SIL

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FRY·弗瑞亚
Electric Actuator

CONTROL VALVE

TIANJIN FREYA AUTOMATION TECHNOLOGY CO., LTD.

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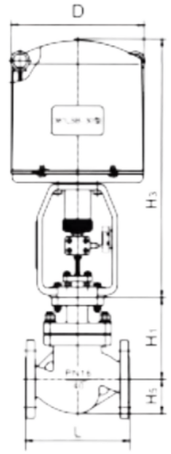
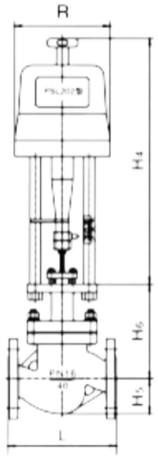
CONTROL VALVE

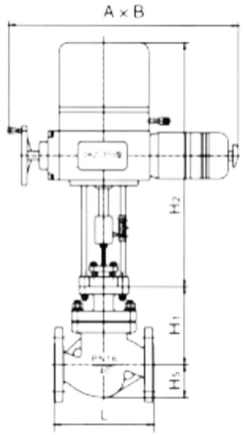
Founded in 2014, Freya specializes in fluid control products and services such as valves, actuators, electric valve actuators, and electric valves. It focuses on the process industry and has long been committed to providing services to process industries such as power, steel, building materials, and water treatment to provide professional fluid control solutions. Based on the actual working conditions, through necessary on-site surveying and technical explanations, we provide customers with safe, economical and environmentally friendly selection and design, supply in strict accordance with contract requirements and guide installation and debugging, and hand over for use if standards are met. Thanks to the trust of the vast number of users, through long-term and large-scale on-site services, and the effective accumulation of technical experience, the company has an accurate understanding of the real needs and pain points of users and the market, as well as expectations for equipment manufacturers.

The company based on its own patent R & D and production of intelligent electric actuators, reliable, durable, easy to use, cost-effective and guaranteed service. Being close to users, providing full-process services, cover-all services, repair and maintenance value-added services, and escorting users' production are our differentiating advantages. Freya intelligent electric actuator and electric valve actuator provide a two-year warranty and lifetime free after-sales service after installation and commissioning. Technical quality and commercial credit are the two foundations on which the company relies to survive and drive the development of the company. Users feel reassured, worry-free and happy, which are the only criteria to evaluate the effectiveness of our work and demonstrate the value of our existence.

QUALIFICATIONS







Product overview

The ZDLP electric single-seat control valve adopts a top-guided structure, a compact valve body structure, an S-shaped fluid channel, small pressure drop loss, large flow volume, wide adjustable range, and high flow characteristic accuracy. The guide area of the valve core guide part is large, and it has the characteristics of strong seismic resistance. The valve seat closing performance meets the GB/T4213-92 standard. The control valve is equipped with a small, sturdy, and high-precision actuator that receives ON-OFF or 4-20mADC or 1-5V DC signals for proportional action. It is more suitable for use in high temperature, low temperature and high pressure occasions that require high reliability and closing performance. The unique cage design can also be used in harsh working conditions such as scouring and cavitation. The valve seat can be used on both sides to increase the service life. It can be quickly installed and disassembled without special tools, and it is cost-effective.

Technical parameters

Valve body

Body type: straight-through single-seat cast control valve
Valve diameter: DN20~300
Nominal pressure: PN16, PN25, PN40, PN64, PN100
Connection method: flange, thread, welding
Flange standard: steel flange according to GB9113-2000, JB/T-94
Sealing surface: convex, concave and convex
Face to face: according to GB12221-89
Material: ZG230-450, ZG1Cr18Ni9Ti, ZG1Cr18Ni12Mo2Ti
Gland type: pressure plate type
Packing: V-type polytetrafluoroethylene packing, flexible graphite packing
Gasket: type, tooth type and flat type
Material, F4/modified F4, stainless steel + graphite

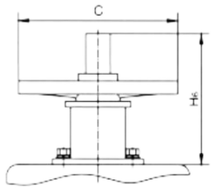
Valve components

Valve core: single-seat plunger valve core
Sleeve: metal seal
Equal percentage characteristics (%C)
Linear characteristics (LC)
Soft seal (material: reinforced polytetrafluoroethylene)
Equal percentage characteristics (%C)
Linear characteristics (LC)

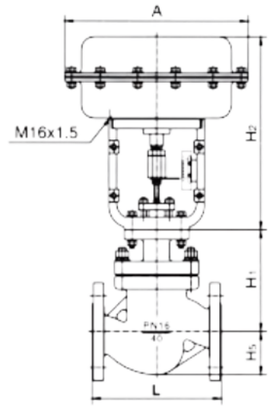
Electric actuator

381LSA/XA-08, 381LSAXA-20, 381LSB/XB-30, 381LSB/XB-50, 381LSC-65, 381LSC-99, 381LSC-160, 381LSC-260
Valve action: positive action, negative action
Control action: proportional control or ON-OFF control
Input signal: 4~20mADC or 1~5VDC. The position of the control valve must be selected when the input signal is "off" (protection, full open, full closed)
Power supply: AC220V, 50Hz
Output signal: 4~20mADC (load resistance below 500Ω)
Power consumption: A type/50VA, B type/150VA, C type/220VA
Protection grade: IP55
Outlet connection: ordinary S type G1/2, explosion-proof X type G3/4
Environmental temperature: without space heater -10℃~+60℃
with space heater -35℃~+60℃
explosion-proof X type -10℃~+40℃
Environmental humidity: ordinary S type below 95%, explosion-proof X type 45-85%
Explosion-proof level: ExdIIBT4
Overload protection: A and B types optional, C type must be equipped
Manual device: with handle

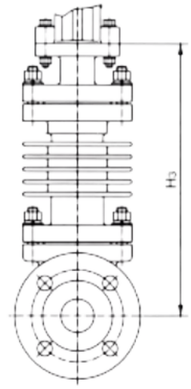
DN	L		A	B	D	R	H1		H6		H2	H3	H4	H5		Weight Kg	
	PN16 PN40	PN64 PN100					PN16 PN40	PN64 PN100	PN16 PN40	PN64 PN100				PN16 PN40	PN64 PN100	PN16 PN40	PN64 PN100
20	150	230	460	230	225	177	126	138	142	154	490	373	459	43	49	10	13
25	160	230	460	230	225	177	126	138	142	154	490	373	459	48	54	12	16
32	180	260	460	230	225	177	134	142	154	162	490	495	459	57	61	15	19
40	200	260	460	230	225	177	157	165	177	185	490	495	459	66	70	17	26
50	230	300	460	230	225	177	167	187	187	207	490	495	459	82	84	18	27
65	290	340	530	230	255	177	199	204	226	231	540	700	520	92	97	34	43
80	310	380	530	230	255	177	214	219	241	246	540	700	520	100	105	46	69
100	350	430	530	230	255	177	229	240	256	267	540	700	520	120	125	54	85
125	400	500	630	260	310	226	263	280	290	307	625	725	570	134	138	76	120
150	480	550	630	260	310	226	293	300	320	327	625	725	570	156	163	79	125
200	600	650	630	260	310	226	358	364	385	391	625	725	570	199	206	100	150
250	730	775	730	300	415	345	440	450	460	470	735	760	630	255	270	375	390
300	850	900	730	300	415	345	550	565	550	560	735	760	630	320	340	475	495



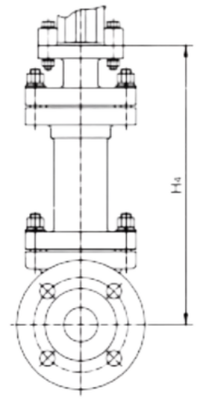
Top hand wheel



Standard type



High temperature heat dissipation type



Bellows seal type

Product overview

The ZJHP type pneumatic diaphragm single-seat control valve adopts a top guide structure, a compact valve body structure, an S-shaped fluid channel, small pressure drop loss, large flow volume, wide adjustable range, and high flow characteristic accuracy. The guide area of the valve core guide part is large, and it has the characteristics of strong vibration resistance. The valve seat closing performance meets the GBT4213-92 standard. The control valve is equipped with a multi-spring diaphragm actuator, which has a small structure and large output force. It is more suitable for use in high temperature, low temperature and small pressure difference before and after the valve that require high reliability and closing performance. The unique cage design can also be used in harsh working conditions such as scouring and cavitation. The valve seat can be used on both sides to increase the service life and can be quickly installed and disassembled without special tools. High cost performance.

Technical parameters

Valve body

Body type: straight-through single-seat cast control valve
Valve diameter: DN20~300
Nominal pressure: PN16, PN25, PN40, PN64, PN100
Connection method: flange, thread, welding
Flange standard: steel flange according to GB9113-2000, JB/T-94
Sealing surface: convex, concave and convex
Face to face: according to GB12221-89
Material: ZG230-450, ZG1Cr18Ni9Ti, ZG1Cr18Ni12Mo2Ti
Gland type: pressure plate type
Packing: V-type polytetrafluoroethylene packing, flexible graphite packing
Gasket: type, tooth type and flat type
Material, F4/modified F4, stainless steel + graphite

Valve components

Valve core: single-seat plunger valve core
Sleeve: metal seal
Equal percentage characteristics (%C)
Linear characteristics (LC)
Soft seal (material: reinforced polytetrafluoroethylene)
Equal percentage characteristics (%C)
Linear characteristics (LC)

ZJHP PNEUMATIC DIAPHRAGM SINGLE SEAT CONTROL VALVE

Pneumatic actuator

Type: Multi-spring diaphragm actuator type
Valve action: positive action, negative action
Control action: proportional control or ON-OFF control
Diaphragm material: Nitrile rubber reinforced polyester fabric
Spring range: 20~100KPa, 40~200KPa, 80~240KPa
Air supply pressure: 0.14-0.4MPa
Signal interface: internal thread M16x1.5
Ambient temperature: -30℃~+70℃

Valve action (valve core installed)

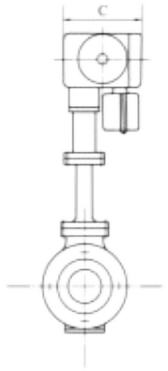
Air-to-close FO (with positive-acting actuator)
When the air source fails, the actuator spring opens the valve
FC (with negative-acting actuator)
When the air source fails, the actuator spring closes the valve

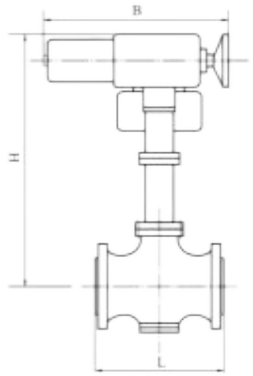
Accessories

Positioner, filter regulator, hand wheel mechanism, limit switch, solenoid valve, valve position transmitter, relay, position, etc.

DN	L		A	H1		H2	H3		H4		H5		C	H6	Weight Kg	
	PN16 PN40	PN64 PN100		PN16 PN40	PN64 PN100		PN16 PN40	PN64 PN100	PN16 PN40	PN64 PN100	PN16 PN40	PN64 PN100			PN16 PN40	PN64 PN100
20	150	230	285	126	138	271	286	298	286	298	43	49	220	180	21	24
25	160	230	285	126	138	271	286	298	286	298	48	54	220	180	22	25
32	180	260	285	134	142	297	302	310	302	310	57	61	220	180	24	30
40	200	260	285	157	165	297	325	333	325	333	66	70	220	180	32	42
50	230	300	285	167	187	297	335	345	335	345	80	84	220	180	38	52
65	290	340	360	199	204	375	437	442	437	442	92	97	265	240	62	78
80	310	380	360	214	219	375	452	457	452	457	100	105	265	240	67	82
100	350	430	360	229	240	375	467	478	467	478	120	125	265	240	83	102
125	400	500	470	263	280	455	524	541	654	671	134	138	315	304	132	170
150	480	550	470	293	300	455	554	561	684	691	156	163	315	304	160	190
200	600	650	470	358	364	455	619	625	749	755	199	206	315	304	245	285
250	730	775	580	440	450	655	700	710	824	835	252	260	440	410	375	390
300	850	900	580	550	565	655	795	805	915	930	325	335	440	410	475	495

ZAZM ELECTRIC TELESCOPIC CONTROL VALVE



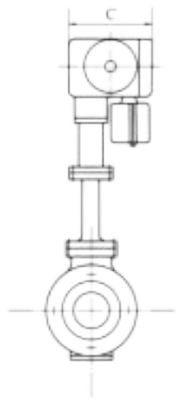


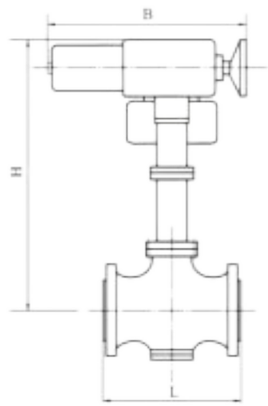
Product overview

ZAZM series electric telescopic control valve is an execution unit of DDZ-Ⅱ, Ⅲ type of electric unit aggregating instrument. It regards current source as power and receive the uniform normal direct current signal: 4~20mA (Ⅲ type) or 0~10mA(Ⅱ type) to control the opening of valve automatically according to the signal. Then achieve the regulating of temperature, pressure, liquid flow and other technological parameters. The product has high stability, low noise, large differential pressure and other advantages. And widely used in power industry, metallurgical industry, oil, chemistry and other fields.

DN mm	L		H		B	C
	1.6MPa	6.4MPa	Normal temp.	Cooling fin type		
25	184	210	729	865	406	280
40	222	251	749	877	406	280
50	254	286	749	877	406	280
65	276	311	797	960	406	280
80	298	337	805	968	406	280
100	350	430	829	992	406	280
150	480	550	904	1101	406	280
200	600	650	939	1136	406	280

ZAZN ELECTRIC DOUBLE SEAT CONTROL VALVE



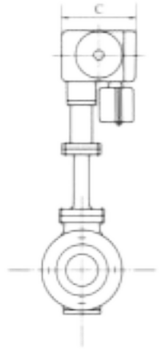


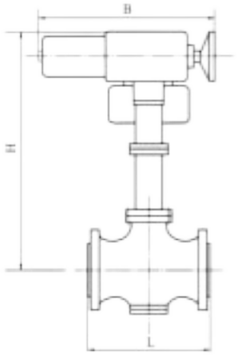
Product overview

ZAZN electric double seat regulating valve is a combined product formed by regulating valve and linear-turn electric actuator. It regards single phase current source 220V, 50Hz as power and receives the uniform normal direct current signal: 4~20mA (Ⅲ type) or 0~10mA (Ⅱ type) and to control the valve opening automatically according to the signal. Then it achieves the regulating of temperature, pressure, liquid flow and other technological parameters. The product has high stability, low noise, large differential pressure and other advantages. And widely used in power industry, metallurgical industry, oil, chemistry, light industry, boiler feed water and other fields.

DN mm	L			H		B	C
	1.6MPa	4.0MPa	6.4MPa	Normal temp.	Cooling fin type		
25	185	190	200	660	796	407	280
32	200	210	210	663	799	407	280
40	220	230	235	753	881	460	280
50	250	255	265	758	886	460	280
65	275	285	295	809	972	460	280
80	300	310	320	819	982	460	280
100	350	355	370	831	994	460	280
125	410	425	440	882	1079	460	280
150	450	460	475	892	1089	460	280
200	550	560	570	934	1131	460	280

ZAZP ELECTRIC SINGLE SEAT CONTROL VALVE



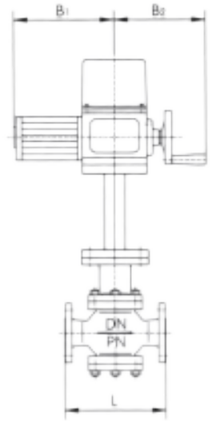


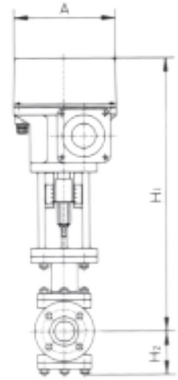
Product overview

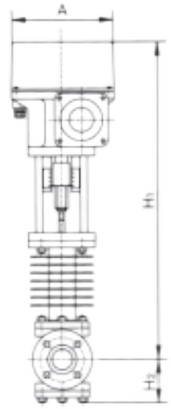
ZAZN electric double seat regulating valve is a combined product formed by regulating valve and linear-turn electric actuator. It regards single phase current source 220V, 50Hz as power and receives the uniform normal direct current signal: 4~20mA (Ⅲ type) or 0~10mA (Ⅱ type) and to control the valve opening automatically according to the signal. Then it achieves the regulating of temperature, pressure, liquid flow and other technological parameters. The product has high stability, low noise, large differential pressure and other advantages. And widely used in power industry, metallurgical industry, oil, chemistry, light industry, boiler feed water and other fields.

DN mm	L			H		B	C
	1.6MPa	4.0MPa	6.4MPa	Normal temp.	Cooling fin type		
20	180	180	190	641	777	407	280
25	185	190	200	655	791	407	280
32	200	210	210	661	797	407	280
40	220	230	235	743	871	460	280
50	250	255	265	758	886	460	280
65	275	285	295	799	962	460	280
80	300	310	320	802	965	460	280
100	350	355	370	806	969	460	280
125	410	425	440	857	1054	460	280
150	450	460	475	865	1062	460	280
200	550	560	570	904	1101	460	280

ZDLM ELECTRIC DOUBLE SEAT CONTROL VALVE





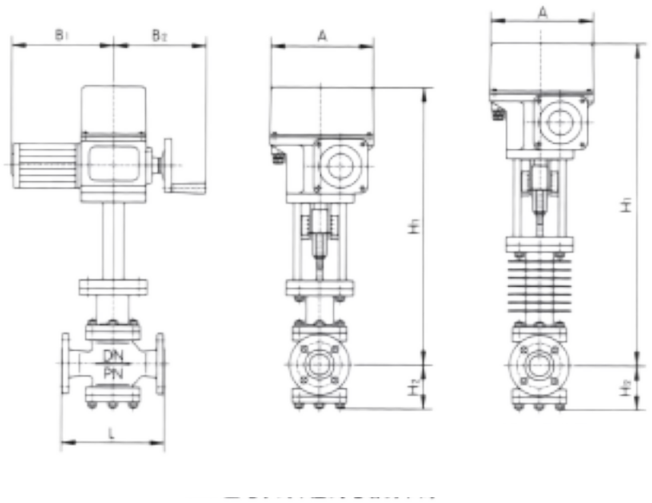


Product overview

ZDLM type electric double seat control valve is a combined product formed by double seat control valve and DKZ electric actuator. It can receipt 4-20mA DC analog quantity signal from DCS system or regulator. It doesn’ t need to equip with the servo amplifier. It can widely used in the field of power station, metallurgical industry, oil, building, water treatment, desulfuration and others, and easy to maintain.

DN mm	H1		H2	A	B1	B2	L		Weight Kg	
	Normal temp.	Cooling fin type					1.6MPa	6.4MPa	1.6MPa	6.4MPa
25	665	748	112	230	310	245	184	210	58	62
40	683	768	129	230	310	245	222	235	62	71
50	698	804	144	230	310	245	254	286	65	75
65	789	944	173	230	325	285	276	311	84	103
80	792	947	191	230	325	285	298	337	99	122
100	796	951	195	230	325	285	352	394	112	136
150	890	1073	251	230	325	285	451	508	175	219
200	938	1121	290	230	325	285	600	650	230	353

ZDLP ZDLN ELECTRIC SINGLE AND DOUBLE SEAT CONTROL VALVE



Product overview

ZDLP ZDLN electric single and double seat control valve is a combined product formed by single and double seat control valve and DKZ electric actuator. It can receipt 4-20mA DC analog quantity signal from DCS system or regulator. It doesn' t need to equip with the servo amplifier. It can widely used in the field of power station, metallurgical industry, oil, building, water treatment, desulfuration and others, and easy to maintain.

DN mm	H1		H2	A	B1	B2	L		Weight Kg	
	Normal temp.	Cooling fin type					1.6MPa	6.4MPa	1.6MPa	6.4MPa
25	665	748	112	230	310	245	184	210	58	62
40	683	768	129	230	310	245	222	235	62	71
50	698	804	144	230	310	245	254	286	65	75
65	789	944	173	230	325	285	276	311	84	103
80	792	947	191	230	325	285	298	337	99	122
100	796	951	195	230	325	285	352	394	112	136
150	890	1073	251	230	325	285	451	508	175	219
200	938	1121	290	230	325	285	600	650	230	353

PRECAUTIONS FOR STORAGE, INSTALLATION AND USE

Precautions for storage, installation and use

1. When the valve is stored for a long time, it should be placed in a dry and ventilated room. The flange diameter of the valve side must be blocked with a cover, and anti-rust oil should be applied to the processed surface regularly.
2. Before installation, check whether the valve logo is consistent with the use requirements, carefully check whether all parts are intact, and check whether all fasteners are loose.
3. Before installation, the valve and pipeline should be cleaned to prevent debris from entering the valve channel.
4. When in use, lubricating oil should be added to the valve stem nut and transmission parts regularly every month.
5. For valves with pressure relief devices, when the pressure in the middle cavity of the valve body increases, the pressure can be relieved through the pressure relief device on the valve body or the valve cover to ensure that the valve is in a safe working state.
6. For valves with sewage discharge devices, the screw plug can be removed and the sewage discharge valve can be assembled if sewage needs to be discharged.
7. It is strictly forbidden to repair the valve under pressure or knock on any part of the valve.

Common faults and solutions

Fault phenomenon	Reasons	Solutions
Leakage at the top of the stuffing box	1. Too little packing 2. The packing gland is loose 3. The O-ring is damaged	1. Add packing 2. Tighten the gland bolts 3. Replace the O-ring
Leakage at the middle flange seal	1. The connecting bolt is loose 2. The sealing ring or gasket is damaged	1. Tighten the bolts 2. Replace the sealing ring or gasket
Leakage at the sealing joint	1. The seal pair is damaged 2. There are debris 3. The sealing grease is not enough	1. Repair the sealing pair 2. Remove the debris 3. Add sealing grease
Leakage at each joint	1. The joint is loose. 2 The gasket is damaged	1. Tighten the joint 2. Replace the gasket