaphragm actuator in use for globe valves. Air supply pressure pushes up/down diaphragm and extends actuator stem. Its simple . dependable and economical.

#### EL-100 Linear Motion Electro-hydraulic Actuator

EL-100 series Linear Motion Electro-hydraulic actuators require only electrical power to the motor and an electrical input signal from the controller, it's ideal option for isolated location where pneumatic supply pressure is not available but where precise control of valve plug position is needed. The intelligent device include Data recording to monitor related control data and alarm information. Shows anytime you need to diagnose/analysis every running condition.





## **APPLICATION**

BEIER products include full range of control valves which can meet various service with temperature ranging from -196°C to 750°C, pressure rating from 0.01MPA to 42.0MPA, and pipes of diameter from DN15 to DN3000. We proudly have

Supplied over 20 projects of 300MW or above heat power plants.

Supplied over 200 projects of Cryogenic services (Air separating, LNG, LPG)

Supply control valves for cryogenic service conditions (air separation, LNG, LPG). We have supplied control valves as supporting equipment for 200 sets of devices.

Supplied over 200 projects of Cryogenic services (Air separating, LNG, LPG)

Supplied over 10 polycrystalline silicon projects.

More than 50 long time partner in Mining & Mental industry.

Renowned supplier for domestic Chemical and petrochemical industry.



















## **Technical Service**





Control Valve Sizing & Selection

Valve Maintenance & Repair

Actuator Maintenance & Repair

**Control Valve Performance Improvement** 

**Engineering Support** 

Valve & Actuator Custom





## The Sales Networks Of BEIER

We have established 12 branch Offices in China. BEIER Control Valve sincerely invites local distributor to join us for building an first class control valve sales and service network throughout the world.



#### ZHEJIANG BEIER CONTROL VALVE CO., LTD

Add: Xiaonanshan Industrial Zone, Tangxia Town,
Ruian City, Zhejiang Province, China 325204
Tel: +86-577-65370551/25657777
Fax: +86-577-65370559
http:://www.beiervalve.com

Version:Eb001