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National-Level Specialized, Fined, Peculiar and Innovative SMEs "key little giants " company

World quality Made in Zhejiang
Zhejiang Makes It Happen

Simplification Product Manual

2026: Hangzhou, China

About **DOCN**

Dongchen Intelligent Technology Co., Ltd. (formerly Zhejiang Dongchen Valve Technology Co., Ltd.) was established in 2006 and is located in Yuhang Economic Development Zone, Zhejiang Province. It is a national high-tech enterprise integrating design and development, production and manufacturing, sales and service. The company specializes in the production of intelligent control valves, PRDS, bypass valves, minimum flow valves, exhaust and vent valves, metal-sealed ball valves, triple eccentric offset butterfly valves, double disk parallel gate valves, and anti-erosion blowdown valves. It also undertakes the integration of control devices and control systems. The company's products are widely used in key fields such as thermal power, nuclear power, oil refining, petrochemicals, coal chemical, steel, metallurgy, and centralized heating.

The company is a National-Level Specialized, Fined, Peculiar and Innovative SMEs "key little giants " company, a National high-tech enterprise, a Zhejiang provincial technology-based enterprise, and a Zhejiang provincial AAA-level contract-abiding and credit-keeping unit. It has established the Zhejiang Dongchen Intelligent Control Valve Enterprise Research Institute and a postdoctoral research workstation; the Zhejiang provincial high-tech enterprise Dongchen Valve R&D Center and the Hangzhou municipal enterprise technology center. It is also a member of the China Valve Association, the Thermal Engineering Design Professional Committee of the China Petroleum and Chemical Engineering Design Association, and the National Chemical Thermal Engineering Design Technology Center Station. The company has been honored with awards such as "Top 100 High-Growth High-Tech Enterprises in Zhejiang Province", "Yuhang District Government Quality Management Innovation Award", and "High-Quality Development Enterprise in Qianhai Development Zone".

DOCN adheres to the development path of domestic substitution for imported products, targets high-quality products and markets, and dares to innovate. In recent years, DOCN has developed a series of high-tech products, such as steam bypass valves for fourth-generation nuclear power, PRDSs for ultra-supercritical power stations, steam-assisted atomization desuperheater, HP & HT steam exhaust and vent valves, Anti-cavitation special labyrinth control valves, HP triple offset butterfly valves, and HP & HT metal sealed ball valves. These high-tech products have broken the monopoly of foreign products, and become the benchmark for domestic production in the industry, always standing at the forefront of domestic production.

www.docnvalve.com

Honors & **Certifications**

Business **process**

Inquiry & Quotation

Our salesman provide all kinds of support for customers during inquiry & quotation to find the best and most economical technical solutions. At this stage, each valve should be calculated and sized, such as CV value and noise, then all possible severe service, such as corrosion, erosion, cavitation and flashing, are analyzed in depth.

Contract management

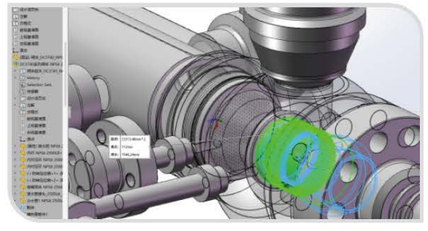
After the contract takes effect, from the issuance of the order to the final shipment, our company's contract management team will track it throughout the process and will be in contact with the project manager and inspector designated by the customer.

Project files management

Technical and quality documents, such as drawings, quality plans, product descriptions, installation and maintenance manuals, certificates, etc., are crucial to the company's internal production processes and the execution of customer projects. Our professional document management team can ensure the output of documents according to customer requirements.

Design

Design and innovation are at the core of our business. For projects that require customized solutions, the technical department is responsible for developing and designing customized valves according to the customers'



Production

Due to the wide variety of products and the strict requirements of customers, flexibility is a key element in production. So all activities related to the production process, including procurement, manufacturing, assembly, testing, and shipping, need to be particularly focused on and coordinated. All these activities are supported by a highly integrated ERP system.

Quality Control

Fully and strictly implement the quality control system to ensure that the whole production process is under strict rule control. Together with other certifications, this has made DOCN a qualified supplier for many large-scale enterprises both in the domestic and overseas.

Assembly

The assembly of all products is carried out by professional persons. The assembly process adheres strictly to the product manufacturing specifications.

Painting

Painting is carried out according to the standards of DOCN or specified by customer, to ensure that the products receive excellent anti-corrosion protection in different industrial environments or climatic conditions.

FAT

All products must make FAT. DOCN can carry out customized testing according to the specific requirements of customers. These tests can be conducted under the supervision of the buyer or a third party. Test personnel operate in an independent testing area in the workshop, separate from production staff, and report directly to the quality management department.

Packaging

DOCN can provide standard packaging methods or packaging methods specified by customers to adapt to the transportation and storage requirements.

Laboratory

The laboratory equipment can conduct dynamic experiments on fluids and measure the flow coefficients of valves. The experimental equipment is regularly upgraded to adapt to the product updates and development as well as other forms of certification requirements.

Storage

The storage system of DOCN is dynamically managed by a central computer system. The system can track the performance of the contract and query the components effective utilization rate, ensuring the delivery time to meet market demands.

After-sales service

After-sales service is essential for our customers. Whether the equipment is in the commissioning period or the stable operation period, we can provide full life cycle after-sales service for valve products. We have decades of valve operation performance data. These data are directly from the customer, which enables DOCN to provide rapid response spare parts service and promote new and more advanced technical solutions.

DC1600/1800 series casting / forged control valve (globe style)

> Products information (conventional design)

- Class rate:
  ANSI 150~2500 (PN16~420)
  (PN16~PN420)
- Valve size:
  1/2"~24"(DN15~DN600)
- Temperature range:
  -29℃~620℃
- Valve body material:
  WCB、WC6、WC9、C12A、
  CF8、CF3、CF8M、CF3M、
  ZG20CrMoV、20、A105、15CrMo、12Cr1
  MoV、A182 F11/F22/F36/F91/F92、F304、
  F304L、F316、F316L、
  Inconel、Moneletc
- Leakage Class:
  IV, V, VI
- Connection:
  Flanged (RF, FM, RTJ, etc.)
  Welded (SW, BW)
- Operating:
  Motorized, pneumatic, hydraulic, etc.

> Features

1. The optimized low-flow-resistance inner channel
2. High-capacity valve trim
3. Lower pressure recovery capacity
4. Large rangeability
5. Multiple noise reduction solutions
6. Multiple anti-cavitation solutions
7. Post / cage guiding design

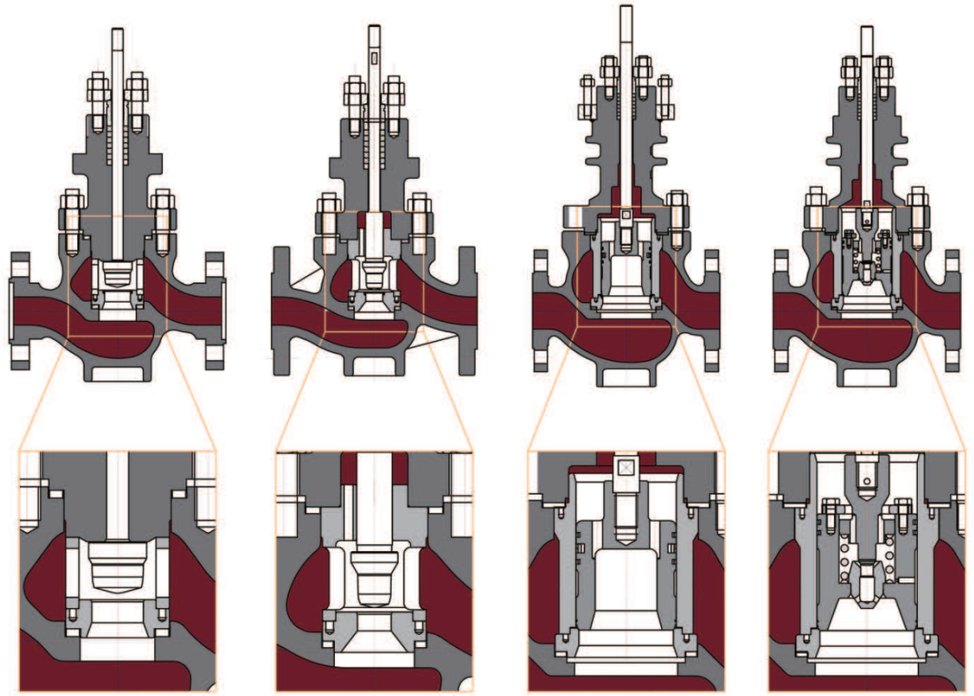
DC1600/1800 series globe control valve designed by DOCN are general-purpose high-performance products.

> Main types

DC1611 compact single seat control valve
DC1621 post guiding single seat control valve
DC1631 cage guiding single seat control valve
DC1624 cage guiding pressure balanced control valve
DC1629 pilot plug control valve
....

Several types of valve trims

Trim options



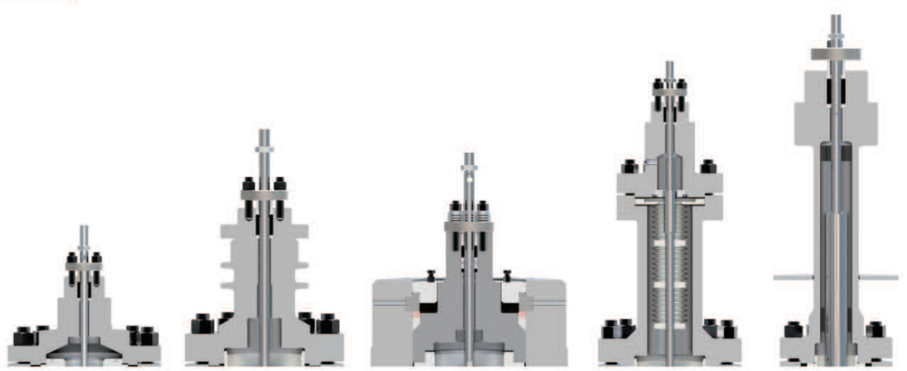
DC1631 series
Post guiding control valve
Valve size: 1/2"~8"
Class rate: 150LB~1500LB
Post guiding, contoured plug

DC1621 series
Cage guiding control valve
Valve size: 1/2"~8"
Class rate: 150LB~1500LB
Cage guiding, contoured plug

DC1624 series
Cage guide control valve
Valve size: 1"~24"
Class rate: 150LB~1500LB
Cage guiding, pressure balanced plug

DC1629 series
Pilot plug control valve
Valve size: 2"~24"
Class rate: 150LB~1500LB
Cage guiding, pilot plug

Bonnet options



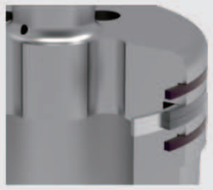
Standard **Extension** **Self sealing** **Bellows sealing** **Cryogenic extension**

Pressure balanced sealing ring options

S style (reinforced PTFE)

Max temperature: 280℃
Leakage class: V & VI
Max class rate: ANSI 1500

D style (Carbon-graphite)



Max temperature: 566℃
Leakage class: IV
Max class rate: ANSI 2500

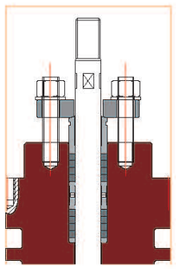
C style (Metal C-ring)

Max temperature: 566℃
Leakage class: V
Max class rate: ANSI 2500

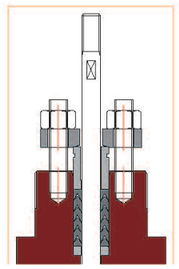
Pilot plug style

Max temperature: 650℃
Leakage class: V
Max class rate: ANSI 4500

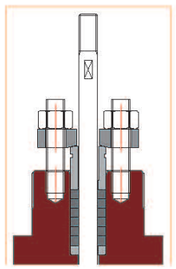
Packing options



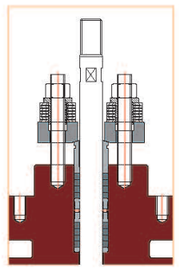
Double graphite with Lantern ring



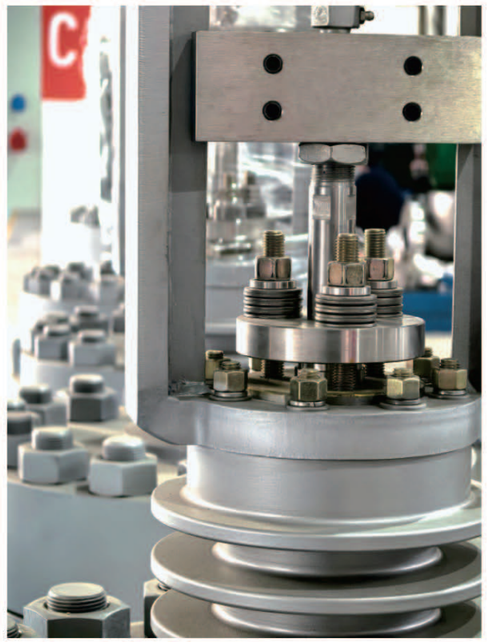
V-PTFE



Single graphite



Spring loaded double graphite with Lantern ring



DC1611 series

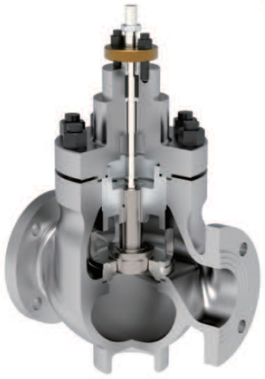
> Design features

1. lightweight body
2. Unbalanced contoured plug
3. Quick-disassembled modular trim
4. High-precision flow characteristic curve
5. Easy maintenance, more economical
6. Applicable to fine chemicals, food engineering, pharmaceutical engineering, chemical fiber, textile and dyeing industry

>Product information

- **Class rate:** ANSI 150~1500 (PN16~250)
- **Valve size:** 1/2"~8"(DN15~DN200)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV, V, VI
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1621 series



> Design features

1. Unbalanced contoured plug
2. Quick-disassembled modular trim
3. High-precision flow characteristic curve
4. The valve plug has a large guiding area, good anti-vibration performance, stable operation and a long service life.
5. Suitable for working conditions without dead zones and with precise control.

>Product information

- **Class rate:** ANSI 150~1500 (PN16~250)
- **Valve size:** 1/2"~8"(DN15~DN200)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV, V, VI
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1631 series

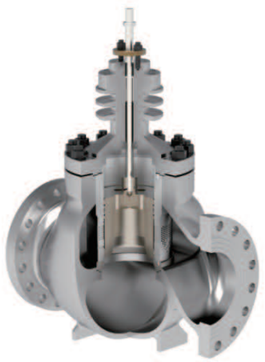
> Design features

1. Unbalanced contoured plug
2. Quick-disassembled modular trim
3. High-precision flow characteristic curve
4. Post guiding, no residual accumulation areas in the inner channel.
5. Suitable for working conditions where the medium is prone to residue, solidification, or contains impurities like regenerated liquid of chemical fibers.

>Product information

- **Class rate:** ANSI 150~1500 (PN16~250)
- **Valve size:** 1/2"~8"(DN15~DN200)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV, V, VI
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1624 series



> Design features

1.Pressure balanced plug
2.Quick-disassembled modular trim with standard cage or low noise cage
3.Cage guiding on full travel
4.High pressure recovery coefficient and good operating stability.
5.Widely used in the normal operating conditions of steam, water, gas, ethanol, heat transfer oil, etc

>Product information

- **Class rate** ANSI 150~1500 (PN16~250)
- **Valve size:** 1"~24"(DN25~DN600)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV, V (Pressure balanced sealing ring S style, C-ring)
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1629L series

> Design features

1. Pilot plug structure
2. Quick-disassembled modular trim
3. Cage guiding on full travel
4. Special drilled holes on cage, excellent noise reduction effect
5. All of the components can be interchanged with 1624 series except pilot plug.
6. High pressure recovery coefficient
7. Applicable to Class V leakage metal seal of HP & HT steam severe services.

>Product information

- **Class rate:** ANSI 150~1500 (PN16~250)
- **Valve size:** 2"~24" (DN50~DN600)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** V
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1845 series multi-stage plug anti-cavitation control valve

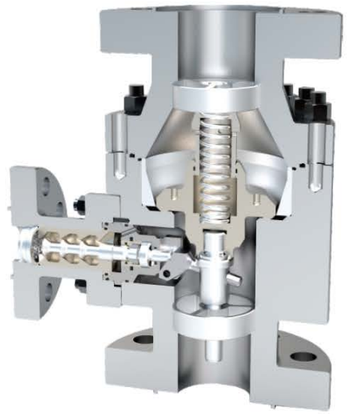
> Design features

1. Multi-stage structure, pressure reduced step by step, excellent anti-cavitation performance
2. Excellent control ability at low travel
3. Excellent anti-blocked performance,allow some larger-diameter impurities to pass through the trim
4. Max 8 level pressure reduced
5. Applicable to superheater cooling water control valve, boiler start-up control valve, feed water pump recirculation control valve, HP blow-down valve which medium contain particles.

> 产品信息

- **Class rate:** ANSI 600~4500 (PN100~760)
- **Valve size:** 1"~8" (DN25~DN200)
- **Temperature range:** -29℃~510℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV, V
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1545 series pump protection self operated valve



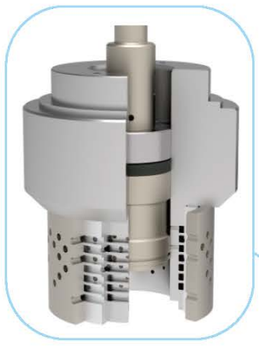
> Design features

1. Flow sensing: the valve can automatically sense the main flow rate and control the travel of the plug
2. Automatic reflux control: the valve redirects the minimum flow through a bypass back to the water tank to prevent the pump from overheating.
3. High-pressure reduction: A specially designed throttling component is built into the bypass to reduce the high pressure at the pump outlet to the low pressure in the water tank.
4. Check function: The plug also serves as a check valve.
5. Applicable to protect the minimum flow recirculation of the pump.

>Product information

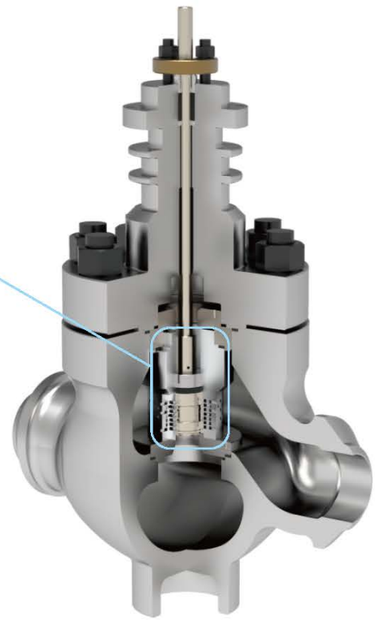
- **Class rate:** ANSI 600~2500 (PN100~420)
- **Valve size:** 2-1/2"~12" (DN65~DN300)
- **Temperature range:** -29℃~250℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV、V
- **Connection:** Flanged (RF, FM, RTJ, etc.)

DC1624D/E series multi-stage cage anti-cavitation control valve



> Design features

1. Pressure balanced / unbalanced plug
2. Quick-disassembled modular trim
3. Cage guiding on full travel
4. Multiple layers of small holes on cage
5. Applicable to cavitation, and high pressure drop cooling water control valve.



>Product information

- **Class rate:** ANSI 150~2500 (PN16~420)
- **Valve size:** 3/4"~16" (DN20~DN400)
- **Temperature range:** -29℃~566℃ (max 620℃ for forged body)
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV、V
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1844 series labyrinth cage control valve

>Product information

- **Class rate:**
  ANSI 150~4500 (PN16~760)
- **Valve size:**
  3/4"~16" (DN20~DN400)
- **Temperature range:**
  -29℃~620℃
- **Valve body material:**
  Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** Ⅳ、Ⅴ
- **Connection:**
  Flanged (RF, FM, RTJ, etc.)
  Welded (SW, BW)
- **Operating:** Motorized, pneumatic, hydraulic, etc.

DC3144 labyrinth cage angle control valve
(labyrinth cage + multi-stage / standard cage)

Medium flows through the labyrinth cage at low flow rate & low travel to eliminate cavitation; as the travel and rated CV value increase, the pressure drop level decrease gradually; multi-stage / standard cage used at high flow rate & high travel to ensure flow capacity

>Typical Applications:

Boiler feed water control valve, boiler strat-up control valve, feed water pump recirculation control

DC1844 labyrinth cage globe control valve
(full labyrinth cage)

Flexible design

Multi-stage pressure reduction, reasonably control the flow velocity at each stage; The cross-section of the flow channel expands step by step to control the kinetic energy at each stage, and the flow velocity decreases gradually; control the isentropic transformation process to prevent crystallization (Joule-Thomson effect).

>Typical applications:

Compressor anti-surge control valve, gas / steam exhaust valve, feed water pump recirculation control valve

Steam exhaust pressure control valve (PCV)

(Mainly applied to steam exhausting on steam drum, steam exhausting at the end of HP/HHP steam pipe network)

> Design features

1. Pilot plug structure, Class V leakage
2. Through throttling design, the pressure reduced step by step, reduce noise and vibration at the same time
3. Low operating torque force, low frictional resistance.
4. With forced shutdown function, full close quickly
5. Angle body (HP) or globe body (MP/LP)

>Product information

- **Class rate:**
  ANSI 150~2500 (PN16~420)
- **Valve size:**
  2"~16" (DN50~DN400)
- **Temperature range:**
  -29℃~620℃
- **Valve body material:**
  Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** V
- **Connection:**
  Flanged (RF, FM, RTJ, etc.)
  Welded (SW, BW)

DC1724L series

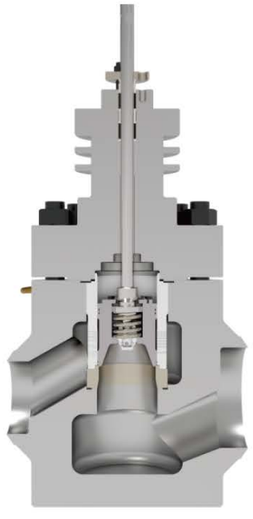
>Design features

1. Pressure balanced plug
2. Quick-disassembled modular trim
3. Cage guiding on full travel
4. Forged body, excellent thermal shock resistance
5. High pressure recovery coefficient
6. Applicable to HP & HT PRDS steam valves.

>Product information

- **Class rate:** ANSI 1500~2500 (PN250~420)
- **Valve size:** 2"~16" (DN50~DN400)
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV, V (S style pressure balanced ring / C-ring)
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC1729L series



> Design features

1. Pilot plug structure
2. Quick-disassembled modular trim
3. Cage guiding on full travel
4. Special drilled holes on cage, excellent noise reduction effect
5. Forged body, excellent thermal shock resistance
6. High pressure recovery coefficient
7. Applicable to HP & HT PRDS steam valves with Class V leakage.

>Product information

- **Class rate:** ANSI 1500~2500 (PN250~420)
- **Valve size:** 2"~16" (DN50~DN400)
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** V
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC2824 series

>Design features

1. Z shape inner channel
2. Pressure balanced plug
3. Quick-disassembled modular trim
4. Cage guiding on full travel
5. Forged body, excellent thermal shock resistance
6. High pressure recovery coefficient
7. Applicable to HP & HT steam valves.

>Product information

- **Class rate:** ANSI 1500~2500 (PN250~420)
- **Valve size:** 2"~16" (DN50~DN400)
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** IV, V (S style pressure balanced ring / C-ring)
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC7000 series blow down valve

(Mainly applied to boiler intermittent / continuous blow down, HP steam drum and bottom of superheater saturated water xhausting)

>Design features

1.Body style: straight, angle, Y shape and tandem
2.Quick-disassembled modular trim
3.One-piece design for stem and plug, the cage guiding can resist higher pressure drop.
4.Cascade multi-stage anti-cavitation plug
5.Extend valve service life by hard treatment on cage, Stellite alloy surfacing on plug and hard alloy surfacing on seat.
6.Applicable to continuous control, boiler intermittent blow down, high pressure drop, high velocity and flashing/erosion application

>Product information

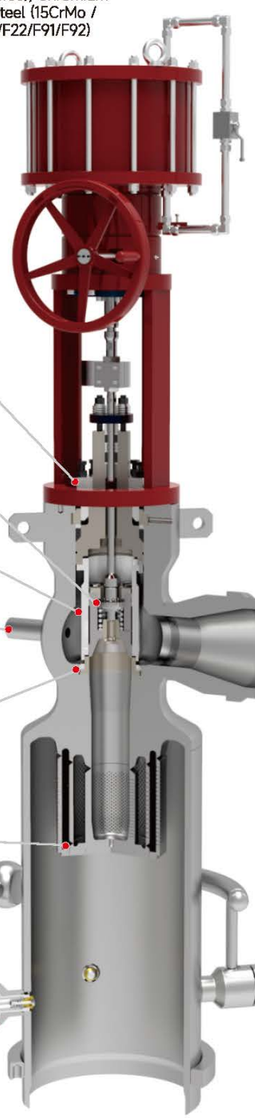
- **Class rate:** ANSI 150~4500 (PN16~760)
- **Valve size:** 1/2"~3" (DN15~DN80)
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Leakage Class:** V
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC3700 series bypass valve (angle style integral PRDS)

(Mainly applied to turbine bypass system, thermal power station of petrochemical and coal chemical, PRDS, etc.)

>Product information

- **Class rate:** ANSI 150~4500 (PN16~760)
- **Valve size inlet:** 3"~26" (DN80~DN650)
- **Valve size outlet:** 6"~48" (DN150~DN1200)
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel (20 / A105), Chromium-molybdenum alloy steel (15CrMo / 12Cr1MoV / A182F11/F22/F91/F92)
- **Leakage Class:** Ⅳ、Ⅴ
- **Connection:** Welded BW
- **Operating:** Motorized, pneumatic, hydraulic, etc.



Metal self-sealing bonnet:
Ensure the stable and reliable operation of the valve under severe services.

Pilot plug:
Tightly shutoff performance, lower torque force requirement during control

Micro holes on cage:
Reduce pressure and noise, as a filter to prevent damage to the valve seat sealing surface

Pre-heating connection on body:
Reduce the thermal stress in high temperature application when valve open quickly

Unique design for seat:
Reduce the thermal expansion effect caused by touching with body, quick-disassembled modular design

Optimized diffuser design:
Reduce the noise transmitted to downstream

Expansion compensation design:
Compensate for the thermal expansion caused by the temperature difference between the superheated steam and the cooling water

Spring loaded nozzle with wide rangeability:
Mounted at the downstream of diffuser, optimize the cooling effect

DC5622 metal seal on-off ball valve

(Mainly applied to medium which contains powder or particles, such as refinery, petrochemical, natural gas, coal chemical, paper making, etc,)

> Design features

1. Simple construction, excellent shutoff sealing performance
2. Low flow resistance, easy to operate
3. Spray welding, coating spraying or fusion welding are used on the sealing surface
4. The ball trim can automatically position itself at the boundary position
5. Self-cleaning function

>Product information

- **Class rate:** ANSI 150~2500 (PN16~420)
- **Valve size:** 1/2"~10" (DN15~DN250)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Sealing direction:** bi-direction
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC5812 metal seal triple offset butterfly valve

(Mainly applied to medium which contains powder or particles, such as refinery, petrochemical, natural gas, coal chemical, paper making, etc,)

> Design features

1. Triple offset structure
2. Frictionless and interference-free in whole travel
3. Protection structure with blowout proof stem
4. Low shutoff torque, excellent shutoff sealing performance

>Product information

- **Class rate:** ANSI 150~1500 (PN16~250)
- **Valve size:** 3"~48" (DN80~DN1200)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Sealing direction:** bi-direction
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC6012 parallel double gate valve

(Mainly applied to medium which is HP & HT or containing catalyst particles, such as petrochemical, metal & mining, etc,)

>Design features

1. The valve adopts two mutually parallel gate and its wedge device or spring pre-tight sealing structure instead of the traditional wedge gate valve structure.
2. Low flow resistance, low required torque to open and close valve.
3. Shorter face to face length, no restriction on the flow direction of the medium.
4. Stellite overlay on sealing surface to enhance wear resistance.
5. Fully enclosed structure, with excellent protection performance.

>Product information

- **Class rate:** ANSI 150~2500 (PN16~420)
- **Valve size:** 1-1/2"~24" (DN40~DN600)
- **Temperature range:** -29℃~566℃
- **Valve body material:** Carbon steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Sealing direction:** bi-direction
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

DC830 Pneumatic multi-spring diaphragm actuator

> Design features

1. Multi spring structure.
2. Direct / reverse acting as option
3. Light weight, high thrust
4. Easy to operate, simple structure
5. High-performance stamping steel housing
6. Adjustable travel, die-cast aluminum diaphragm plate

>Product information

- **Travel range:** 17~76 mm
- **Control force:** 2.1~26 KN
- **Air supply:** 40~60 PSi (0.28~0.42 MPa)
- **Standard:** -10~+70℃
- **Low temperature:** -60~+70℃

DC850 Pneumatic single spring diaphragm actuator

> Design features

1. Single spring structure.
2. Direct / reverse acting as option
3. Quick operating, high thrust
4. Easy to operate, simple structure
5. High-performance stamping steel housing
6. Adjustable travel, die-cast aluminum diaphragm plate

>Product information

- **Travel range:** 60~200 mm
- **Control force:** 9.6~22.7 KN
- **Air supply:** 40~60 PSi (0.28~0.42 MPa)
- **Standard:** -10~+70℃
- **Low temperature:** -60~+70℃
- **High temperature:** 0~+100℃

DC820 Pneumatic piston actuator

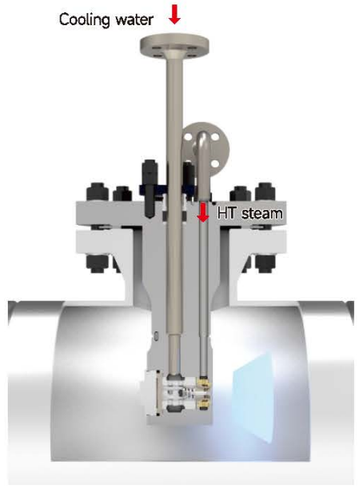
> Design features

1. Housing material: cold-drawn hydraulic pipe
2. Double / direct / reverse acting as option
3. Light weight, high thrust
4. Easy to operate, simple structure, small size

>Product information

- **Model:** P200、P250、P300、P400、P450、P500、P600
- **Action:** Double acting 820 / direct acting 821 / reverse acting 822 as option
- **Acting style:** single / double acting
- **Travel range:** 25~300 mm
- **Air supply:** 40~87 PSi (0.28~0.6 MPa)
- **Spring control range:** 0.05~0.25MPa、0.2~0.4MPa

DCE series steam-atomising desuperheater



> Design features

1. The water is heated and atomized together
2. Better atomization effect when cooling water spray volume is very low
3. Smaller water droplets at lower flow rate
4. Shorten the atomization time, improve system efficiency

>Product information

- **Model:** DCE3、DCE5、DCE7、DCE8
- **Class rate:** ANSI 150~1500 (PN16~250)
- **Required minimum steam pipeline size:** 6"
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel (20 / A105), Chromium-molybdenum alloy steel (15CrMo / 12Cr1MoV / A182F11/F22/F91/F92)

DC400 series PRDS

>Application:

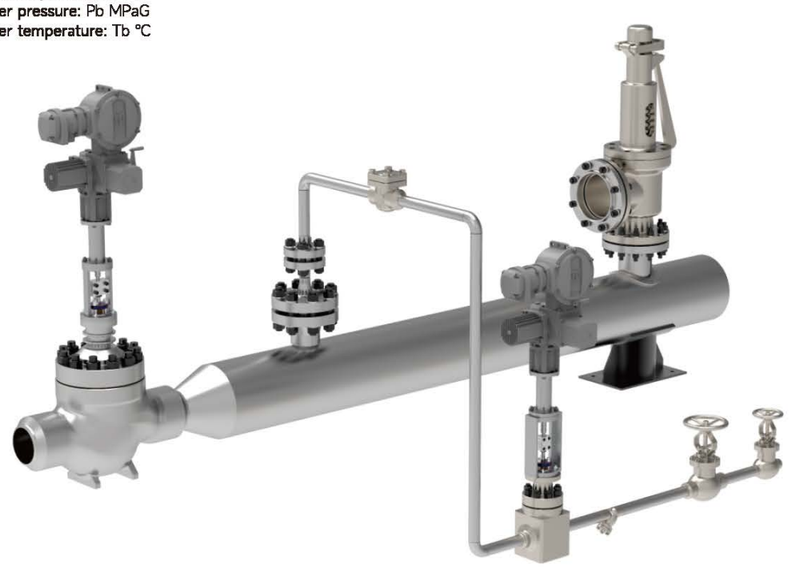
1. Temperature and pressure control of the main steam pipeline system for thermal power plants / power station
2. Turbine supplies heat through exhaust steam
3. Nuclear heating
4. Petrochemical power station steam control
5. Chemical plant steam temperature / pressure control
6. Heating in fine chemical industry
7. Other thermal applications

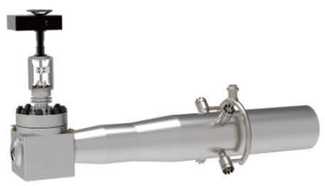
>Design features

1. Customized products
2. Integral style / split style as option
3. Steam pressure reducing valve / cooling water control valve / desuperheater can be flexibly combined
4. High pressure control accuracy, up to ±0.02 MPa
5. Precise temperature control, up to ±2℃
6. Excellent atomization performance
7. Long service life, stable performance

>Required process data:

- **Inlet steam flow rate:** Q t/h
- **Outlet steam flow rate:** Q t/h
- **Inlet steam pressure:** P1 MPaG
- **Outlet steam pressure:** P2 MPaG
- **Inlet Steam temperature:** T1 ℃
- **Outlet Steam temperature:** T2 ℃
- **Cooling water pressure:** Pb MPaG
- **Cooling water temperature:** Tb ℃





With multi spring-loaded spray nozzle desuperheater

With single spring-loaded spray nozzle desuperheater

With integral desuperheater (cooling water control valve + desuperheater 2 in 1)

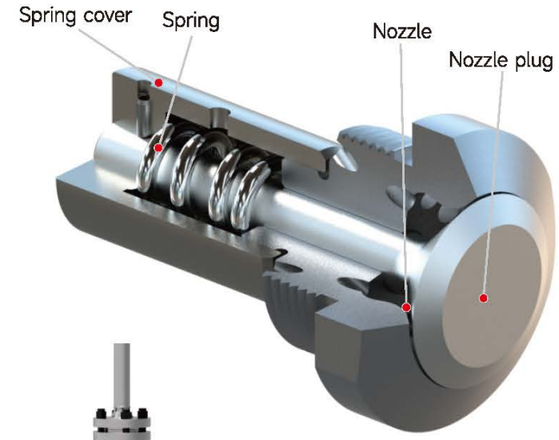
DCB series spring loaded spray nozzle

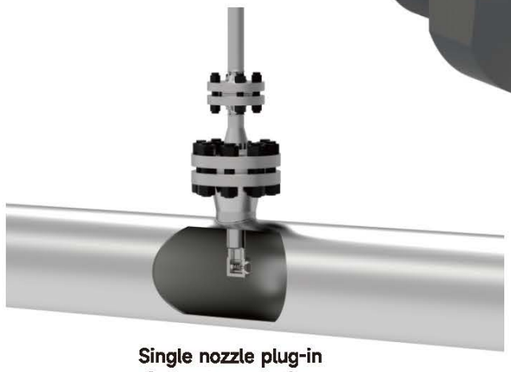
> Design features

1. With spring back-pressure "check valve" effect
2. Wide range of operating conditions, good atomization effect when cooling water spray volume is low
3. Minimum atomization particle size: 120 μm
4. Spiral-shaped centrifugal channel, shorten the atomization time

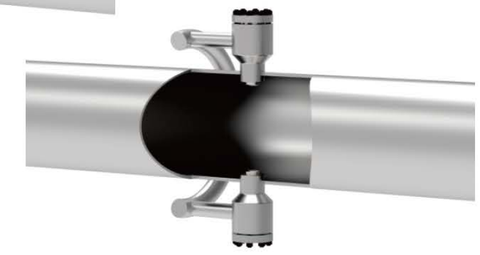
>Product information

- **Model:** DCB1, DCB3, DCB5, DCB7
- **Class rate:** ANSI 150~1500 (PN16~250)
- **Required minimum steam pipeline size:** 4"
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel (20 / A105), Chromium-molybdenum alloy steel (15CrMo / 12Cr1MoV / A182F11/F22/F91/F92)





Single nozzle plug-in flanged connection



Multi nozzle BWE connection

DC2442 integral desuperheater

> Design features

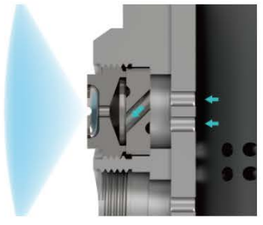
1. Wide rangeability: 20:1
2. Combine water control and atomization, synchronous control with fast response time
3. Spiral-shaped centrifugal channel， shorten the atomization time

> Application

1. Petrochemical temperature reduction device
2. Nuclear heating
3. Temperature reduction device with wide rangeability requirements
4. Steam desuperheater for external heat supply of turbine

> Product information

- **Cooling water connection size:** 3/4"~3" (DN20~DN80)
- **Steam pipeline connection size:** 3"~6" (DN80~DN150)
- **Class rate:** ANSI 150~1500 (PN16~250)
- **Required minimum steam pipeline size:** 6"
- **Temperature range:** -29℃~620℃
- **Valve body material:** Carbon steel (20 / A105), Chromium-molybdenum alloy steel (15CrMo / 12Cr1MoV / A182F11/F22/F91/F92)



DC412 series variable orifice desuperheater

(Mainly applied to cracking furnace steam desuperheating)

> Design features

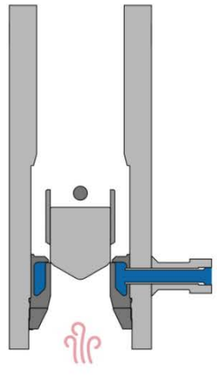
1. No cooling water impacting the pipe wall, no need to install the inner liner sleeve
2. Vertical installation, no need for straight pipeline at both the upstream and downstream, the temperature measurement point only needs to be 4-6 meters away from the desuperheater
3. Floating plug, designing counterweights based on the working conditions, the plug actuated by the steam
4. Wide rangeability

>Product information

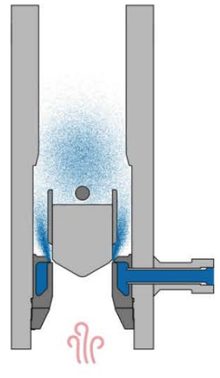
- **Class rate:** ANSI 150~2500 (PN16~420)
- **Valve size:** 3"~16"(DN80~DN400)
- **Temperature range:** -29℃~620℃
- **Valve body material:**
  Carbon steel, low-alloy steel, Chromium-molybdenum alloy steel, stainless steel, etc.
- **Connection:** Flanged (RF, FM, RTJ, etc.) Welded (SW, BW)

>Required process data:

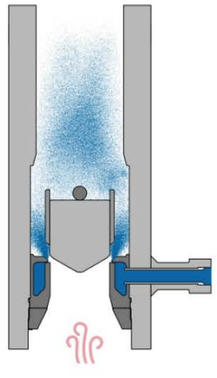
- **Inlet steam flow rate:** Q t/h
- **Outlet steam flow rate:** Q t/h
- **Inlet steam pressure:** P1 MPaG
- **Inlet Steam temperature:** T1 ℃
- **Outlet Steam temperature:** T2 ℃
- **Cooling water pressure:** Pb MPaG
- **Cooling water temperature:** Tb ℃
- Steam pipeline size & pipe wall thickness



No load:
The valve plug falls on the seat. No steam and cooling water injection.



Low load:
The valve plug opens the throttle slightly. The cooling water is completely mixed with the steam in an instant.



Full load:
The throttle is fully open. At all load ranges, the pressure drop is consistent and turbulence occurs.