

# ZDLQ / X Type Electric 3 Way Control Valve

## Operation Manual



## 1、 Overview

Z DLQ / X Type electronic electric three-way control valve is composed of 3810L series electronic electric actuator and three-way control valve mechanism. There is the servo system in the electric actuator, without another servo amplifier, and the input signal and power supply can be controlled, and the connection is simple. The regulating mechanism has two forms of confluence and shunt, which can replace two two-way valves and one three-way connecting pipe in some cases. It is often used for two-phase regulation and simple ratio regulation of heat exchanger.

### ◆ Structural features and application scope

class	normal atmospheric temperature		mesotherm	
	flowing together	bypass flow	flowing together	bypass flow
model	- 16 ZDLQ - 40 -64	- 16 ZDLX -40 -64	- 16 ZDLQ -40G -64	- 16 ZDLX - 40G -64
specifications	DN 25~300	DN 80~300	DN 25~300	DN 80~300

### ◆ Technical parameters and performance indicators

#### ● Main technical parameters of the sleeve regulating mechanism

inside nominal diameter DN	flowing together	25	32	40	50	65	80	100	125	150	200	250	300
	bypass flow						80	100	125	150	200	250	300
Seat diameter of mm		26	32	40	50	66	80	100	125	150	200	250	300
Rated flow coefficient of discharge	flowing together	8.5	13	21	34	53	85	135	210	340	535	800	1260
	bypass flow						85	135	210	340	535	800	1260
rated travel mm		16		25		40		60		100			
Actuator model number		381LSA-20 381LXA-20		381LSB-30 381LXB-30		381LSB-50 381LXB-50		381LSC-65		381LSC-99			
nominal pressure PN		16、40、64;											
inherent flow charac		Straight line, a parabola											

<b>The inherent adjustable ratio</b>		<b>30:1</b>
<b>incoming signal mA</b>		<b>DC 4 to 20 mA or DC 1 to 5 V</b>
<b>relative humidity</b>		<b>Under 95%</b>
<b>supply voltage</b>		<b>AC 220V 50Hz</b>
<b>Permissible ambient temperature of °C</b>		<b>-10~+60</b>
<b>medium temperature °C</b>		<b>-20~+200;-40~+250;-40~+450;-60~+450:</b>

● 3810L direct stroke electronic electric actuator main technical parameters

model	Rated output force, N	velocity mm/s	technical parameter
3810LSA - 08 3810LXA -08	800	4.2	Power supply: AC220V (+10%~-15%) 50Hz ±1% Drive motor: the AC is reversible any power-generating or power-driven machine Control signal: DC 4~ 20mA, DC 1~5V (shielding line for signal line) Upper cover protection level: equivalent to IP55 Explosion-proof type mark: ExdIIBT4
3810LSA - 20 3810LXA -20	2000	2.1	
3810LSB-30 3810LXB-30	3000	3.5	
3810LSB-50 3810LXB-50	5000	1.7	
3810RSC-65	6500	3.4	
3810RSC-99	10000	2.0	

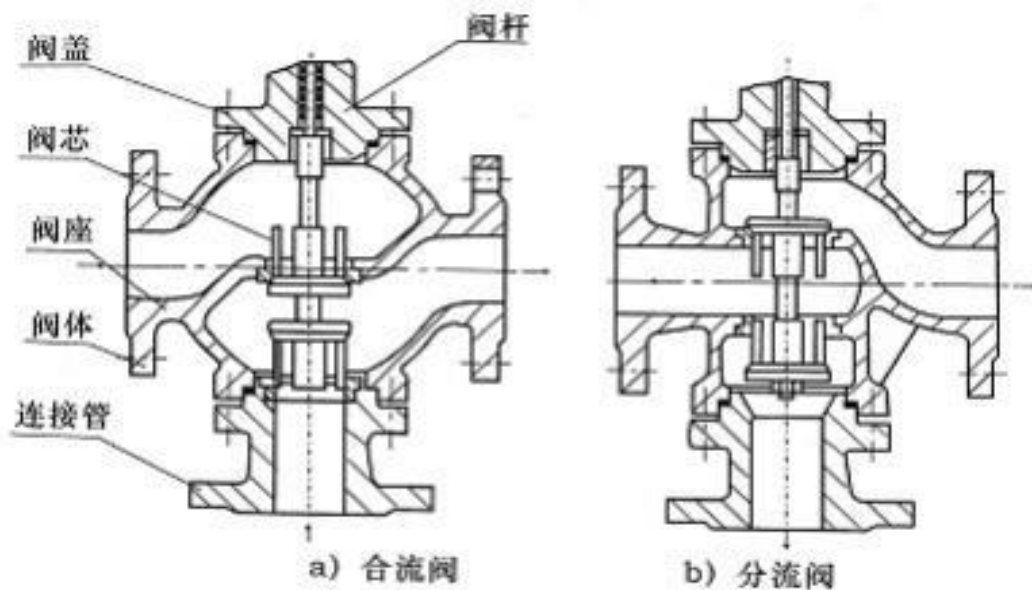
● performance tender

project			desired value
intrinsic error%			±2.5
return difference%			2.2
blind spot%			3.0
Always point deviation %	Electric open	initial point	±2.5
		terminal point	
	Electricity pass	initial point	
		terminal point	
Rated travel deviation of%			+2.5
Permissible leakage amount of L / H			110-1 Valve rating capacity

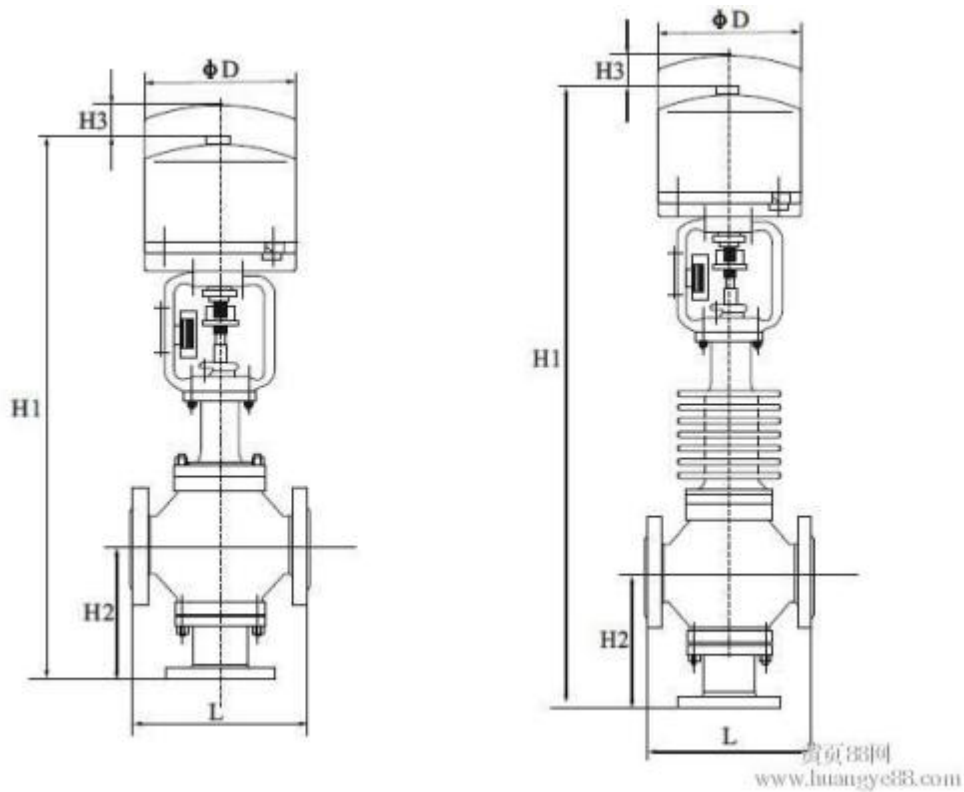
● allows for differential pressure

inside nominal diameter	25	32	40	50	65	80	100	125	150	200	250	300
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mm												
Allow differential pressure MPa	6.4								3.2	4.0	3.4	



图一 三通调节阀结构图



### ◆ outline dimension

inside nominal diameter		25	32	40	50	65	80	100	125	150	200	250	300	
flange end L	PN16	125	200	220	250	275	300	350	410	450	550	670	770	
	PN40	190	210	230	255	285	310	355	425	460	560	690	795	
	PN64	200	210	235	265	295	320	370	400	475	570	752	819	
standard bonnet H1	PN16	688	704	848	883	1149	1174	1176	1304	1329	1385	2080	2200	
	PN40	708	724	868	903	1159	1194	1216	1334	1371	1455	2080	2200	
	PN64	708	724	868	903	1159	1194	1216	1334	1371	1455	2120	2460	
Medium-temperature valve cap H1		Plus 200				Plus 250			Add 320			Add 350		
H2	PN16	140	150	160	180	200	222	220	270	280	306	474	584	
	PN40	140	150	160	180	200	222	220	270	280	306			
	PN64	bypass flow	160	170	180	200	220	242	260	300	322			376
			160	170	180	200	220	242	260	325	322			376
H3		87			90									
ØD		225				257				310				
Flange standard		GB : 1.6、2.5、4.0、6.4MPa ; ANSI : 150、300、600Lb ; JIS : 10、20、30K												

◆ The relationship between the working temperature of the allowable medium pressure

Valve material	nominal pressure MP a	Medium operating temperature of °C							
		< 120	< 200	< 250	< 300	< 350	< 400	< 425	< 450
		Maximum working pressure is MPa							
ZG 270-500	4.0		4.0	3.7	3.3	3.0	2.8	2.3	1.9
	6.4		6.4	5.9	5.2	4.7	4.1	3.7	2.9
Z GCr 18Ni 9Ti	4.0					4.0	3.0	2.7	2.4
	6.4					6.4	4.4	4.2	4.0

◆ ordering instruction

The following conditions shall be specified when ordering:

- product model;
- inside nominal diameter;
- valve body material;
- Valve front and rear pressure;
- Media type and temperature range;
- Whether the electric actuator has a space heater inside it;
- Whether the electric actuator has an overload protection device;
- Whether there are other special requirements;

Note: 3810L series electronic electric actuator and three-way regulating valve are accepted for single orders.