



Fluid control valve product
features and applications



CATALOGUE



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Fluid solution for critical operating conditions



GPRO Fluid control globe valve product overview

C series atmospheric straight stroke CL150~CL600



DN15~DN65



DN80~DN100



DN150~DN400



Fluid control globe valve product overview

**H Series atmospheric
straight stroke
CL900 ~ CL2500**



DN25 ~ DN300 High pressure and high pressure difference through type and Angle type



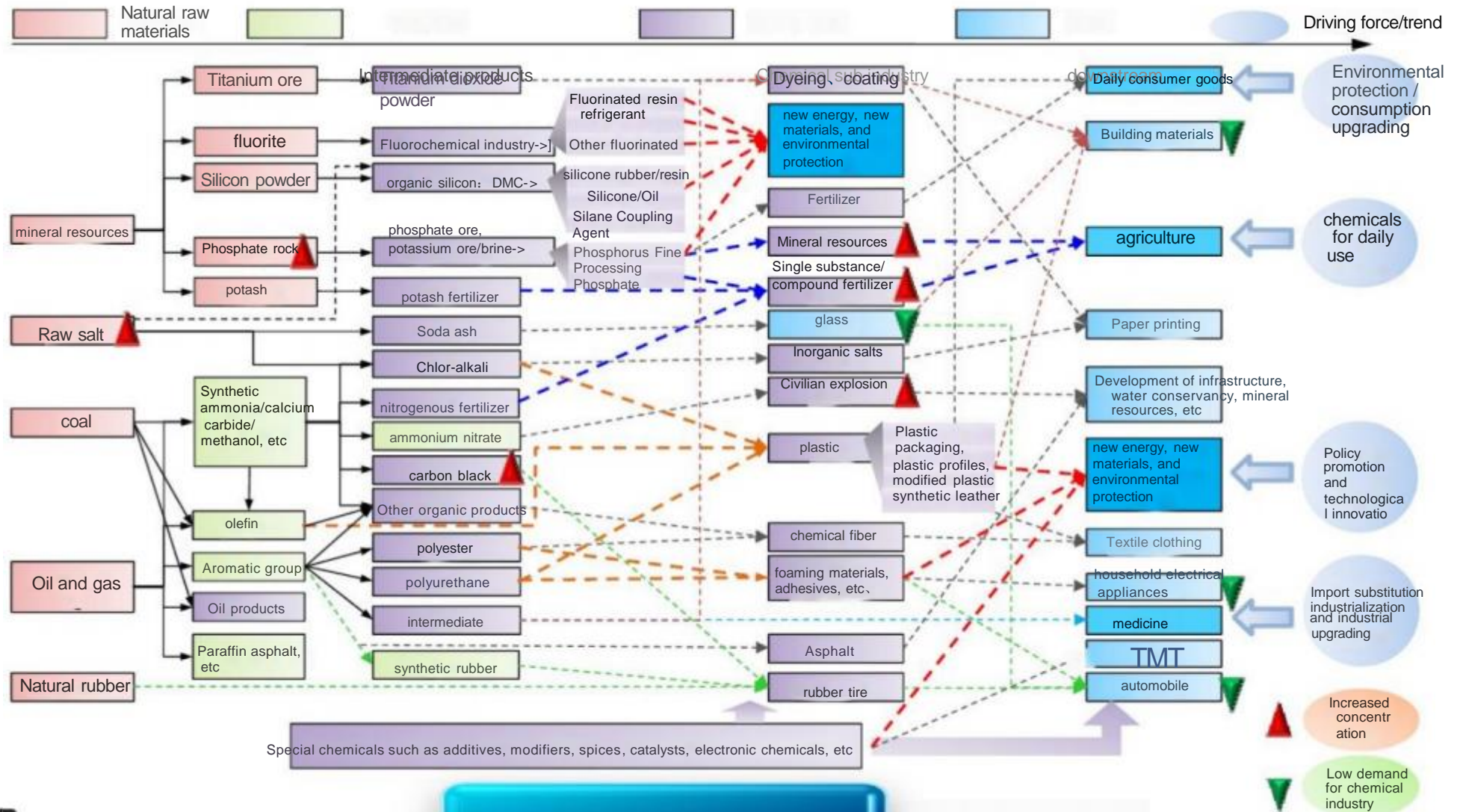
GPRO Fluid control valve product overview

Fluid and the main domestic control valve suppliers direct stroke main product performance comparison list

DETAILS	WUXIGONGZHUANG(KOSO) 500series	WUYIZHONGBIAO ECOTROL series	CHNGQING YICHUANG CV3000 series	DEKON/KST C-H C-H series
Nominal Diameter	DN15~DN4504(1/2"~18")	DN15~DN400(1/2"~16")	DN20~DN2004(3/4"~8")+	DN15~DN400(1/2"~16" (1/2"~16"))
Nominal pressure	PN16~PN420(CL150~CL2500)	PN16~PN420(CL150~CL2500)	PN16~PN420(CL150~CL2500)	PN16~PN420(CL150~CL2500)
Number of typical structural types	214	17	204	21
Structural form of valve trim	Valve seat with thread, integral sleeve	Direct pressure valve seat, split sleeve	Valve seat with thread, integral sleeve	Direct pressure valve seat, split sleeve
Internal leakage sealing form	Metal seal/soft seal	Metal seal/soft seal	Metal seal/soft seal	Metal seal/metal seal+soft seal/ Soft sealing
diaphragm actuator	5 specifications/left and right threaded Huff joint	Three specifications with positive and negative effects can be changed on site Replace/connect the upper and lower threads with the Huff joint	4 specifications/action thread Huff docking	5 specifications/patented self centering technology alignment Connected/full stroke anti rotation
Sealing level	Hard sealed Class II/IV; Soft sealing Class VI,	Hard sealed IV/V grade; Soft sealing Class VI,	Hard seal Class III/IV; Soft Seal Class	Hard sealed IV/V grade; Soft Seal Class VI
Technical Focus	High control accuracy	Modular and easy to maintain	High control accuracy	Combination of high control accuracy and easy maintenance
Price positioning	HIGH	MIDDLE-HIGH	MIDIUM	MEDIUM
Normal delivery time	2~4months	1.5~3months	1.5~3months	1~2months



GPRO FLUID CONTROL VALVE



Control Valve Application Industry Chain



GPRO Fluid Control Valve Products

Regulating valve for
During the process
Adjust the flow rate.



The shut-off valve is used for
Open or close both
Endpoint, requirements
Tightly shut off.

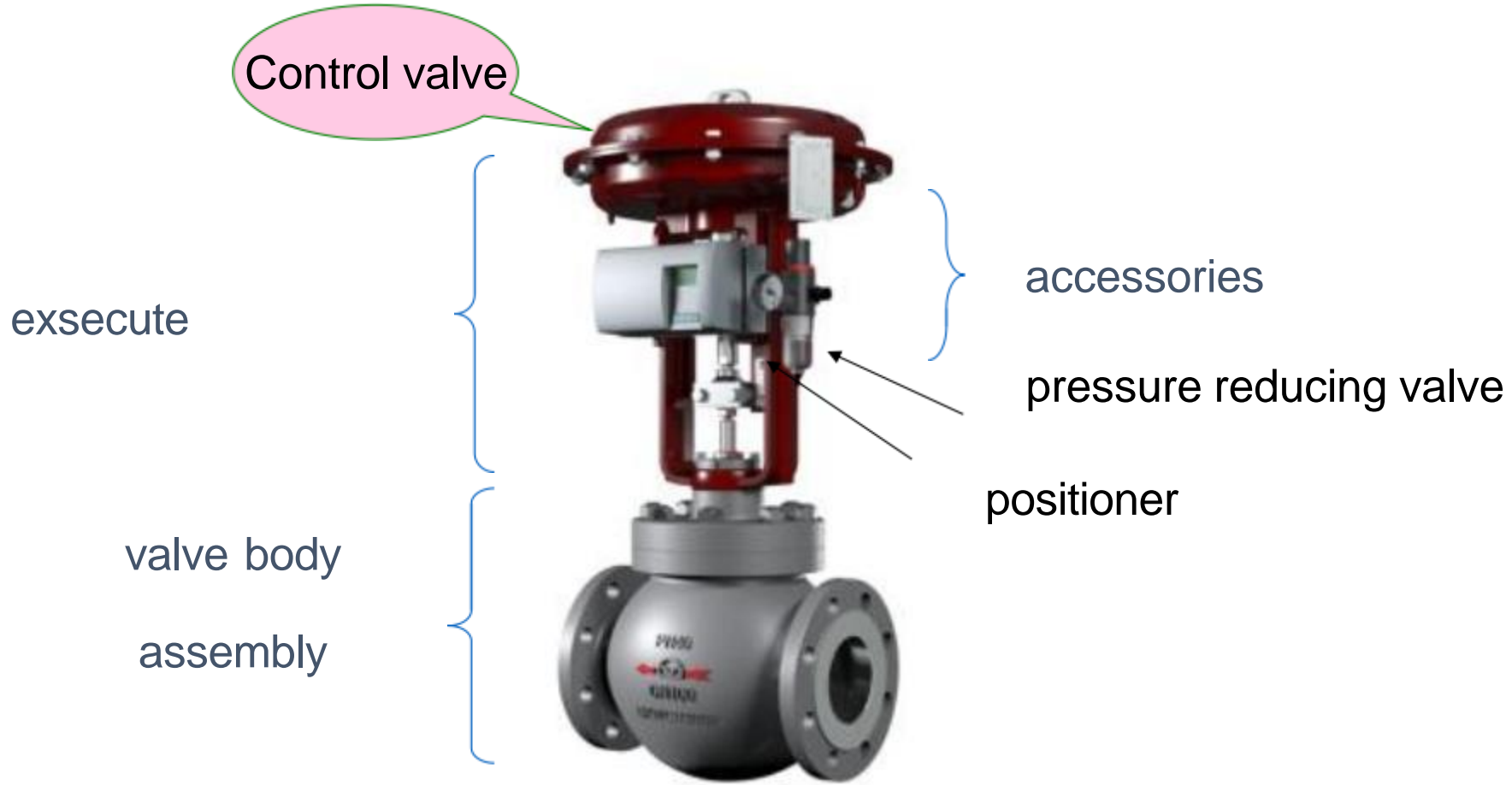
- regulating valve
- Straight stroke regulating valve

- Eccentric rotary valve
- V-notch ball valve
- Regulating butterfly valve
- Regulating gate valve
- O-shaped regulating ball valve

- Shut-off valve**
- ball valve
- butterfly valve
- Shut-off valve
- Gate valve
- Rail ball valve
- Diaphragm valve
- Corner seat valve



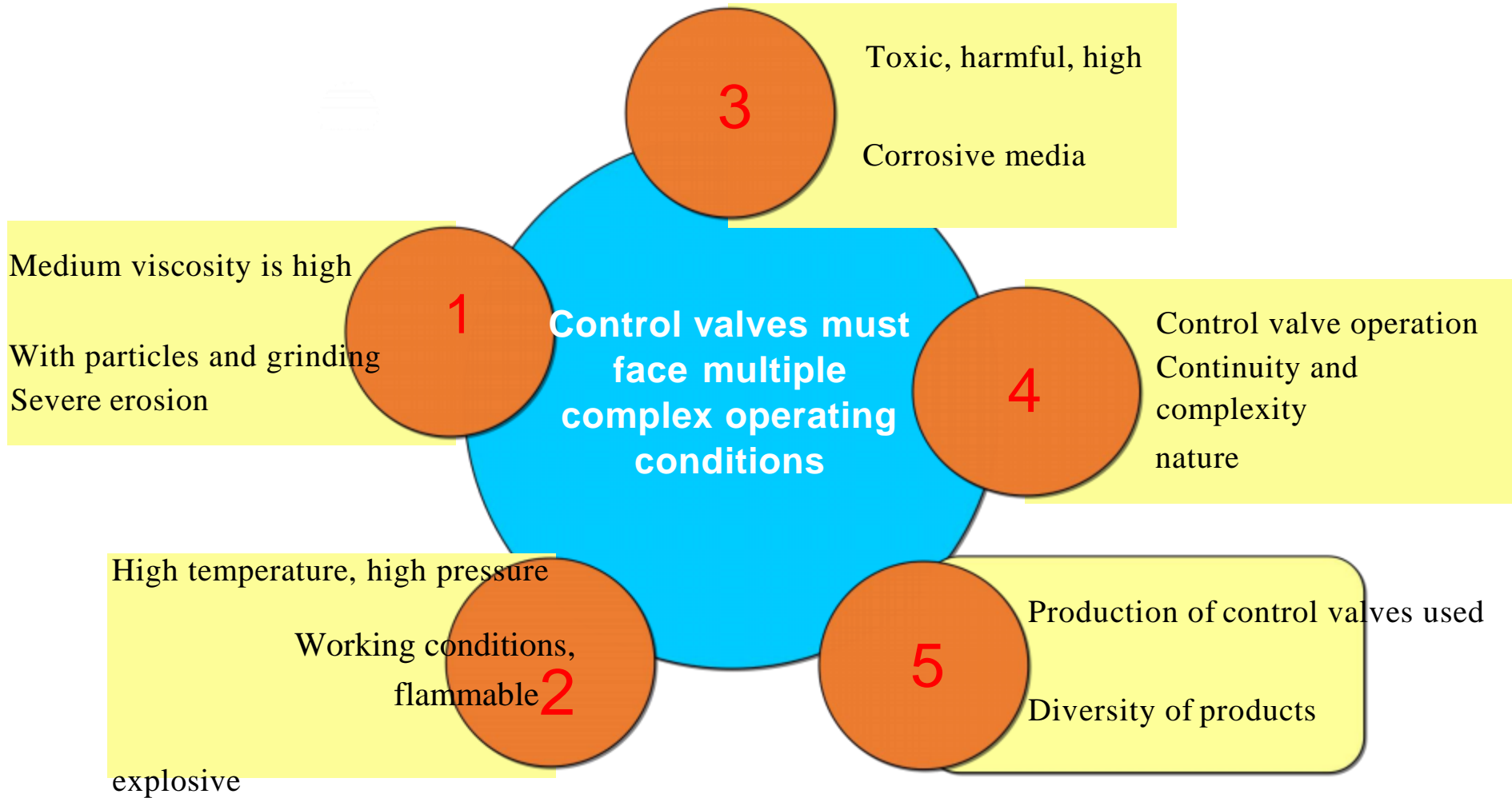
GPRO Fluid Control Valve Products



Standard configuration of GPRO control valve



GPRO Fluid Control Valve Products





GPRO Fluid Control Valve Products

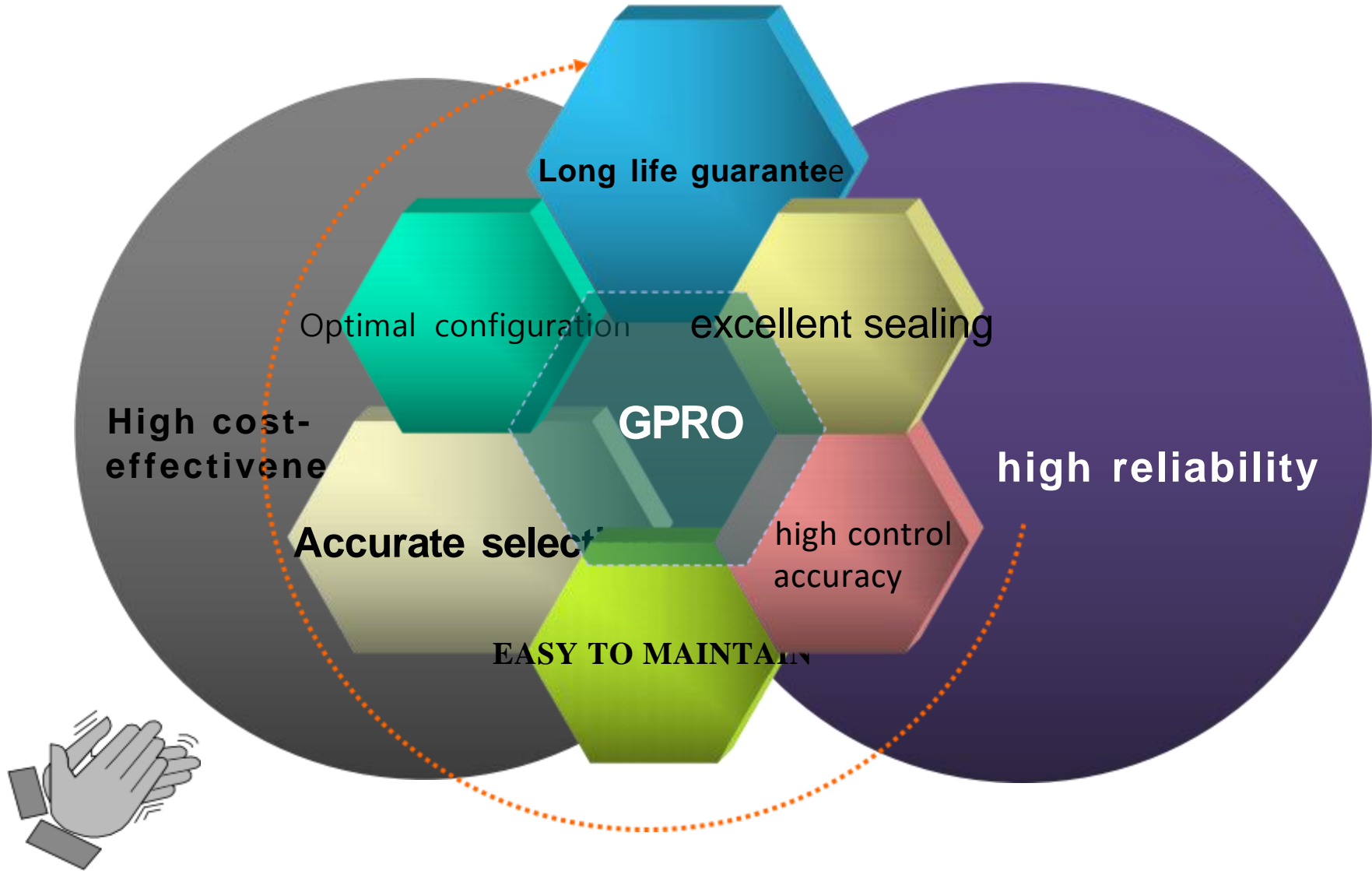
Control valves are important control components that affect the control accuracy and even product quality of industrial process control systems. The performance and control accuracy of control valves directly affect the economic benefits of enterprises in various process industries.



***control valve
importance***

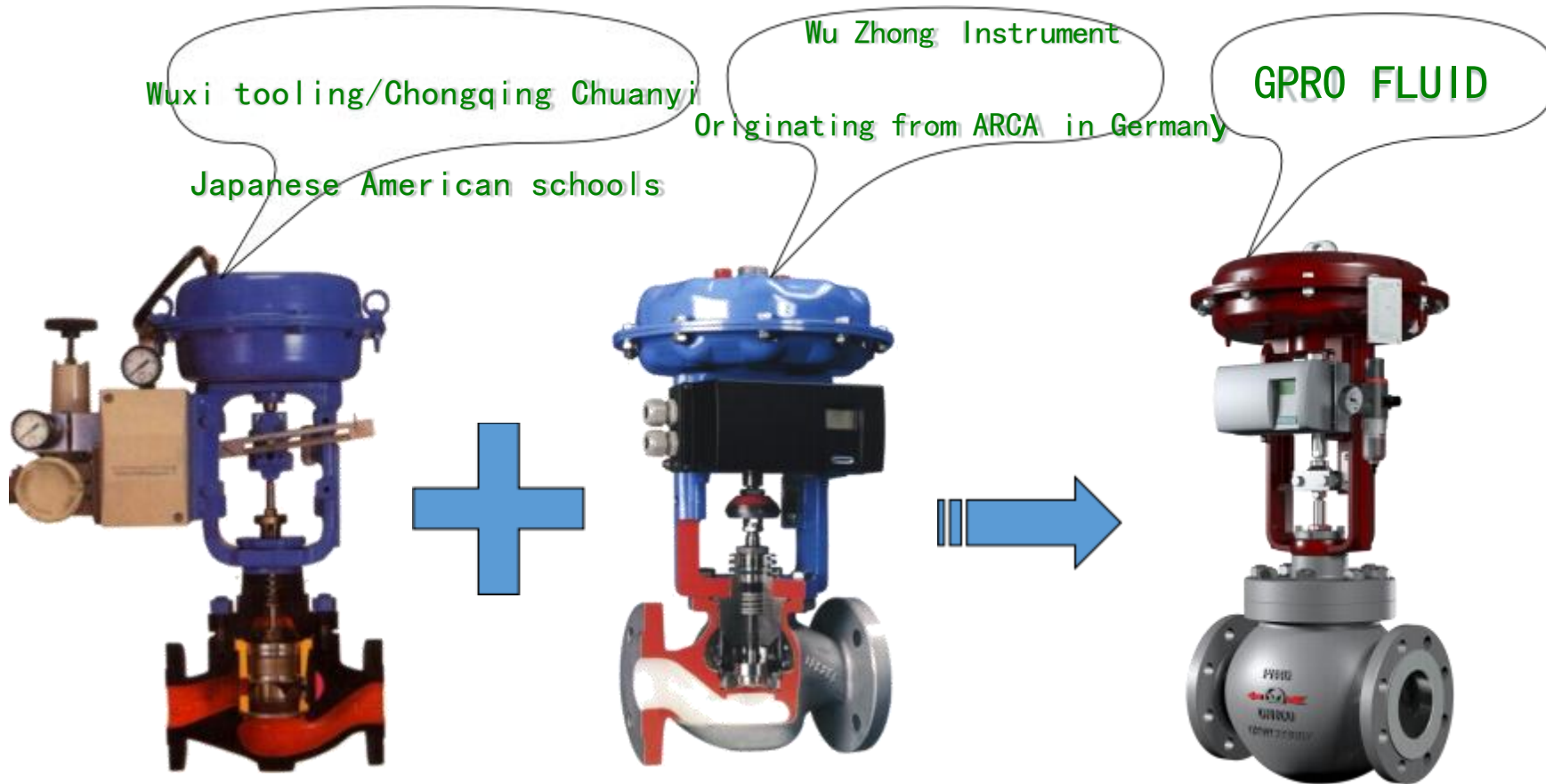


GPRO Fluid Control Valve Products





Analysis of progressiveness of Straight Stroke Control Valve



GPRO Fluid combines the high control accuracy based on experimental foundations of the American and Japanese schools with the user-friendly intelligent modular combination of the German school, creating a new functional modular design concept, representing the development direction of control valve technology.



Analysis of advanced nature of direct stroke control valve



Design index,

Performance index,

Quality index

ASME compliance

B16.34;

ISA S75;

IEC60534;

API598

International standard

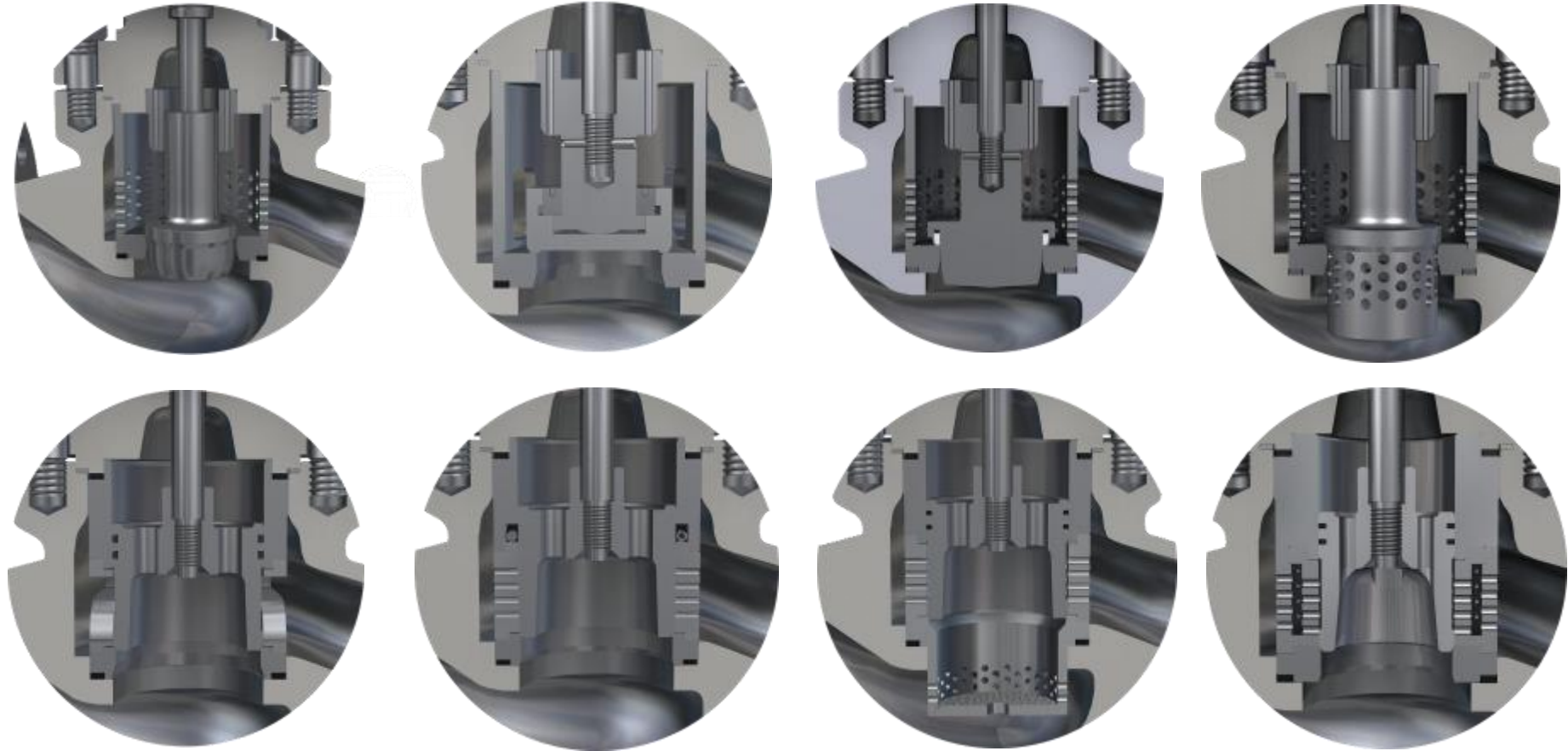
Request, with the state

Internal and external high-end industrial control

The market is fully integrated.



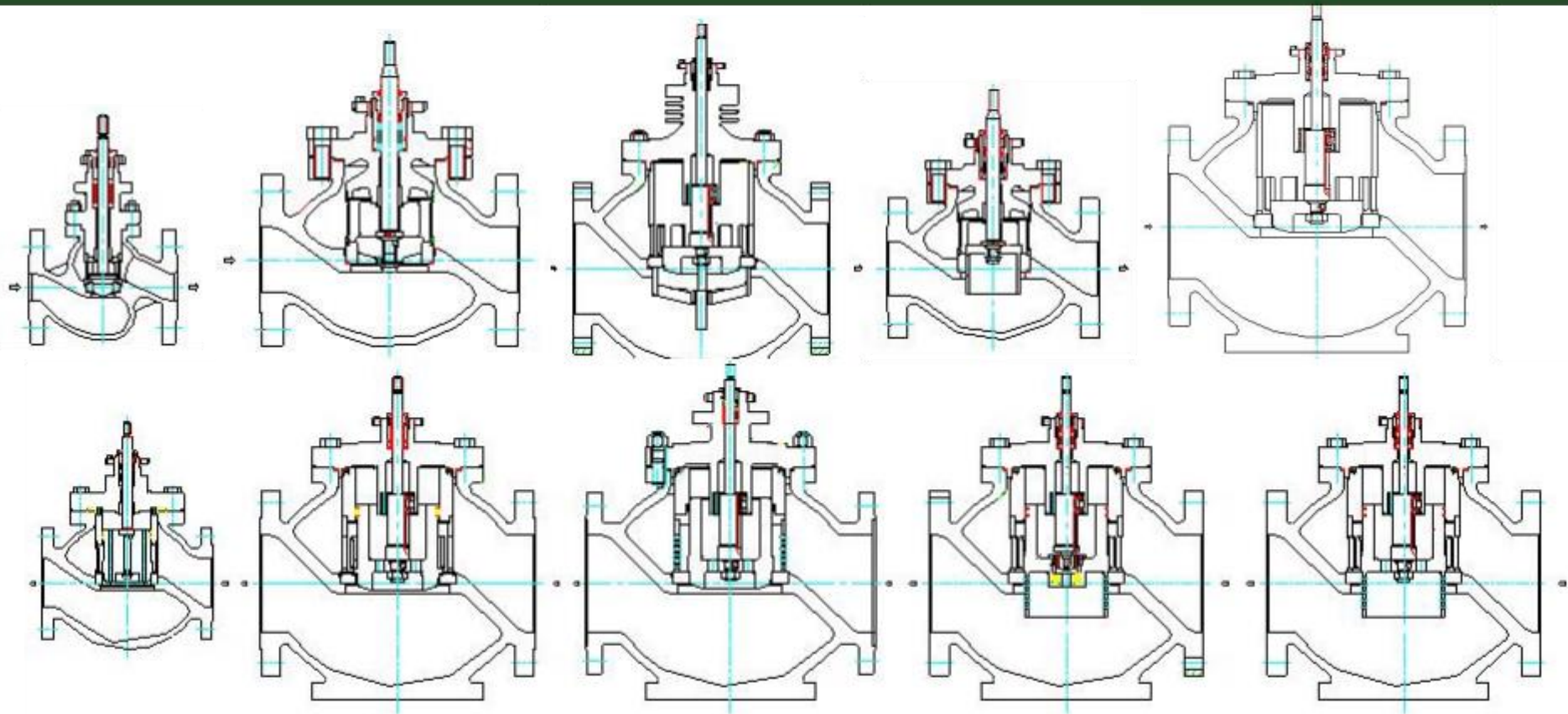
Analysis of advanced nature of direct stroke control valve



one of these seven high reliability highlights: Each valve type has a force transfer direct pressure sleeve, with direct pressure self-centering valve internal structure, high pressure recovery coefficient, natural resistance to cavitation, and natural high leakage level of the valve seat.

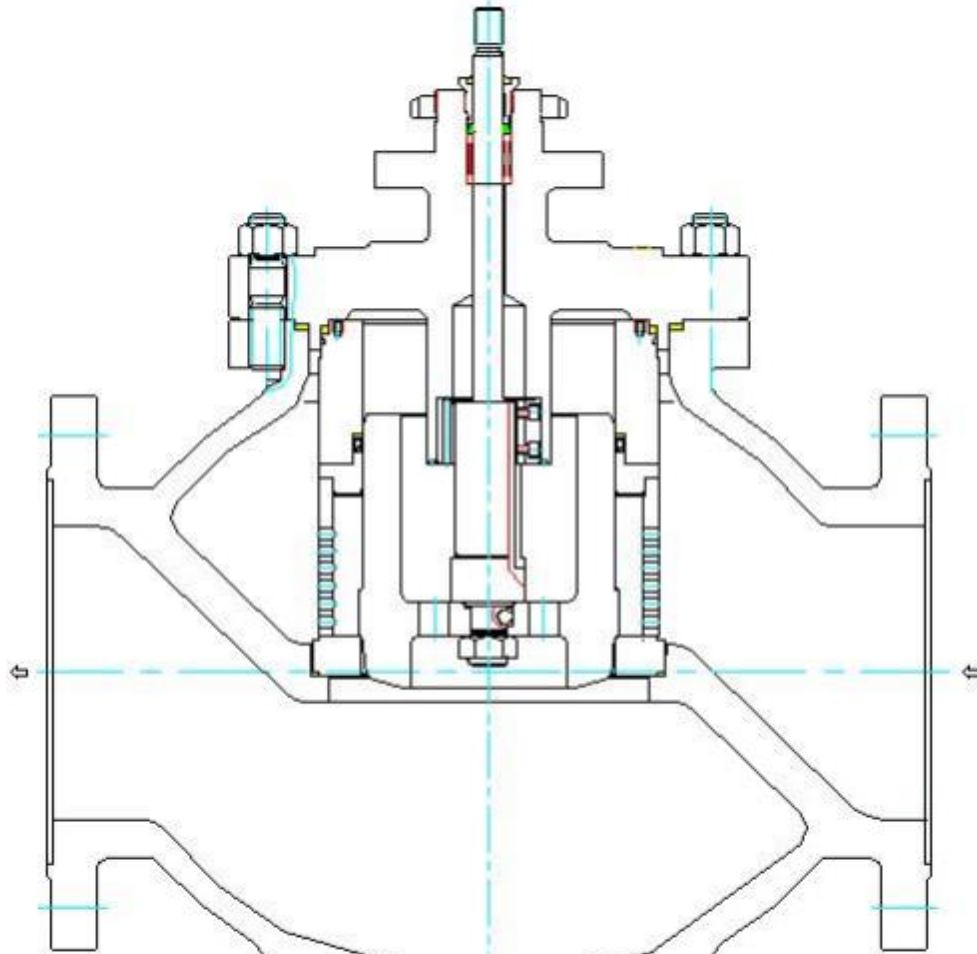
Analysis of advanced nature of direct stroke control valve

Two of the seven high reliability highlights: a variety of valve internals are suitable for different working conditions, spool stem integrated, valve internals connected with steel ball positioning, parabolic spool and perforated spool double guidance, pressure balance structure a variety of sealing ring combination, large diameter step shaft valve stem and the bottom full stroke anti-rotation structure.





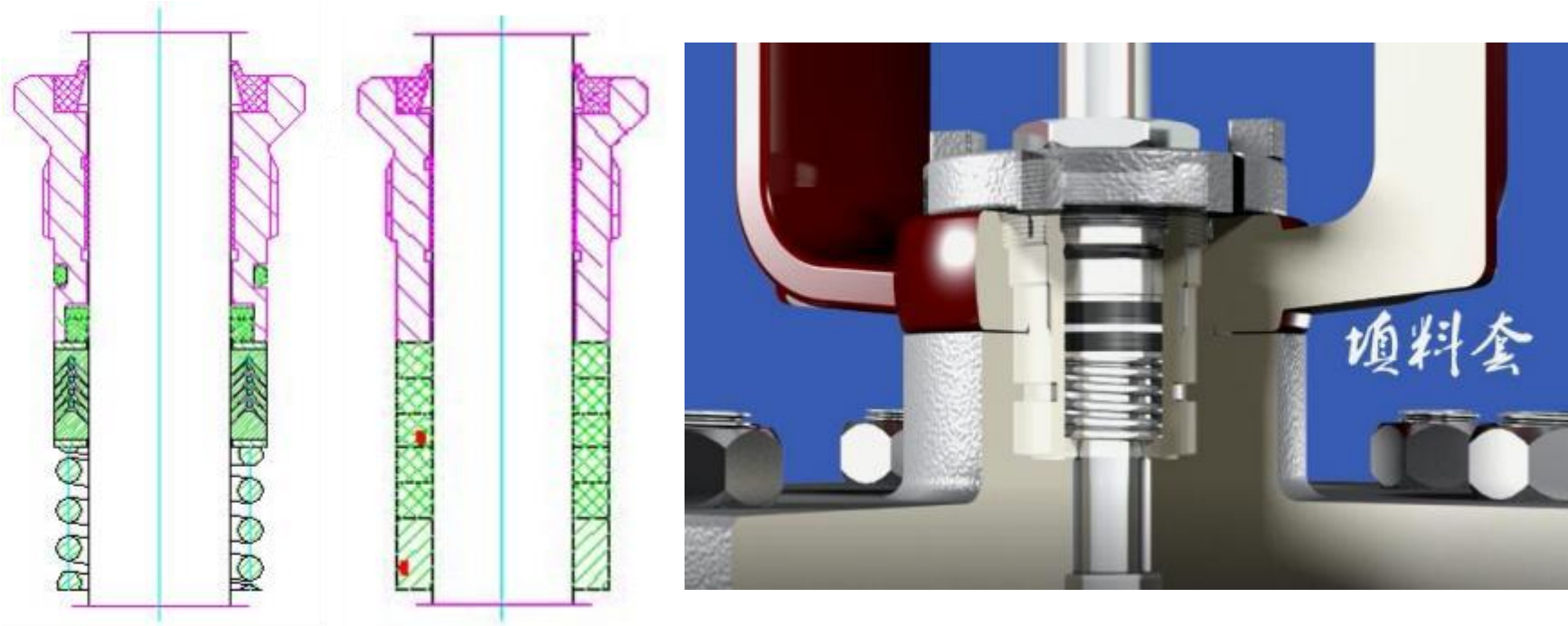
Analysis of advanced nature of direct stroke control valve



Three of the seven high reliability highlights: The structure prevents excessive pressure on the sealing gasket, so that the sealing gasket is pre-tightened moderately to ensure long-term stable sealing performance.

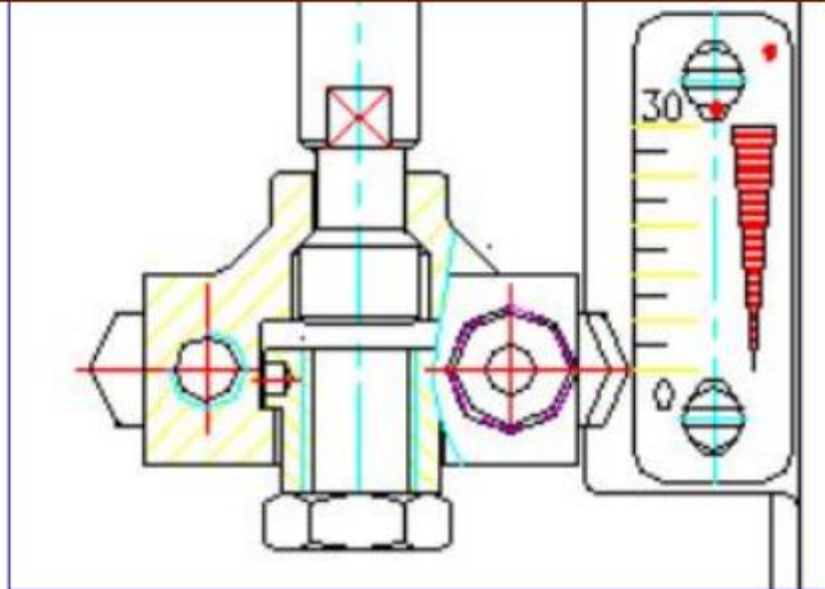


Analysis of advanced nature of direct stroke control valve



Four of the seven high reliability highlights: reliable valve stem seal, anti-carbon steel and chromium molybdenum steel material and graphite packing electrostatic corrosion packing sleeve, a variety of packing combinations, anti-electrochemical corrosion of stainless steel packing box, packing gland length equal to the valve stem stroke

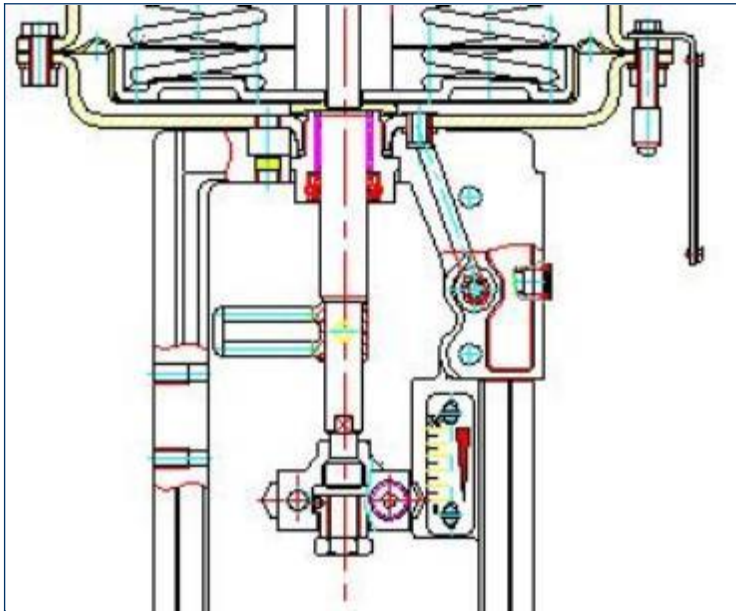
Five of the seven high reliability highlights: The unique innovative design of the valve stem connection components, from the alignment of the bevel and the boss and the full stroke anti-rotation, to ensure smooth operation of the valve stem, no deviation.





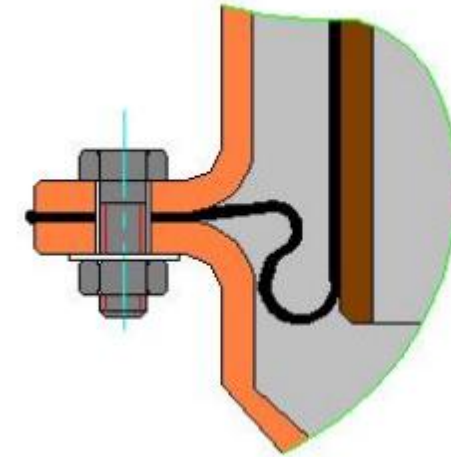
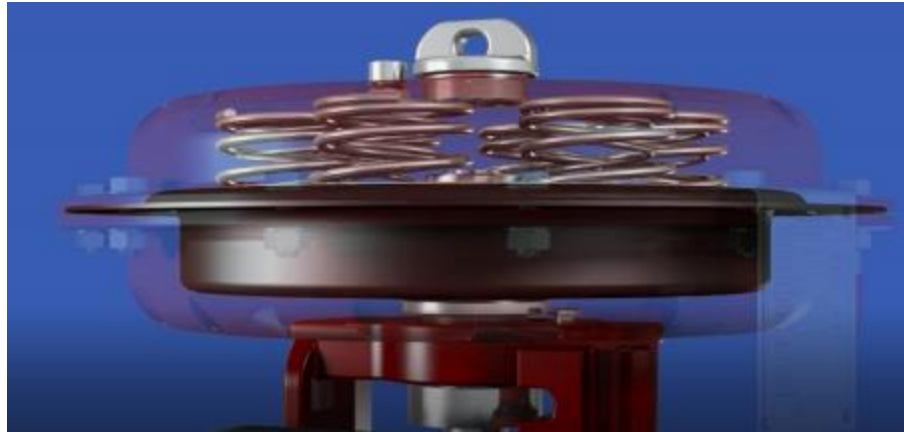
Analysis of advanced nature of direct stroke control valve

Six of the seven high reliability highlights: The design of the positioner and the actuator, the use of pipeline-free connection, compact structure, improve the overall shock resistance, robustness and service life of the regulator while ensuring rapid installation, to adapt to the site's high requirements for reliability and rapid response.



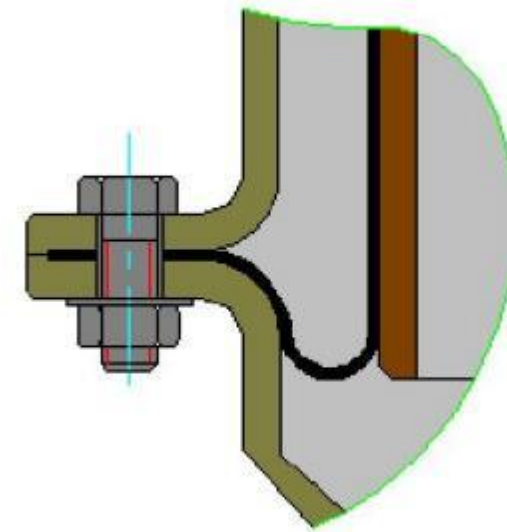


Analysis of advanced nature of direct stroke control valve



NORMAL STRUCTURE

Seven high reliability highlights: Rugged rolling diaphragm clamps are tightly closed between smooth, flat upper and lower film covers that have been machined to prevent excessive pressure for a wide range of applications; Large output thrust; Fast response speed; No lag and long life



KST STRUCTURE



Analysis of advanced nature of direct stroke control valve

Four highlights of easy maintenance on site:

- 1. Direct pressure type can quickly replace the valve internals, disassembly and installation without the use of any special tools.**
- 2. All seats can be used on both sides to improve field repairability and service life.**
- 3. Modular, standardized valve internals, can be replaced online.**
- 4. There is no need to disassemble the membrane chamber surrounded by the upper and lower membrane covers which are more dangerous because of strong pre-pressure, and the positive and negative action of the actuator can be quickly and safely exchanged online..**





Analysis of progressiveness of Straight Stroke Control Valve

The positive and negative reactions of the thin film actuator can be quickly and safely replaced and decomposed online on site





Analysis of advanced nature of Angle stroke control valve

softsealballvalve



Ø Low torque high life, low torque 20% ~ 30%, high life 40% ~ 60%, 100,000 times zero leakage.

Ø High platform direct mounting design, adjustable invisible packing gland, no need to remove the cylinder and any other parts to adjust the packing preload (optional bracket and drive shaft)

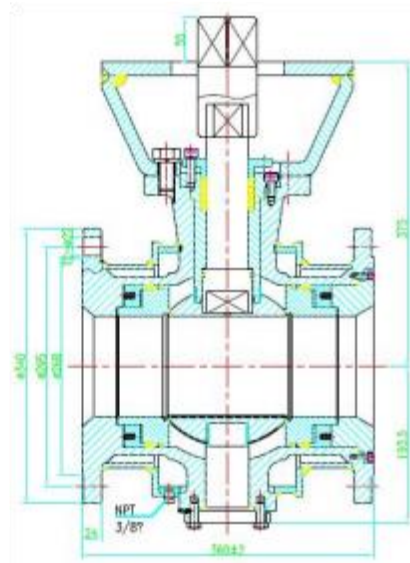
Ø A full range of fireproof, anti-static, anti-fly out, automatic pressure relief in the inner cavity and other functional structure design;

Ø Soft seal ball valve bidirectional seal zero leakage,



Analysis of progressiveness of Angular Stroke Control Valve

METAL SEAL BALL VALVE

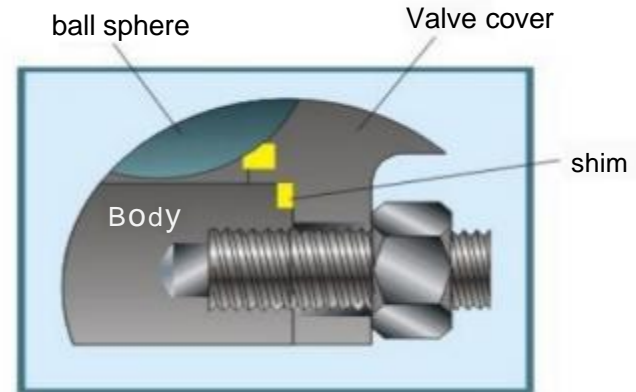
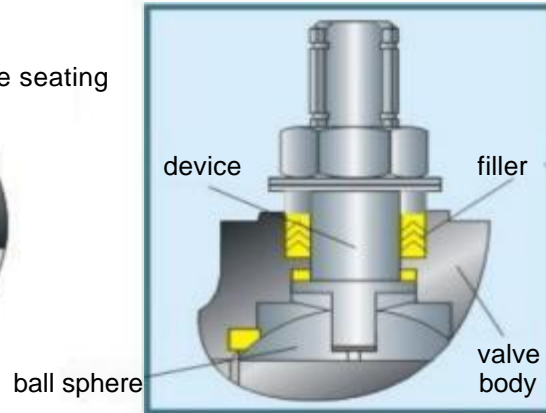
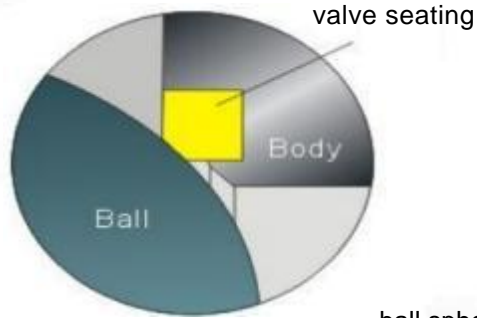


- Fixed ball valve with DBB (double cutoff) function design, bidirectional sealing, and spring compensated structure.
- Hard sealed ball valve core, valve seat is sprayed with nickel base alloy, Stellite alloy, tungsten carbide and other Case-hardening treatment, and can be equipped with scraper structure and compensation spring fully sealed protective structure;
- The large diameter and high-pressure fixed hard sealing ball core is positioned using a packing sleeve, with low friction torque and flexible rotation without crawling.
- The sealing of hard sealed ball valves meets the requirements of ISO 5208 Class D and API 598 Bubble level leakage.
- The spheres are all made of stainless steel material and designed with solid forged steel balls. The casting blanks are all precision cast using silica sol. The entire valves and parts are precision machined using CNC lathes, with high machining accuracy, effectively ensuring the interchangeability of parts.

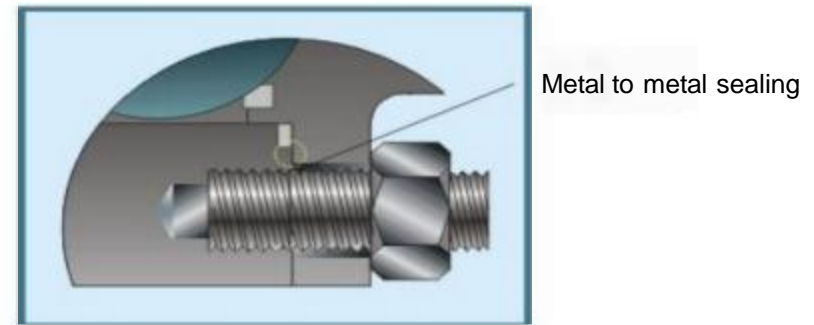
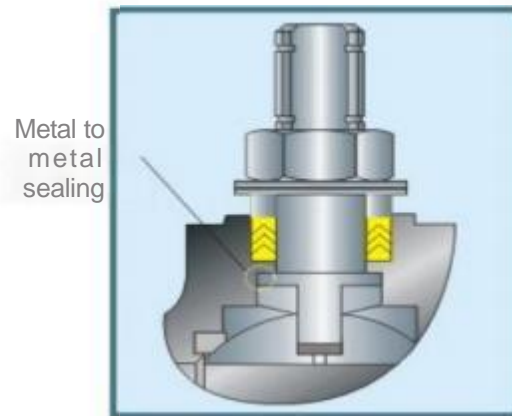
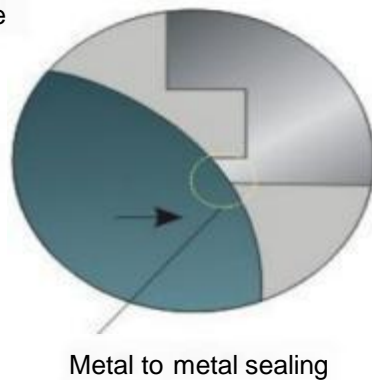


Analysis of progressiveness of Angular Stroke Control Valve

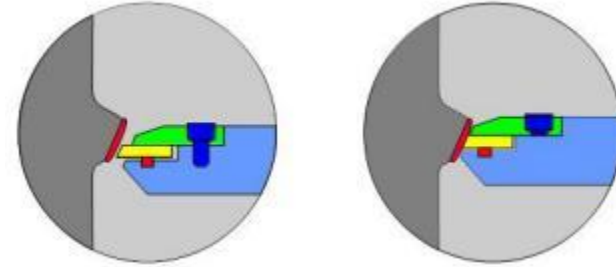
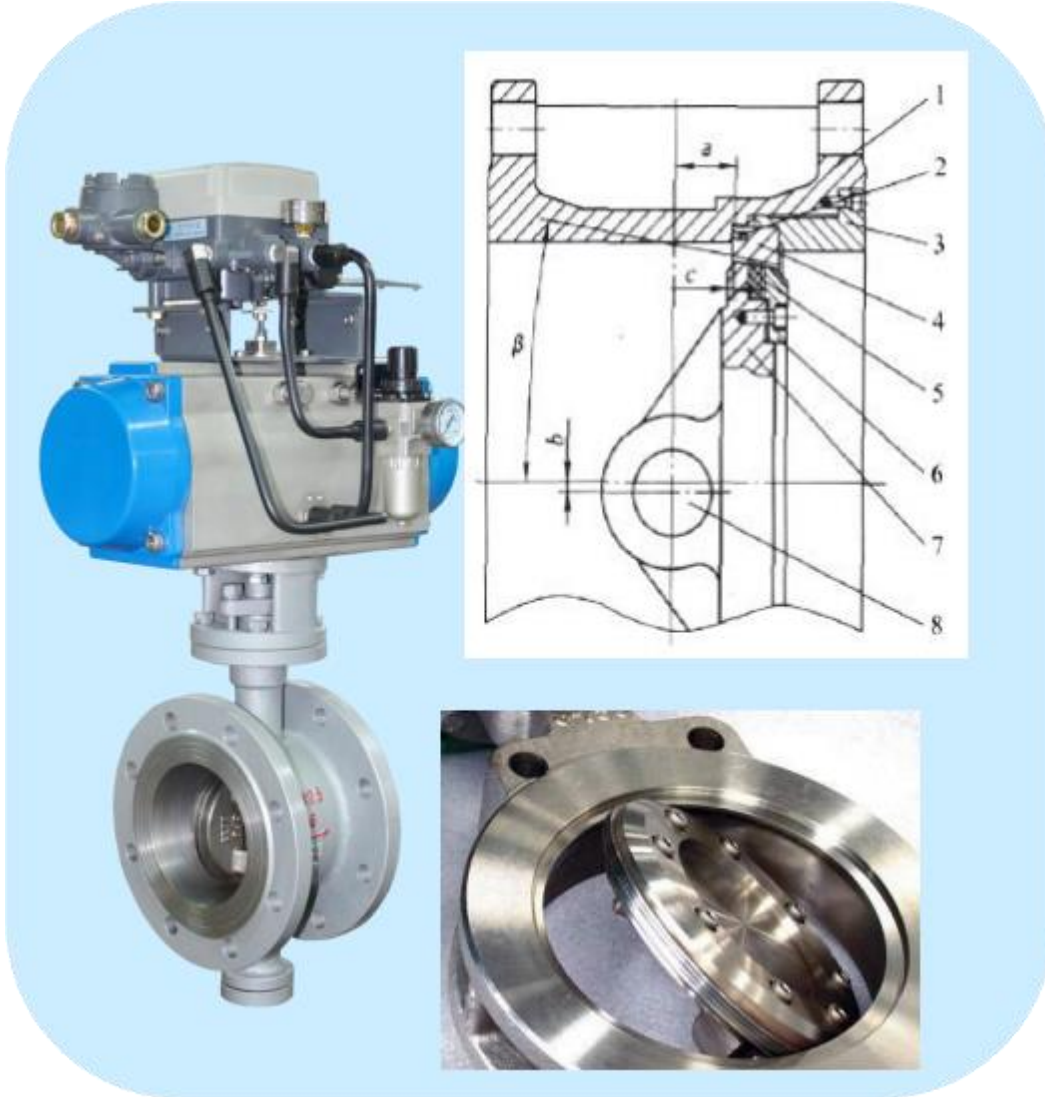
Before afire



After fire



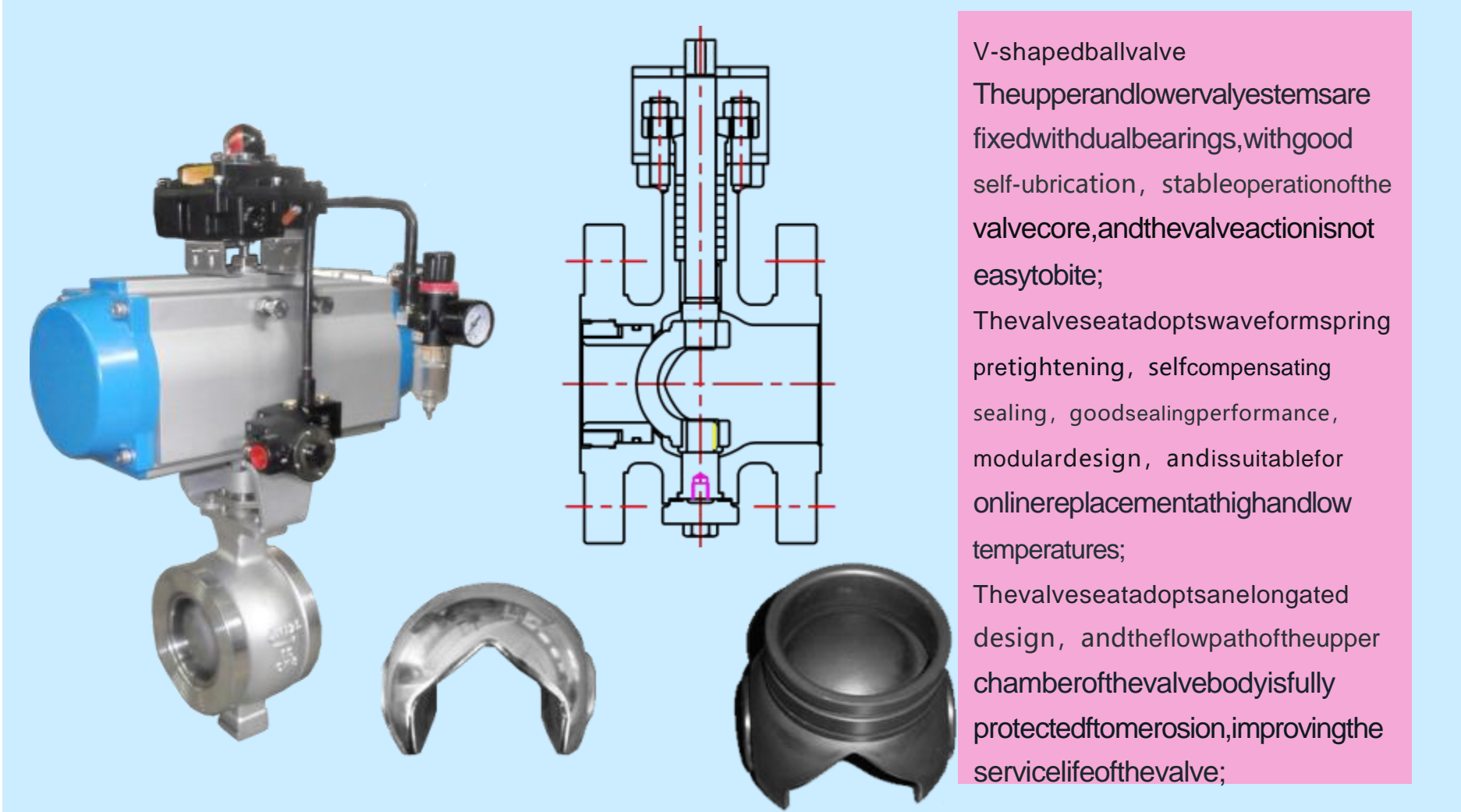
Analysis of progressiveness of Angular Stroke Control Valve



Triple eccentric hard seal butterfly valve
 This sealing pair adopts a three-dimensional eccentric structure, with no wear during operation and minimal torque loss;
 This sealing pair adopts a metal-laminated flexible seal with automatic compensation performance
 The valve has approximately equal percentage flow **characteristics, and can adjust and cut off performance;**
 Metal-graphite composite sealing ring, without adhesion with high-purity graphite and no slag falling, can achieve bidirectional sealing



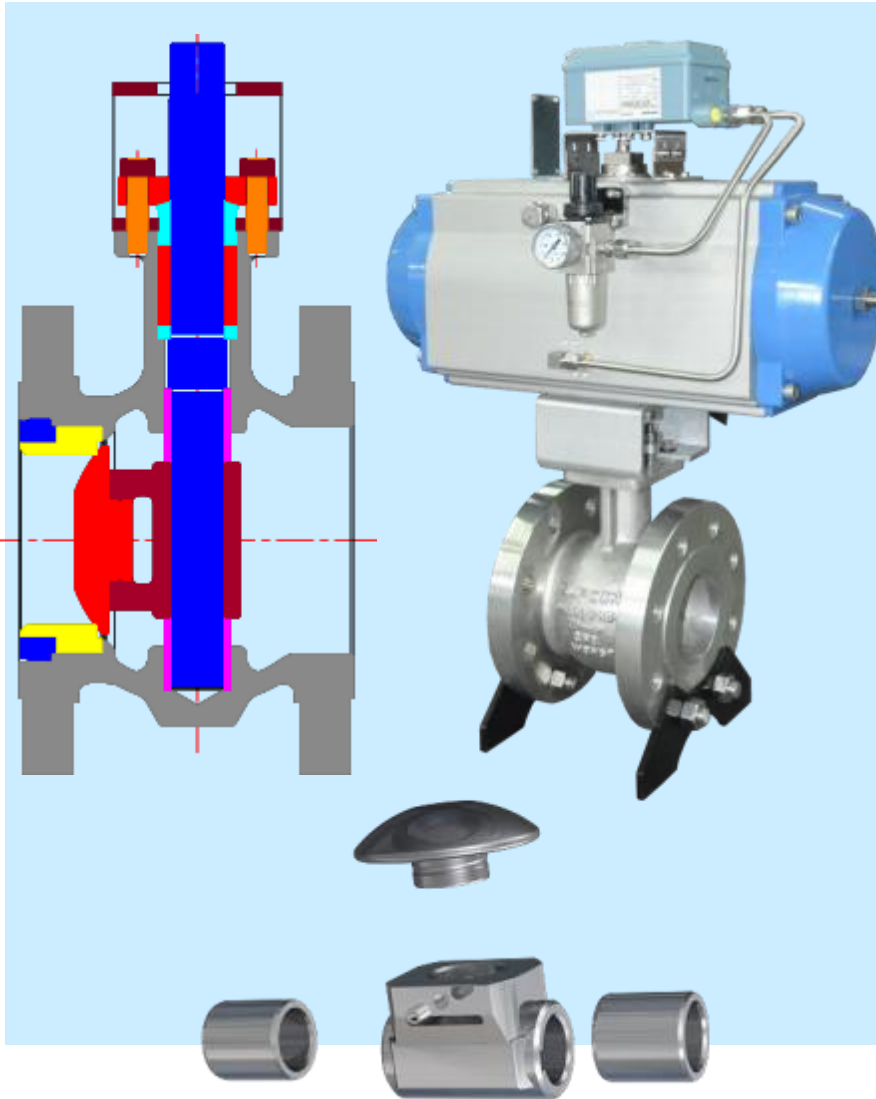
Analysis of progressiveness of Angular Stroke Control Valve



V-shaped ball valve
The upper and lower valve stems are fixed with dual bearings, with good self-lubrication, stable operation of the valve core, and the valve action is not easy to bite;
The valve seat adopts waveform spring pretightening, self-compensating sealing, good sealing performance, modular design, and is suitable for online replacement at high and low temperatures;
The valve seat adopts an elongated design, and the flow path of the upper chamber of the valve body is fully protected from erosion, improving the service life of the valve;



Analysis of advanced nature of Angle stroke control valve



Eccentric rotary control valve

Ø The spool adopts split type design, and the ball crown material selection is suitable.

Ø Integrated valve stem, good rigidity of the valve stem, stable and reliable guidance, positioning conducive to the sealing of the valve core, at the same time, the valve stem is not exposed, the guide does not easily top or particulate deposition wear stuck;

Ø The valve seat adopts the extended design, the inlet flow path of the valve body is fully protected from washing and the service life of the valve is improved

Ø Soft seal Seal elastic compensation floating design, relying on the medium pressure to increase the specific pressure of sealing, sealing reliable



Analysis of advanced nature of Angle stroke control valve

Angle stroke control valve ball core, valve seat, valve plate and other valve internal parts using supersonic spraying rather than the usual flame spraying, strong binding force, more erosion resistance, strong life.

Common materials for supersonic spraying				
NAME	WC-Co	WC-Co-Cr	STL20#	Cr3C2-NiCr
	Cobalt coated tungsten carbide	Cobalt chromium coated tungsten carbide	cobalt-chromium-tungsten alloy	Nickel chromium coated chromium carbide
Typical powder	WC 88%~ Co 12%	WC86%-10%Co-4%Cr	C2.45 Cr32.50 Si 1.00 W 17.50 Fe 3.00 Mo 1.00 Ni3.00 Co-Bal Mn0.50	Cr3C2 75%-NiCr25%
Temperature	<470℃	<470℃	<650℃	540℃~871℃
Coating characteristics	High hardness, high wear resistance, and corrosion resistance	High hardness, wear resistance, and corrosion resistance	High temperature resistance, corrosion resistance High temperature oxidation resistance and wear resistance	High temperature resistance, corrosion resistance High temperature oxidation resistance and wear resistance
Coating hardness	HV 1000~1400	HV950-1400	HRc 52±3	HRc 53-57
Coating Adhesion	78 Mpa			

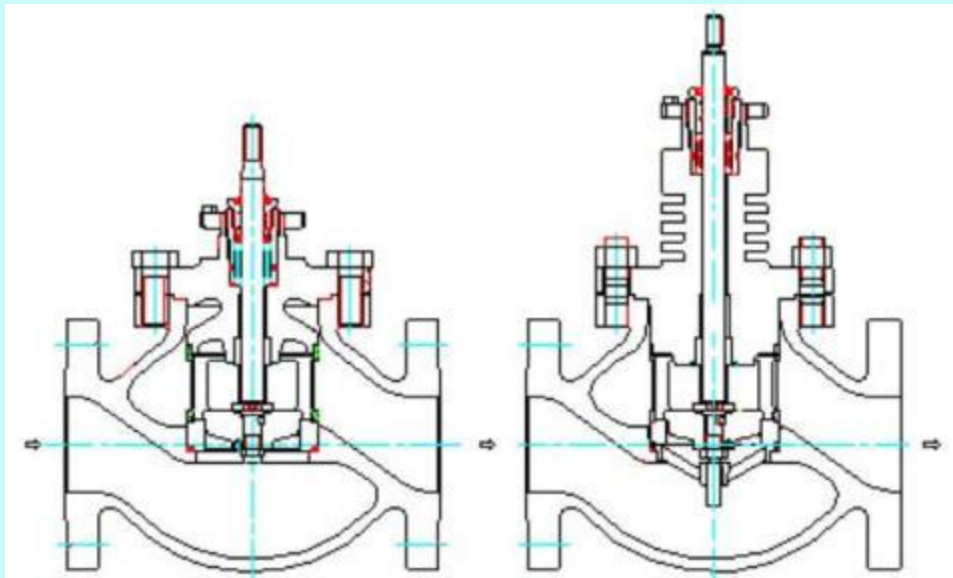




Consett fluid control valve typical application

Single seat top guide and single seat double guide control valve

The requirements of inlet control valve and bottom control valve of fractionating tower in atmospheric and vacuum section of oil refinery are very strict. The medium of the feed control valve of the heating furnace is crude oil, which requires accurate control of the temperature of the furnace tube in the heating furnace, and can prevent coking and avoid blocking of the furnace tube.



CA1311&CA2351

Quick replacement of spool, direct pressure valve seat

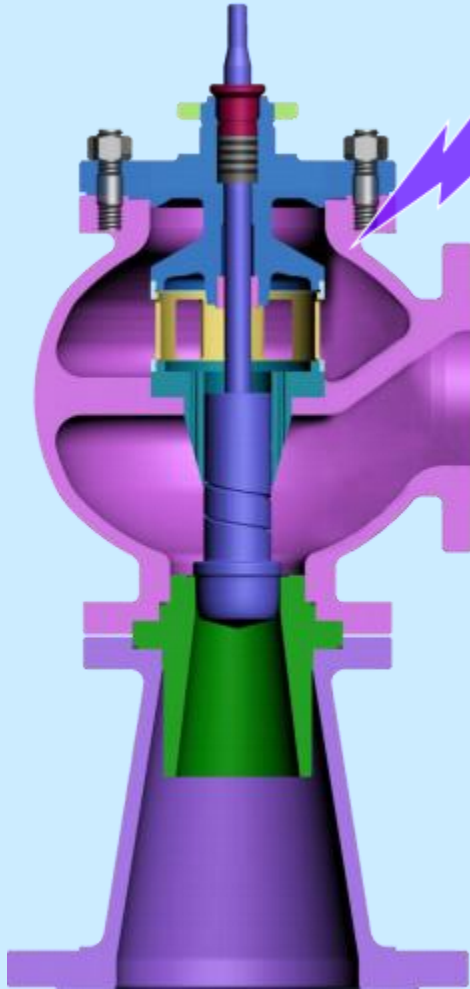
Large circulation capacity, high adjustment accuracy

Anti-impurity damage, anti-cavitation and anti-erosion

Internal dual orientation, high reliability



GPRO Fluid Control valve typical application



The fractionator stock circulation control valve and the fractionator reboil circulation control valve are high-performance stock Angle control valves produced by Consette Fluids.

IEC Standard 6534 linear design

Self-isolating balanced self-circulating processing structure

Anti-garbage spiral groove, special scraper design

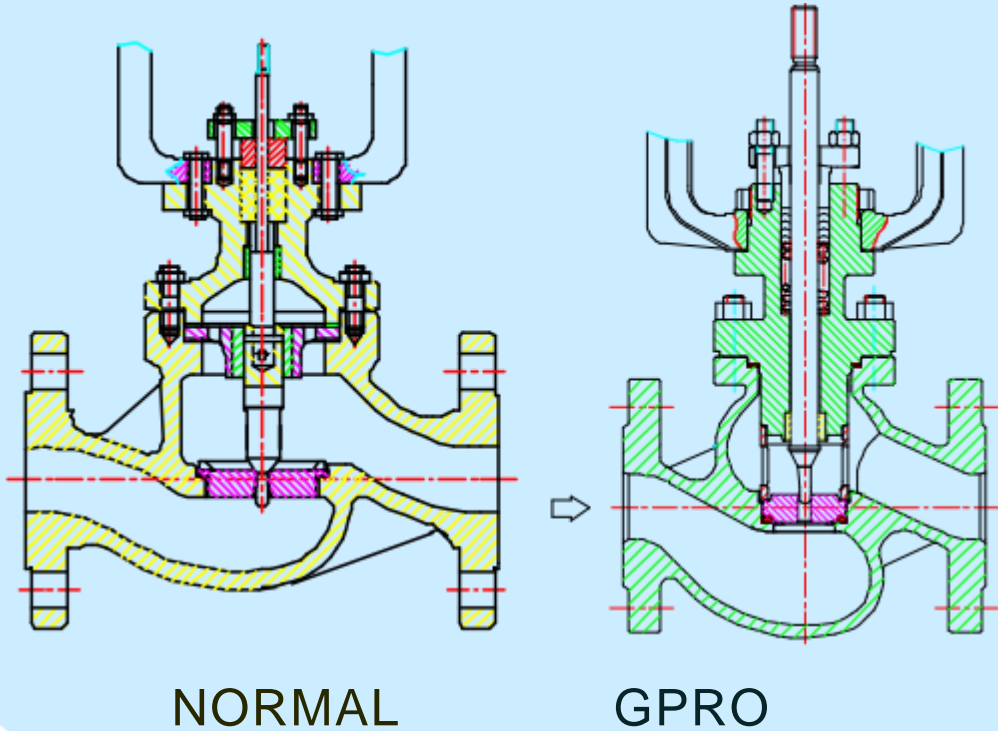
The core and valve seat are made of carbide

Valve body runner, venturi tube and reducer tube are coated with tungsten carbide



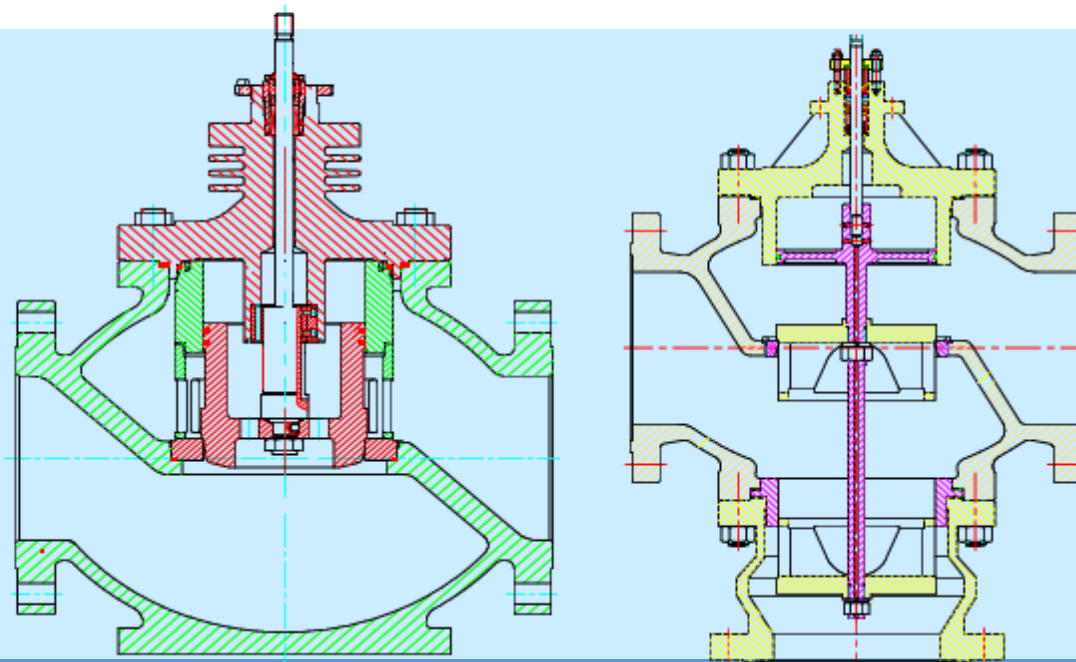
GPRO Fluid solution for critical operating conditions

Micro-flow condition: flow and control from ultra-clean gas to pure water and all kinds of drops. Process quantitative liquid and mixing ratio, catalyst and additives addition, concentration control and so on.



solutions for small flow conditions

- 1. High stiffness of spool and stem.
- 2. Self-alignment runs smoothly.
- 3. Direct pressure structure is easy to maintain.
- 3. Accurate spool profile, high adjustment accuracy.
- 4. Prevent spool rod from falling out.
- 5. Cv can be < 0.01, full stroke spirit Sensitive control.
- 6. Adjustable ratio: 30:1, 50:1, 100:1 Optional



**Large flow conditions:
main line gas, steam
flow regulation, heat
transfer oil feed, steam
heat transfer and so on**

Two-way straight stroke regulating valve

- 1.The stepped stem has high stiffness and does not bend.
- 2The movable parts are not only accurate in positioning and guiding, but also have anti-turning structure.

Three-way combined regulating valve

- 1.Increase the pressure balance chamber at the tail of the upper valve cover.
2. The intermediate shaft hollow connects the bypass pressure with the pressure balancing chamber.

common characteristic

- 1.The pressure balance seal ring is available in metal and non-metal according to the medium and temperature.
- 2.It greatly enhances the stability and life of use under large pressure difference.
- 3.Leakage level ANSIB16.104 above Class IV.



THANK YOU

Every second brings a fresh beginning, every hour holds a new promise, every night dreams can bring hope, and every day is what we choose to make it