

LPH147/148
LPG147/148

Three Way Control Valves



LAPAR
Lapar Control Valve

Code	Actuator	Action	Air Fail Position	Control	Structure	Body Material	Sealing Material	Core Material	Connection	DN	PN
LPH147/148- LPG147/148-	1 Pneumatic	S Single-acting	1 Normally Open	A On-off	4 Low temperature	A CF3M	P PTFE	A CF3M	1 Flange	DN 150-300 PN 10, 16, 20, 25, 32, 40	
	2 Pneumatic & Handwheel	O Others	2 Normally Closed	B Control	5 Bellows type	B CF8M	Y FEP(F46)	B CF8M	5 Weld		
	4 AC220V		4 Held	C Intelligent	6 High temperature	C CF8	R BODY	C CF8	0 Others		
	5 AC380V		0 Others	0 Others	7 Normal	D WCB	S Stellite	I CF3			
	0 Others				0 Others	I CF3	3 Gr	L CE3MN			
						L CE3MN	4 WC	2 Ti			
						2 Ti	0 Others	0 Others			
						5 WCC					
						0 Others					

LPH148-Pneumatic diaphragm three-way diverting valve
LPH147-Pneumatic diaphragm three-way mixing valve
LPG148-Electric three-way diverting valve
LPG147-Electric three-way mixing valve



Overview

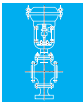
LPH148/LPG148 is a three-way control valve for diverting service.

LPH147/LPG147 is a three-way control valve for diverting service.

It has a small-sized, high-output diaphragm motor which is suitable for big port and high differential pressure services.

Specifications

Nominal size	25,40,50,65,80,100,150mm 1, 1 1/2, 2, 2 1/2, 3, 4, 6 inch
Pressure rating	ANSI Class 150,300 JIS 10,20K
Connection	Flange:RF, RJ Flanged end:JIS B2201-1984, ANSI B16.5-1981,GB/T9112-9124-2000
Body material	CF3M,CF8M,CF8,WCB,CF3,CE3MN,WCC,TI
Core material	304,316,304L,316L,CE3MN



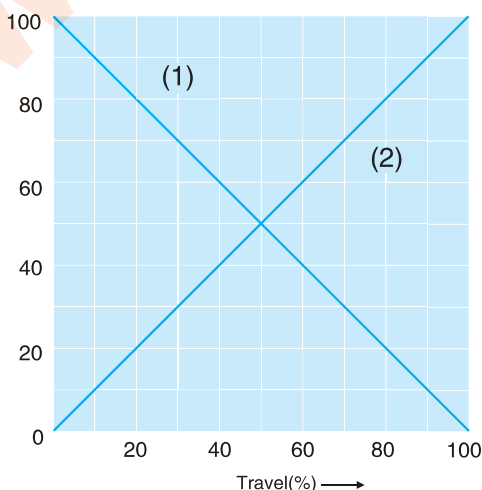
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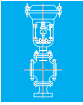
Bonnet	Plain bonnet (0~200°C) Extension bonnet Type 1 (200~425°C)
Packing / Grease	Grease not provided: When V shaped PTFE packing or PTFE yarn packing is used. Grease provided: When graphite packing is used.
Gasket	Type: Flat type, serrated type Material: Carbon steel (S15C), stainless steel (SUS316, SUS316L, SUS329J1), copper, aluminum, titanium, ASTM B574 (Hastelloy C-276 equivalent), or Alloy 20
Actuator	Pneumatic, electric: refer to the attachment.
Flow characteristics	Linear (LC)
Performance	Inherent range ability 30 : 1 Leakage: ANSI B16.104-1976 IV , Leakage less than 0.01% of maximum valve capacity. Hysteresis error: With positioner: Within 1% F.S. Without locator: Within ± 3% F.S. Linearity: With positioner: Within ± 1% F.S. Without locator: Within ± 5% F.S.

Characteristics



(1) is normally open entrance,
(2) is normally closed entrance

Flow characteristics



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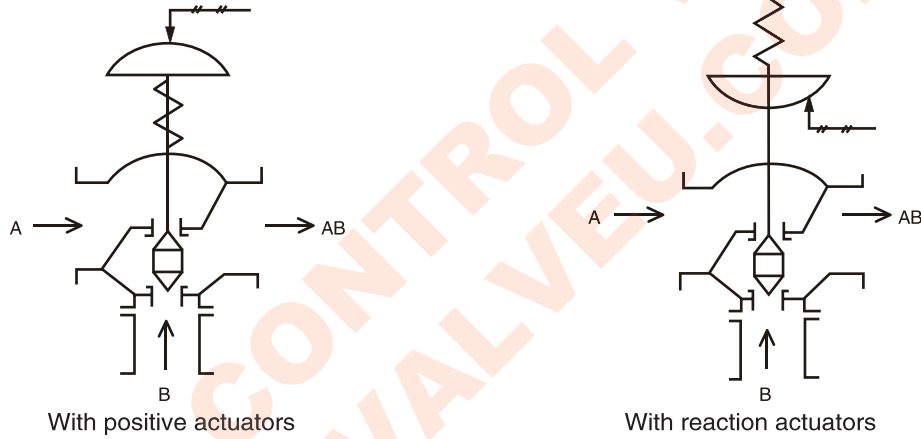
Cv Value and Travel

mm

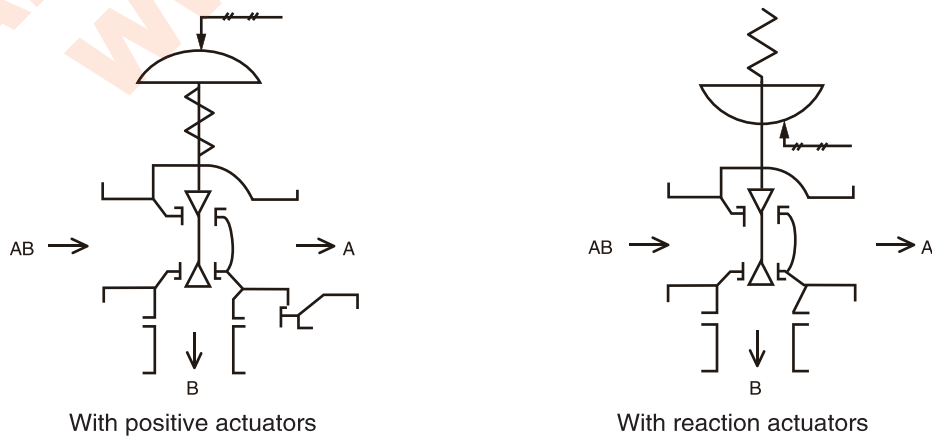
DN		25	40	50	65	80	100	125	150	
Diameter		20	25	40	50	65	80	100	125	150
CV	LPH147 LPG147	6.3	10	23	40	63	90	160	250	360
	LPH148 LPG148	-	-	-	-	-	70	130	200	270
Rated travel		14.3		25		38		50		

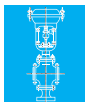
Flow Diagram

LPH147/LPG147(Mixing)



LPH148/LPG148(Diverting)





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Allowable Differential Pressure

LPH148

100KPa

Actuator	Supply pressure	Spring range	Positioner	Allowable differential pressure								
				DN								
				20	25	40	50	65	80	100	125	150
ZHA2D、R	1.4	0.2 ~ 1.0		8.1	5.0	3.4	2.0	1.2	0.9	0.5	-	-
	4.0	0.8 ~ 2.4	With	40	35.5	23.5	14.2	8.8	6.3	3.5	-	-
ZHA3D、R	1.4	0.2 ~ 1.0		-	-	6.0	3.6	2.2	1.6	0.9	0.5	0.4
	4.0	0.8 ~ 2.4	With	-	-	40	25.3	15.6	11.2	6.3	4.0	2.8
ZHA4D、R	1.4	0.2 ~ 1.0		-	-	-	-	3.8	2.7	1.5	1.0	0.6
	4.0	0.8 ~ 2.4	With	-	-	-	-	27	19.4	10.9	7.0	4.8

LPH147

100KPa

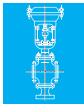
Actuator	Supply pressure	Spring range	Positioner	Allowable differential pressure			
				DN			
				80	100	125	150
ZHA2D、R	1.4	0.2 ~ 1.0		0.9	0.5		
	4.0	0.8 ~ 2.4	With	1.8	1.0		
ZHA3D、R	1.4	0.2 ~ 1.0		1.6	0.9	0.5	0.4
	4.0	0.8 ~ 2.4	With	3.2	1.8	1.1	0.8
ZHA4D、R	1.4	0.2 ~ 1.0		2.7	1.5	1.0	0.6
	4.0	0.8 ~ 2.4	With	5.5	3.1	2.0	1.3

Column bordered with bold lines denote types provided with standard-type actuator

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DN (mm)	25	32	40	50	65	80	100	125	150	200	250	300
Allowable differential pressure(MPa)	3.2	2.20	2.20	1.41	1.38	0.94	0.61	0.51	0.36	0.20	0.19	0.13





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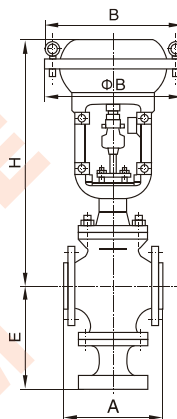
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Dimensions

LPH148(Diverting Valve)

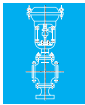
DN	Actuator	A		H		E	ΦB	B
		JIS10K FF、RF ANSI 150 RF	JIS 20K RF JIS 30K RF ANSI 300 RF	Normal	Extension bonnet type I			
80	ZHA2D、R	370	420	585	735	300	267	281
	ZHA3D、R			705	886		350	363
	ZHA4D、R			910	1060		470	520
100	ZHA2D、R	400	460	625	775	330	267	281
	ZHA3D、R			745	893		350	363
	ZHA4D、R			950	1010		470	520
125	ZHA3D、R	460	500	740	890	370	350	363
	ZHA4D、R			970	1120		470	520
150	ZHA3D、R	530	570	725	875	450	350	363
	ZHA4D、R			955	1105		470	520



LPH147(Mixing Valve)

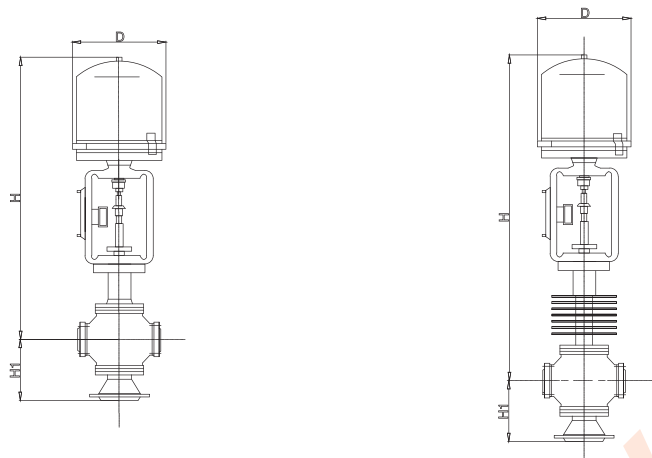
mm

DN	Actuator	A		H		E	φ B	B
		JIS10K FF、RF ANSI 150 RF	JIS 20K RF JIS 30K RF ANSI 300 RF	Normal	Extension bonnet type I			
25	ZHA2D、R	184	197	475	625	145	267	281
40	ZHA2D、R	222	235	495	645	205	267	281
	ZHA3D、R			590	740		350	363
50	ZHA2D、R	254	267	510	660	230	267	281
	ZHA3D、R			605	755		350	363
65	ZHA2D、R	276	292	545	695	260	267	281
	ZHA3D、R			670	820		350	363
	ZHA4D、R			875	1025		470	520
80	ZHA2D、R	298	318	565	715	280	267	281
	ZHA3D、R			685	835		350	363
	ZHA4D、R			890	1040		470	520
100	ZHA2D、R	352	368	585	732	330	267	281
	ZHA3D、R			703	855		350	363
	ZHA4D、R			910	1060		470	520
125	ZHA3D、R	403	425	715	865	370	350	363
	ZHA4D、R			945	1095		470	520
150	ZHA3D、R	451	473	740	890	410	350	363
	ZHA4D、R			970	1120		470	520



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mm

DN	L		Travel	D	H1		H	
	PN				4.0	6.4	Normal temperature	High temperate
	4.0	6.4						
25	190	200	16	225	150	160	555	707
32	200	210	16	225	160	170	561	709
40	220	235	25	225	170	180	660	812
50	255	265	25	225	190	200	675	827
65	285	295	40	225	210	220	863	1027
80	310	320	40	225	230	240	868	1032
100	360	370	40	225	250	260	872	1036
125	430	440	60	225	300	300	905	1120
150	465	475	60	225	320	320	920	1135
200	560	570	60	225	380	380	950	1165
250	660	670	100	415	474	474	1203	1440
300	740	770	100	415	584	584	1265	1502