VCP pneumatic ball valve

West Lake Bay

Product overview

The VCP pneumatic ball valve is the pneumatic actuator equipped on the ball valve. The execution speed of pneumatic actuator is relatively fast, and the fastest switching speed is 0.05s/time, so it's usually also called as pneumatic quick cutoff ball valve. The classification as per the material is as follows: Stainless steel pneumatic ball valve, plastic pneumatic ball valve, carbon steel pneumatic ball valve and cast iron pneumatic ball valve. In case of classification according to the number of branches, it can be divided into two-way pneumatic ball valve, tee-junction pneumatic ball valve and four-way pneumatic ball valve. The pneumatic ball valve is mainly used for quick cutoff, distribution and changing the flow direction of the medium in the pipeline.



Product features

- Low hydraulic resistance. The resistance coefficient is equal to that of pipelines with the same length.
- Simple structure, small size and light weight;
- Compact and reliable. At present, the sealing surface material of ball valve is widely used in plastics with good sealing, and can also be widely used in the vacuum system;
- Easy operation and rapid opening/closing, and only rotating by 90° only from full opening to full closing for facilitating remote control;
- Easy maintenance and simple structure of the pneumatic ball valve. The sealing ring is generally movable and can be dismantled and replaced conveniently;
- When the valve is fully opened or closed, the sealing face of the ball and valve seat is isolated from the medium, so the valve sealing surface won't be eroded by the medium;
- Wide application scope, with the diameter ranging from several millimeters to meters, thus allowing for application under high vacuum and high pressure;
- No pollution to the environment, but high safety;
- Large caliber configuration (the manual and turbine turn ball valves are generally of less than DN300 caliber, and the pneumatic ball valve can reach to be of DN1200 caliber at present.)

Product application

The switch is light and small in size and can be made into a large diameter seal with reliable sealing, simple structure and easy maintenance. The sealing surface and the sphere are usually in a closed state and not easily eroded by medium. It's widely used for petroleum, chemical engineering, power generation, lithium battery new energy industry, papermaking, atomic energy, aviation, rocket, etc. and people's daily life.

Technical parameters

Nominal diameter DN(mm)	15	20	25	32	40	50	65	80	100	125	150	200
Rated flow coefficient KV	21	38	72	112	170	273	384	512	940	1452	2222	3589
Nominal pressure (MPa)	PN1.6, 2.5, 4.0 and 6.4 MPa; ANSI 150 and 300LB											
Allowable pressure differential (MPa)	≤ nominal pressure											
Valve form	Two-section casting ball valve											
Connection type	Flange type, welding type and thread type											
Valve element form	"O"-shaped ball valve element											
Gland packing	V-shaped polytetrafluoroethylene packing and flexible graphite packing											
Flow characteristics	Approximate to fast open type											
Actuation range	0 ~ 90°											
Leak amount Q	Less than rated KV0.01% as per GB/T4213-92											

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Adjustable range	250: 1	350: 1
Configuring the actuator	PHR/PHW series pneumatic actuators can be configured	
Control mode	Switch type (switch two-step control) and regulating type (4～20mA control)	

Actuator parameter

Actuator model	Single and double acting on pneumatic actuator by PHR/PHW series
Gas supply pressure	0.4～0.7MPa
Air source port	G1/4", G1/8", G3/8" and G1/2"
Ambient temperature	-30～+70℃
Acting form	Single acting actuator: Air-to-close type (B)--the valve is opened when gas leakage (FO); Air-to-open type (K)--the valve is closed when gas leakage (FC) Double acting actuator: Air-to-close type (B)--the valve is kept when gas leakage (FL); Air-to-open type (K)--the valve is kept when gas leakage (FL)
Accessories available	Locator, solenoid valve, air filtering pressure reducer, lock-up valve, travel switch, valve position transmitter and handwheel

Part material

Part name	Material			
Valve body	WCB	304(CF8)	316(CF8M)	316L(CF3M)
Sphere	2Cr13+ nitrogen treatment	304	316	316L
Valve rod	2Cr13	304	316	316L
Valve seat sealing ring	PTFE (polytetrafluoroethylene), PPL(polyphenylene) and metallic seal (hard alloy)			
Packing	V-shaped PTFE packing and flexible graphite			

Performance specification

Nominal diameter DN(mm)		DN15-300				
Nominal pressure	PN(MPa)	1.0	1.6	2.5	4.0	6.4
Test pressure	Strength test	1.5	2.4	3.75	6.0	9.60
	Sealing test	1.1	1.76	2.75	4.4	7.04
	Low pressure gas tight test	0.5～0.7				
Applicable medium	Water, oil, steam, nitric acid (temperature≤200℃) and acetic acid (temperature≤200℃)					

Ball valve model selection

VCP	Pneumatic ball valve
	Valve classification F Floating ball valve G Fixed ball valve S Tee-junction ball valve V V-shaped ball valve E Eccentric ball valve
	Nominal diameter *** (100 indicates DN100 or inch used to express 4 ")
	Special valve identification The code is omitted for standard valves F Lining fluorine ball valve (FPA lining) F46 Lining fluorine ball valve (FEP / F46 lining) M Metal sealing ball valve (omissible)
	Valve body material W A216-WCB 0 CF8/304SS 1 CF8M/316SS 2 CF3M/316L 3 Dual-phase steel 5 Other materials
	Valve element material W A216-WCB 0 CF8/304SS 1 CF8M/316SS 2 CF3M/316L 3 Dual-phase steel 5 Other materials
	Valve rod material W 45 # steel S 1Cr13 or 2Cr13 H 17-4H stainless steel 0 304SS 1 316SS
	Valve seat material P PTFE R R. PTFE (reinforced poly tetra fluoro ethylene) M Valve body material hardening treatment S Stellite hard alloy
	Joint face form NF NPT thread connection GF Metric thread connection RF Convex flange connection BF Butt clamp connection VW Butt welding connection
	Nominal pressure *** (16 indicates nominal pressure PN1.6Mpa or ANSI used to express 150lb)
VCP-	

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