Elite
FLOW CONTROL
WE CONTROL THE FLOW.

Elite Flow Control USA LLC

"WE CONTROL THE FLOW"





ARC Valves





www.eliteflowusa.com

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About Company

Elite Flow Control holds the state of art manufacturing facilities equipped with ultra-modern production equipment and exporting the finest quality Automatic Recirculation Valves, Air Release Clean Water Valves, Air Release Wastewater Valves, Air/Vacuum Clean Water Valve Water Valves, Combination Waste Water Valves, Surge-Suppression Air Valves, Vacuum Breaker Air Valves, Vacuum Priming Air Valves, Well Service Air Valves according to the specified / applicable manufacturing standards / grades and can be customized s, Air/Vacuum Waste Water Valves, Combination Clean according to the customer's requirements/Specification.

We operate on philosophy to provide Immediate Response, Excellent Quality, Quick Delivery and Customer Satisfaction followed by commitment as "What we commit, We deliver" based on this we are having satisfied customers in more than 25 countries throughout the world.

We have stringent Quality Management and Control System to ensure the superior quality of products. All of our products are strictly inspected at each stage of the production process from the Inspection of Raw Material to the finish products. Each order is carried out as per Inspection / Test Plan, Required Specifications and Applicable Manufacturing / Quality Standards.

Our Valves are widely used in following process industry:

- **Chemicals**
- **Petrochemicals**
- **Fertilizers**
- **Polymer**
- **Oil and Gas**
- **Power Generation**
- **Process Steam Systems**
- **Water Supply Systems**



MISSION

Elite Flow Control focused to provide the superior quality products at competitive prices to its customers around the world by utilizing the company's human resources and advanced technology equipment with the strong commitment to R&D, Health, Safety, Environment and company's core values.

VISION

To make our brand "the first choice of customers.

CORE VALUES

The core values of our company guide and drive our business to achieve our mission and a step ahead towards our vision.

Quality: It is our primary focus to produce and deliver superior quality products. Commitment: What we commit, we deliver.

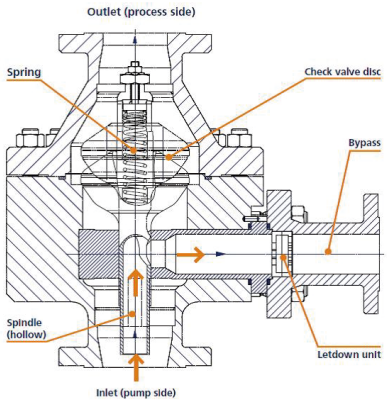
Team Work: We believe on team work which is the most important element to accomplish the set objective.

Customer Satisfaction: To achieve customer satisfaction with our Quality, Commitment and Teamwork

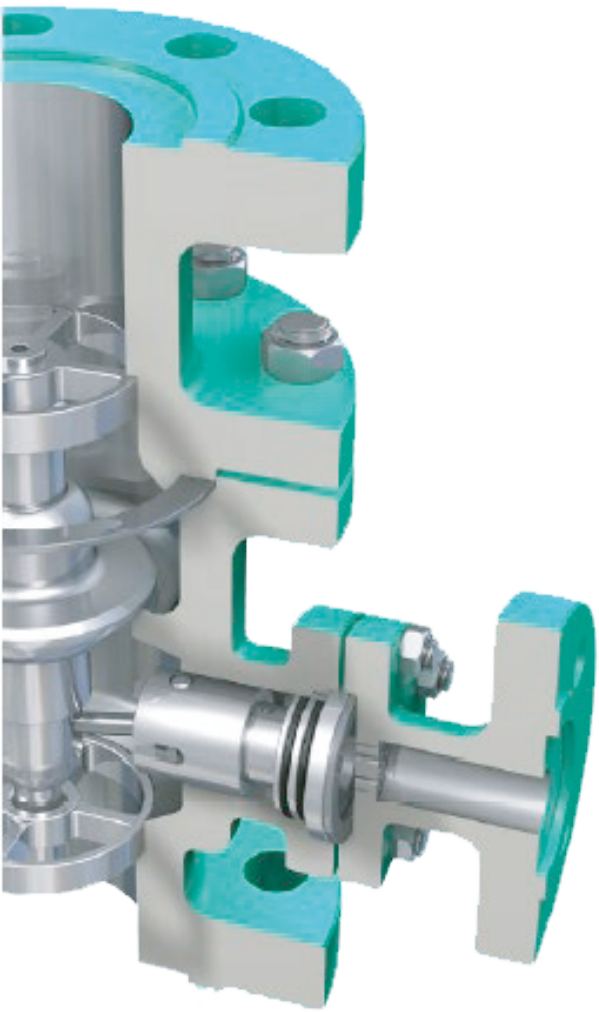
About Automatic Air Release Valve

Automatic Air Release Valve series are specifically designed to meet the requirements of water utility systems, greatly improving supply and distribution system efficiency. We place special focus on ensuring that our products meet all applicable standards and specifications prescribed by the industry. From the most complex of applications to the simplest, our automatic Air Release Valve series perform with precision and accuracy to provide exact control of pressure, flow, level, surge and pump control.

Automatic Recirculation Valves protect centrifugal pumps from damage that may occur during low-flow operations. Minimum flow protection is accomplished with an automatic, modulating bypass that assures smooth pump operation between the minimum and maximum flow point on the pump curve.



No external power source is required. These valves are self-contained and simplify the system design and installation. Sizes range from 1 inch to 24 inches, including ANSI Class 150 through 2500 lb. Valve internals are stainless steel with housing in carbon steel, stainless steel, or special machinable alloys.



- Automatic Recirculation Valves
- Air Release Clean Water Valves
- Air Release Waste Water Valves
- Air/Vacuum Clean Water Valves
- Air/Vacuum Waste Water Valves
- Combination Clean Water Valves
- Combination Wastewater Valves
- Surge-Suppression Air Valves
- Vacuum Breaker Air Valves
- Vacuum Priming Air Valves
- Well Service Air

Solution for Pump Protection



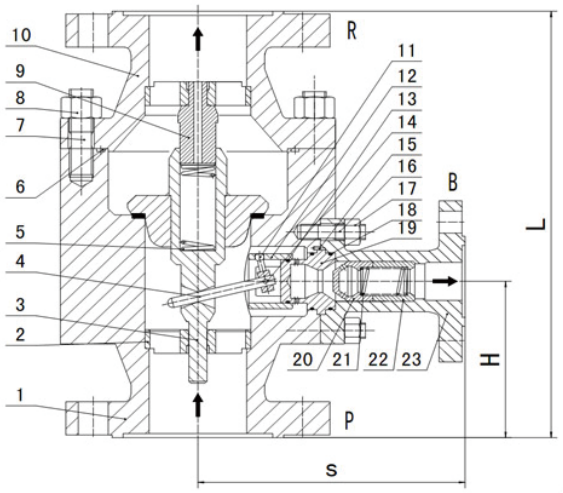
Modern industrial equipment process request centrifugal pump are basically work under condition of variable flow. An automatic recirculation valve (ARC valve) is a multifunctional valve whose primary purpose is to ensure that a pre-determined minimum flow is assured through a centrifugal pump at all times.

This is important as centrifugal pumps suffer from overheating and cavitation and can be permanently damaged if they run dry.

ARC Series

Through many years of research and development, continuous innovation and practice, Elite Flow Control research ARC Series Automatic recirculation control valve, to prevent overheating, serious noise, unstable and erosion damage of centrifugal pump under law load operation.

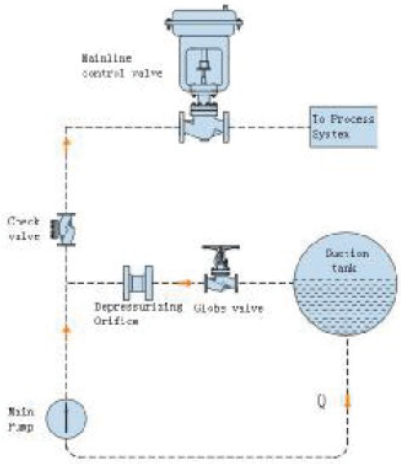
As long as the flow rate of the pump valve below a certain valve, the bypass backflow mouth will automatically open to ensure necessary minimum flow of pump.



Applications

- Chemical Industry
- Petrochemical Industry
- Steel Factories
- Fire Protection System
- Traditional Power Plant
- Ship Building Industry
- Paper-making Industry
- Environmental Protection

Three Protection ways for pump

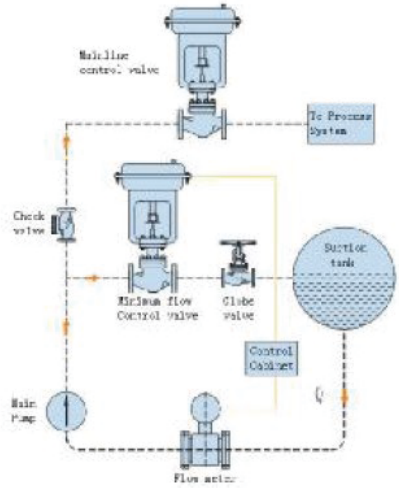


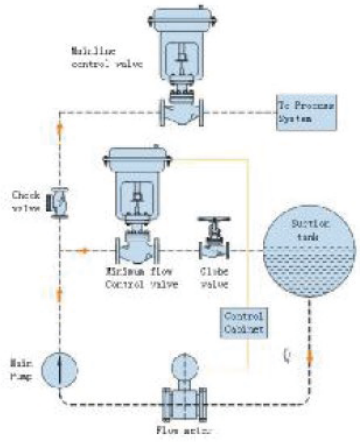
Continuous Circulating System

Minimum requirement of continuous circulating system pump is unrelated with the discharge of process flow changes in system. After setting of minimum flow, through orifice plate directly backflow to storage tank. Although continuous minimum flow circulation can protect pump very good, but pump must provide greater power output to ensure system process flow plus receive flow, which causing additional energy waste.

Control Circulatory System

Control circulatory system is assembly by the check valve, flow gauge, minimum flow control valve, control circulation system, control circulation system can provide minimum flow protection, when process flow is greater than minimum flow of pump, and loop closed, no extra energy loss. But system is complex, control components, purchase, installation maintenance cost is higher.





Automatic Recirculation Valve

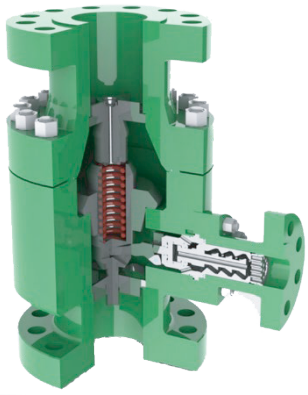
Automatic recirculation valve set check valve, flow perception, bypass control valve, multi-stage step-down in one, do not need power, control system and wiring, essential safety. Taking up small space reducing the possibility of high-speed fluid to malfunction to minimum with lower installation and maintenance cost, It is the priority pump protection way of modern industrial process.



ED Series - Automatic Recirculation Control Valve

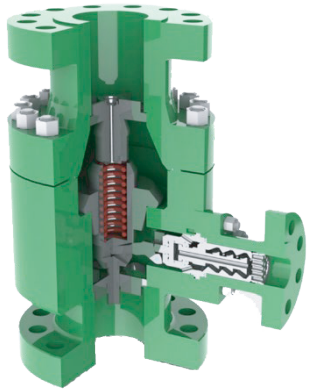
ED Series Automatic Recirculation Valves (ARC valve) is suitable for bypass with high-pressure differential, a maximum pressure differential is 30MPa, and the specific choice is determined by the factory. Multistage decompression type M type bypass can eliminate noise made by high-speed flow medium, prevent damage of cavitation erosion and braising to valve components.

EDT



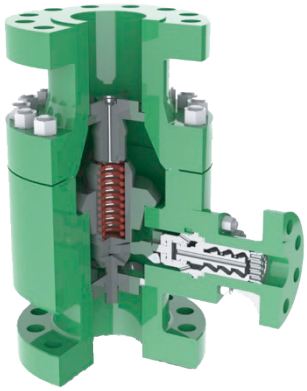
Simple structure, low cost, long life, suitable for Low pressure Working conditions.

EDL



Multi-orifice cage bypass, low noise, suitable for middle and low-pressure conditions.

EDM



Multistage decompression to preventing cavitation, reducing velocity, suitable for high-pressure conditions.



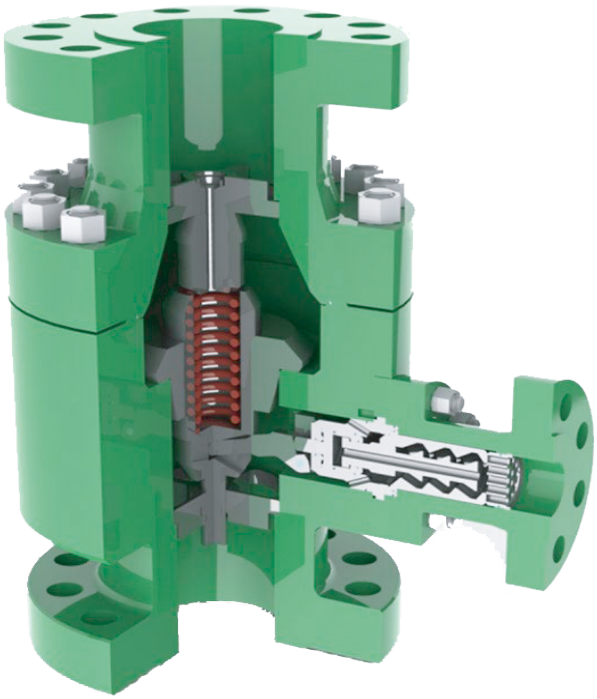
EDT - Automatic Recirculation Control Valves

Simple structure, low cost, long life, suitable for Low pressure Working conditions. Cast valve body, Big flow of bypass, maximum flow is 60% of the main flow, KV value an be adjusted, Bypass maximum operating pressure differential up to 4 MPa.

	EDT Model
Size	1” to 6”
Pressure	CL 150 – 400 ,
Material	Cast valve body, carbon steel or stainless steel

According to the difference of inductive main flow, the main valve disc check cone of the Automatic recirculation valve will automatically move to a certain position. At the same time the main valve disc drive bypass valve stem, transfer the movement of main valve disc to bypass, through control bypass valve disc position, change bypass throttling area, so as to control bypass flow.

When the main valve disc back into the valve seat closed, all flow backflow through the bypass. When the valve discs to rise to the top position, the bypass is fully closed, all the flow of pump flow to the processing system. This valve set four functions in one body.



- **Flow perception:**
  Automatic recirculation valve main valve disc can automatically perceive the main flow of the processing system, thereby according to the flow to determine the position of the main valve disc and bypass disc.
- **Recirculation control:**
  Automatic recirculation valve can inhaled pump normal operation required minimum flow into storage device through the bypass, so as to adjust pump H - Q characteristics, to realize recycling.
- **Bypass multistage pressure reducing:**
  bypass control system can reduce the backflow medium from the high-pressure pump outlet to appropriate backflow to the low-pressure storage device with low noise small wear.
- **Check:**
  The automatic recirculation valve also has a check valve effect, preventing the liquid backflow to pump body. Bypass non-return function is standard.
- **Size:**
  A special bypass size can be customized. The max flow rate of the bypass is subject to the max Kv value

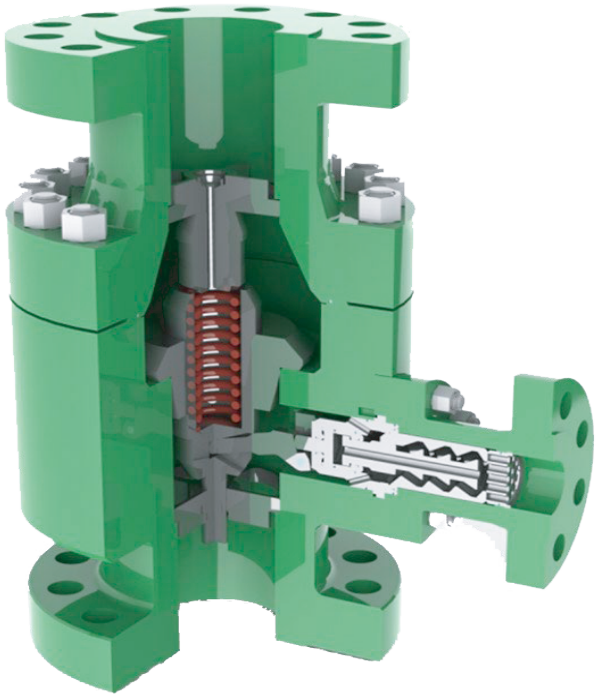
EDL - Automatic Recirculation Control Valves

Multi-orifice cage bypass, low noise, suitable for middle and low-pressure conditions, Forged steel body, Non-return valve function is standard, Maximum pressure differential up to 6 MPa. With venturi port main flow check valve structure, be applicable for complicated working conditions

	EDL Model
Size	1” to 20”
Pressure	CL 150 – 600
Material	Forged steel body, carbon steel or Stainless steel.

According to the difference of inductive main flow, the main valve disc check cone of the Automatic recirculation valve will automatically move to a certain position. At the same time the main valve disc drive bypass valve stem, transfer the movement of main valve disc to bypass, through control bypass valve disc position, change bypass throttling area, so as to control bypass flow.

When the main valve disc back into the valve seat closed, all flow backflow through the bypass. When the valve discs to rise to the top position, the bypass is fully closed, all the flow of pump flow to the processing system. This valve set four functions in one body.



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- **Size:**
  A special bypass size can be customized. The max flow rate of the bypass is subject to the max Kv value

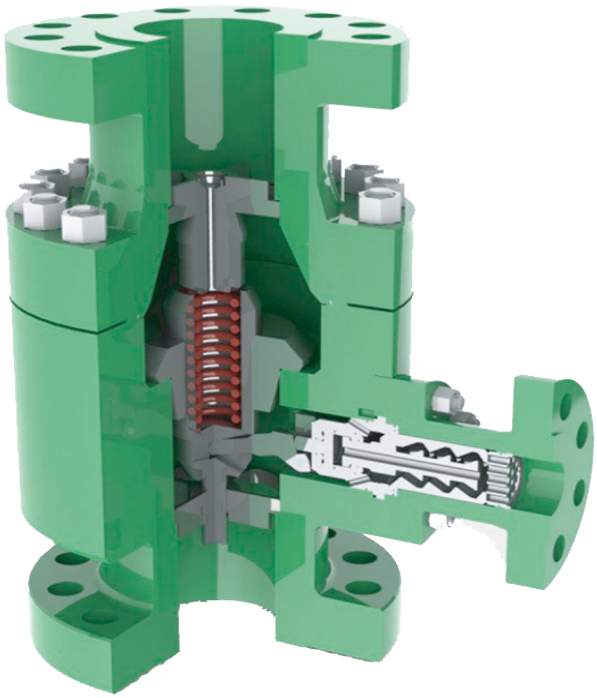
EDM - Automatic Recirculation Control Valves

Multistage decompression to preventing cavitation, reducing velocity, suitable for high-pressure conditions, Forged steel body, material: carbon steel or Stainless steel, Non-return valve function is standard, Maximum pressure differential up to 30 MPa.

	EDM Model
Size	1” to 20”
Pressure	CL 150 – 2500
Material	Forged steel body, material: carbon steel or Stainless steel.

According to the difference of inductive main flow, the main valve disc check cone of the Automatic recirculation valve will automatically move to a certain position. At the same time the main valve disc drive bypass valve stem, transfer the movement of main valve disc to bypass, through control bypass valve disc position, change bypass throttling area, so as to control bypass flow.

When the main valve disc back into the valve seat closed, all flow backflow through the bypass. When the valve discs to rise to the top position, the bypass is fully closed, all the flow of pump flow to the processing system. This valve set four functions in one body.



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  Automatic recirculation valve main valve disc can automatically perceive the main flow of the processing system, thereby according to the flow to determine the position of the main valve disc and bypass disc.

- **Recirculation control:**
  Automatic recirculation valve can inhaled pump normal operation required minimum flow into storage device through the bypass, so as to adjust pump H - Q characteristics, to realize recycling.

- **Bypass multistage pressure reducing:**
  bypass control system can reduce the backflow medium from the high-pressure pump outlet to appropriate backflow to the low-pressure storage device with low noise small wear.

- **Check:**
  The automatic recirculation valve also has a check valve effect, preventing the liquid backflow to pump body. Bypass non-return function is standard.

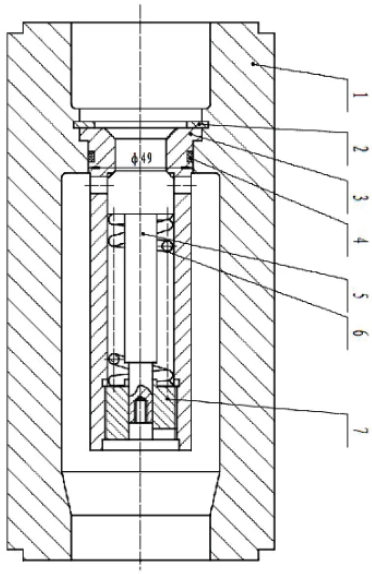
- **Size:**
  A special bypass size can be customized. The max flow rate of the bypass is subject to the max Kv value

EB7 - Back Pressure Valves

An automatic recirculation valve is a kind of pump protection device. It automatic protects the centrifugal pump when a pump body occurs cavitation damage or unstable (especially conveying hot water at low load operation). Once pump flow is lower than the preset flow, bypass can completely open to ensure the minimum required flow pump. Even running fully closed, the namely the main flow is zero, the minimum flow can also discharge from the bypass.

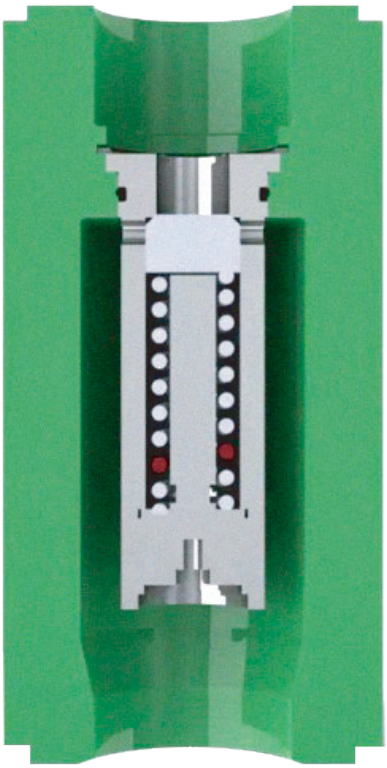
Size	1” to 6”
Set Pressure	PN10~PN400（ANSI 150Lbs~ANSI 2500Lbs
Connection	Flange connection standard is according to DIN or ANSI, another standard

Drawing

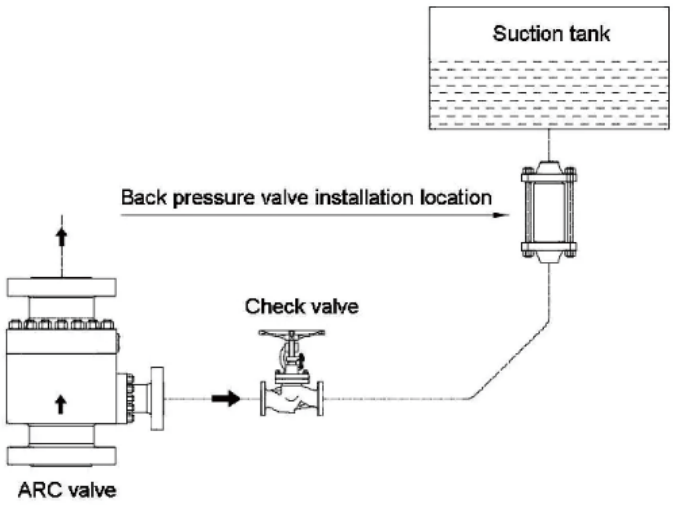


Benefits and features

This valve is self-support type, do axial movement along with valve disc by spring force function, so as to generate differential pressure around the back pressure valve. Meanwhile, the valve seat hole opening bigger and bigger gradually until pressure differential reaches the setting point.



Installation Location Chart



EHD - Minimum Flow Control Valves

(Electric/Pneumatic)



EHD multistage cage control valve used a multilevel cage symmetric sleeve control valve.

It complete control medium velocity within the valve, and greatly reduced noise made by high-pressure gas or steam within the valve, stabile multistage pressure reducing effective prevent liquid cavitation, so it's the stable control valve used in high-pressure medium performance, customers can also select multi-spring diaphragm mechanism or pneumatic actuators

EHD Model – Technical Parameter

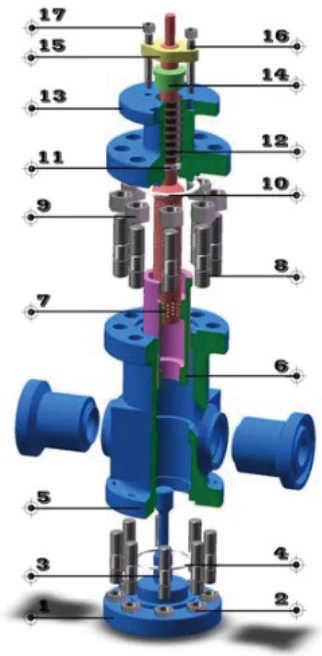
Body Type	Direct casting ball-type valve
Nominal Diameter	DN20, 25, 32, 40, 50, 65, 80, 100, 200
Nominal Pressure	PN 1.6, 2.5, 4.0, 6.4, 10.0, 16、25Mpa CLASS 150, 300, 600, 900、1500Lb
Connection	flange: FF, RF, RTJ, welding: SW, BW
Flange Distance	according to IEC534
Bonnet Type	Standard type, lengthened (heat dissipation, low temperature, bellows sealing).
Packing	V type PTFE, flexible graphite
Sealing Gasket	Metal with graphite gaskets
Actuator	Pneumatic, multi-spring actuator. Electric: 3810L series, PSL series.
Valve Disc type	multistage cage sleeve type.
Flow Characteristics	equal percentage, linear.
Dia Materials	standard material composition and applicable temperature, pressure range, please refer to appendix.

EHD - Material and internal structure

Customized Selection

Body	Type : Direct
Disc	Linear, equal percentage, quick opening
	304, 304+STL/PTFE, 316, 316+STL/PTFE
Bonnet (Model)	Standard, lengthened
(Material)	WCB, WC9, 304, 316
Packing	V type PTFE Flexible graphite, bellow sealing
Actuator	Pneumatic: See appendix6
	Electric: See appendix6
Positioner	Electric valve positioner, intelligent digital positioner
Accessories	Solenoid valve, valve position feedback device, hand-operated the mechanism, lock-up valve, air filter pressure relief device, etc.





- The above is standard configuration structure, the valve seat is metal to metal, and we can still provide strengthen trim with stellate alloy coating. For specific applicable temperature, we have more reasonable bolts, nuts for choose.

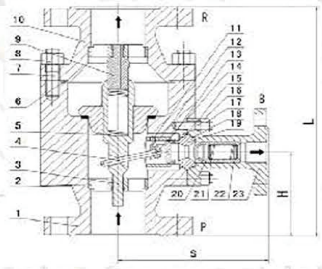
- PTFE v-shaped ring stem packing is the standard configuration and can also choose flexible graphite.

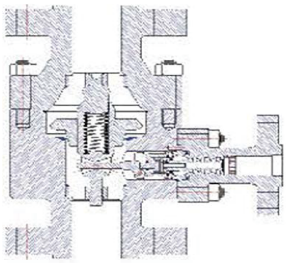
- Standard body material is carbon steel and stainless steel, and we can still provide various high corrosive-resistance alloy materials.

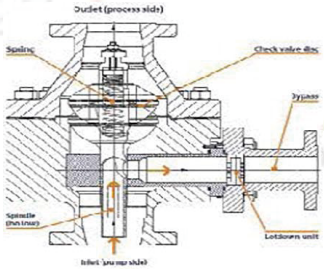
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