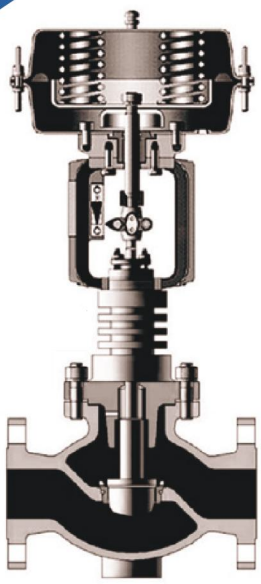
WIKATÜREN

CONTROL VALVE

LP-300 SERIES



- **LP-300 Series Single-Seat Valve**
- LP-400 Series Cage Control Valve
- LP-500 Series Three Way Control Valve
- LP-600 Series Low Temperature Control Valve
- LP-700 Series Angle Sleeved Control Valve

WIKA TÜREN

CONTROL VALVE

Basic Parameters

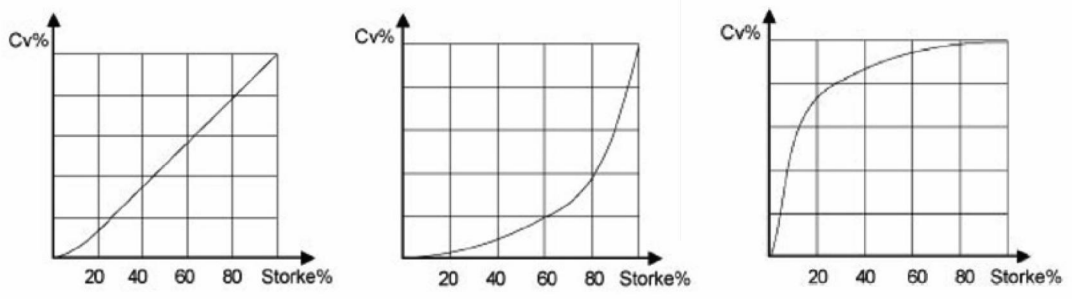
Technical Specifications

- Body: Direct, Angle, Three ways
- Nominal dimension: 1/2"~24"
- Pressure rating: Class 150~Class 4500
- Seal Level: Body seal level: ANSI B16.34, IV, V, VI
  Seat seal level: ANSI B16.34, IV, V, VI
- Rangeability: 50:1
- Drive mode: Handwheel, Pneumatic, Electric, EHB
- Connection: Flanged (RF/GF/FF/RTJ), Weld (BW/SW), Screw (BSP/NPT)
- Special versions available: 1. For oxygen
  2. With a heating jacket

Material

- Body & Bonnet: A-216 Gr.WCB, A-216 Gr.WCC, A-217 Gr.WC6, A-217 Gr.WC9, A-351 Gr.CF8M, A-351 Gr.CF3M, A-351 Gr.CF3, A-351 Gr.CF8, A-352 Gr.LCB, SS+PFA
- Trim & Seat: 316SS, 316SS+STL, 316SS+HF, 410SS, 420SS, 420SS+QT, 430SS+QT, 440SS+QT, SS+PFA
- Remark: 1. Material of stem 316SS, 410SS
  2. Body&Bonnet: A-182 Gr.F11, A-182 Gr.F22, A-182 Gr.F316
- Non-routine material: Brinze, Hastelloy C-276, Monel, Ti, Duplexss, Inconel, Alloy6

Characteristic



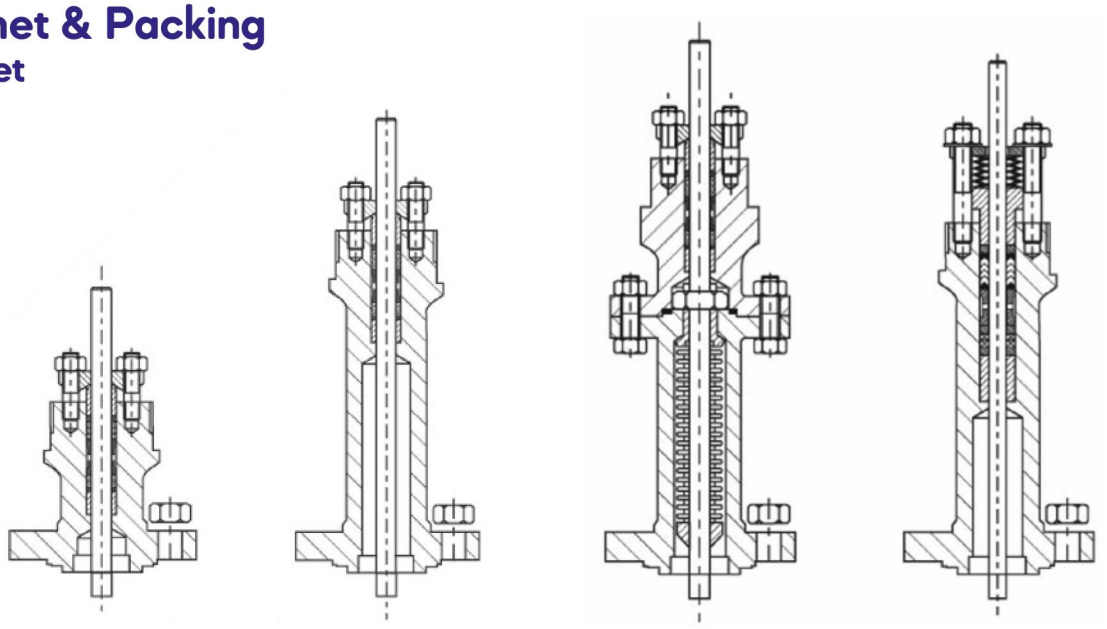
Linear | Equal-percentage | Quick open

WIKA TÜREN

CONTROL VALVE

Bonnet & Packing

Bonnet

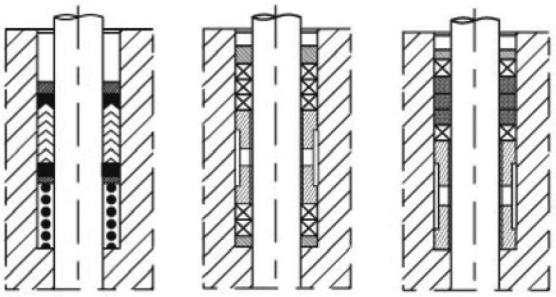


Standard | Extension | Bellows | TA-LUFT

Bonnet type & Temperture & Packing

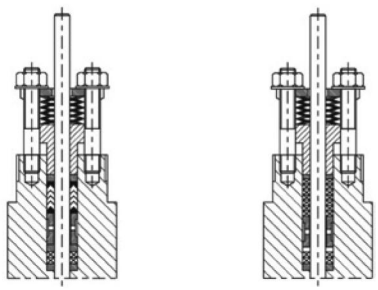
Packing Type	PN	Temperature (°C)		
		Bonnet Type		
		Standard	Extension	Bellows
PTFE-V	To 110*	-46°C~+200°C	-198°C~+300°C	-100°C~+200°C
PTFE+Graphite				
PTFE-V/TA-Luft				
Graphite	To 420*	To +300°C	To +537°C (+650°C)**	To +440°C
Graphite/TA-Luft	To 160*		To +440°C	

Packing



PTFE-V | PTFE-V+ Graphite | Graphite

Packing type of TA-Luft



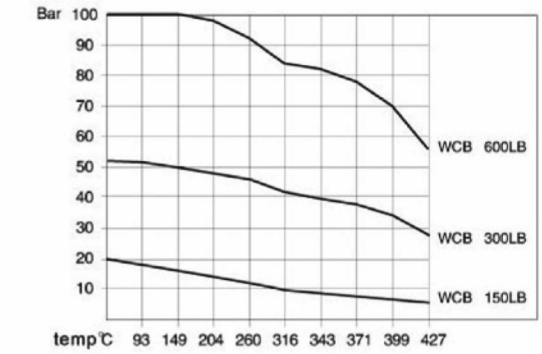
PTFE-V | Graphite

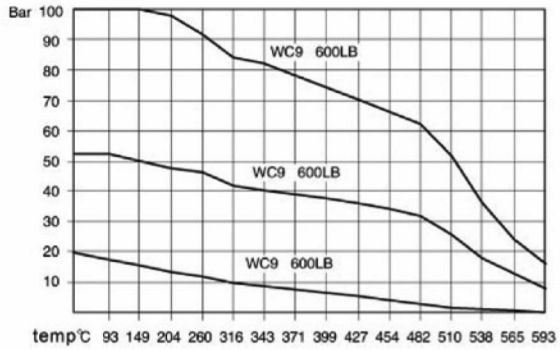
WIKA TÜREN

CONTROL VALVE

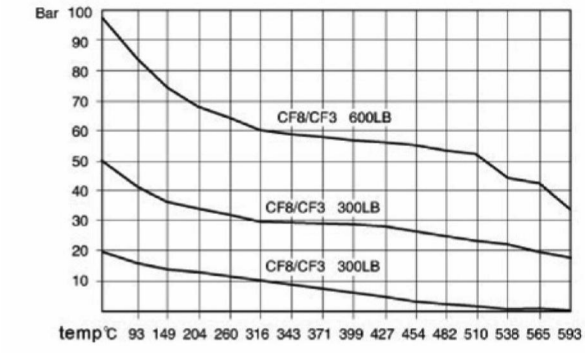
Body Material, Operating Pressure and Temperatures

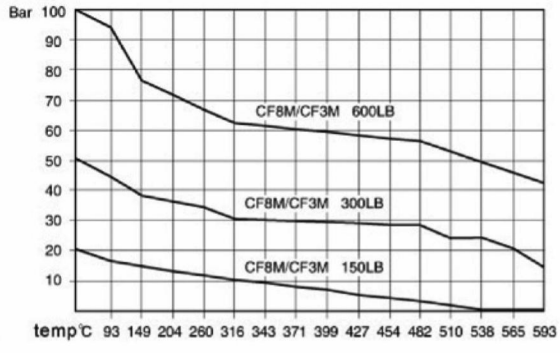
Carbon Steel





Stainless Steel



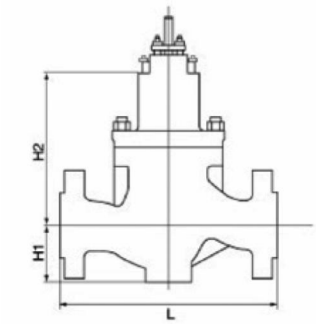


Temp °C	ANSI Class 900						ANSI Class 1500						ANSI Class 2500					
	SCPL1 LCB	SCPH2 A105 WCB	SCPH21 F11 WC6	SCPH32 F22 WC9	SCS13A F304 CF8	SCS14A F316 CF8M	SCPL1 LCB	SCPH2 A105 WCB	SCPH21 F11 WC6	SCPH32 F22 WC9	SCS13A F304 CF8	SCS14A F316 CF8M	SCPL1 LCB	SCPH2 A105 WCB	SCPH21 F11 WC6	SCPH32 F22 WC9	SCS13A F304 CF8	SCS14A F316 CF8M
-196~38	-	-	-	-	14.88	14.88	-	-	-	-	24.79	24.79	-	-	-	-	41.33	41.34
-45~38	14.35	-	-	-	14.88	14.88	23.92	-	-	-	24.79	24.79	39.87	-	-	-	41.33	41.34
-5~38	14.35	15.31	15.50	15.50	14.88	14.88	23.92	25.51	25.84	25.84	24.79	24.79	39.87	42.52	43.07	43.07	41.33	41.34
50	14.18	15.01	15.33	15.35	14.34	14.43	23.64	25.02	25.55	25.58	23.90	24.04	39.40	41.70	42.59	42.64	39.84	40.07
100	13.52	13.90	14.62	14.70	12.25	12.65	22.53	23.16	24.36	24.50	20.42	21.09	37.56	38.62	40.46	40.58	34.01	35.14
150	13.18	13.56	13.90	13.98	10.89	11.54	21.96	22.60	23.18	23.30	18.16	19.24	36.60	37.66	38.61	38.84	30.26	32.07
200	12.79	13.14	13.63	13.45	9.82	10.69	21.32	21.89	22.73	22.40	16.37	17.83	35.53	36.50	37.88	37.35	27.28	29.71
250	12.17	12.51	13.33	13.26	9.15	10.02	20.28	20.84	22.22	22.10	15.26	16.68	33.80	34.75	37.03	36.83	25.43	27.80
300	11.30	11.61	12.72	12.72	8.71	9.49	18.84	19.36	21.20	21.20	14.52	15.80	31.40	32.26	35.31	35.33	24.20	26.34
350	10.78	11.08	12.06	12.06	8.42	9.12	17.96	18.46	21.11	20.11	14.02	15.20	29.95	30.78	33.51	33.51	23.36	25.36
375		10.94	11.63	11.63	8.32	8.91		18.22	19.38	19.38	13.86	14.84		30.37	32.32	32.32	23.12	24.74
400		10.34	10.98	10.98	8.23	8.72		17.24	18.28	18.28	13.72	14.55		28.73	30.47	30.47	22.87	24.25
425		8.62	10.53	10.53	8.14	8.59		14.37	17.54	17.54	13.57	14.32		23.94	29.23	29.23	22.63	23.87
450		6.01	10.13	10.13	8.06	8.42		10.02	16.89	16.89	13.46	14.03		16.68	28.16	28.16	22.37	23.38
475		4.06	9.50	9.50	7.79	8.20		6.76	15.82	15.82	13.27	13.67		11.28	26.36	26.36	22.13	22.79
500			8.33	8.33	7.81	8.05			13.89	13.89	13.02	13.40			23.15	23.15	21.71	22.34
525			6.08	6.58	7.15	7.73			10.12	10.96	11.94	12.89			16.88	18.26	19.88	21.47
550			3.83	4.91	6.54	7.49			6.38	8.17	10.91	12.48			10.63	13.63	18.17	20.79
575			2.55	3.51	6.02	7.22			4.24	5.85	10.04	12.04			7.08	9.74	16.72	20.07
600			1.75	2.99	5.01	6.43			2.94	3.82	8.35	10.71			4.90	6.36	13.92	17.85
625					3.92	5.48					6.54	9.12					10.89	25.20
650					3.16	4.23					5.26	7.06					8.75	11.76
670					2.33	3.78					3.88	6.31					6.45	10.53

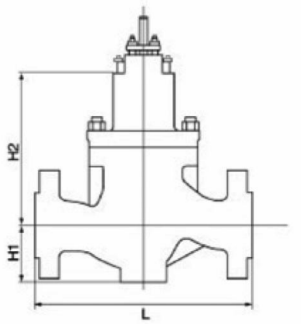
WIKA TÜREN

CONTROL VALVE

Cunstruction Lengths, Dimensions & Connection Dimensions



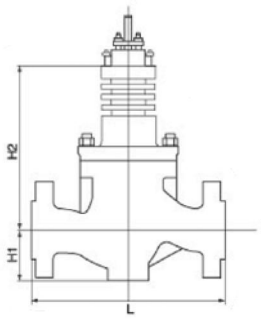
Consruction of standard bonnet



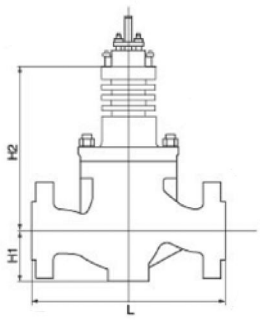
Consruction of standard bonnet

(mm)

Size	L			H1	H2
	150LB	300LB	600LB		
1"	184	197	210	65	162
1-1/2"	222	235	251	81.5	165.5
2"	254	267	286	90	169
2-1/2"	276	292	311	108	259
3"	298	318	337	108	259
4"	352	368	394	138	263
6"	451	473	508	182	312
8"	543	568	610	212	346
10"	673	708	752	268	393
12"	737	775	819	330	445



Consruction of extension bonnet



Consruction of extension bonnet

(mm)

Size	L			H1	H			
	150LB	300LB	600LB		0~250°C	251~350°C	351~450°C	451~550°C
1"	184	197	210	65	194	240	354	496
1-1/2"	222	235	251	81.5	197.5	243.5	357.5	499.5
2"	254	267	286	90	201	251	365	507
2-1/2"	276	292	311	108	291	343	477	609
3"	298	318	337	108	291	343	477	609
4"	352	368	394	138	295	351	475	607
6"	451	473	508	182	344	418	562	724
8"	543	568	610	212	381	432	576	738

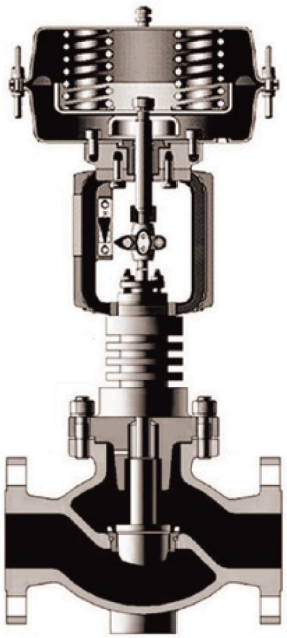
WIKA TÜREN

CONTROL VALVE

LP-300 SERIES

Single-Seat Control Valve

Characteristics



The design of top-guided flow, in comparison with the cage control valve, reduces the friction and disturbance of the media to avoid the failure of the mechanical guidance caused by the accumulation of the unpurified media to ensure the stable performance as well as to decrease the noise and the friction.

Easy to change parts inside the control valve. The single-seat construction with a balanced plug allows massive flow of the unpurified media with a high differential pressure that requires less output of the actuator.

Control Valve Series LP-300 offers a choice of different materials to meet the working conditions. The partly or complete build-up welding of the seat and the body with Stellite Alloy ensures the capability of corrosion resistance and abrasion resistance.

The self alignment requires no gasket between stem and plug, plug and seat or body and seat.

The complete seal of the body and seat ensured by the screwed connection does not destroy the self-alignment as no gasket is required and as a result, requires less maintenance. The Taper junction of stem and plug avoids the concentration of the work on the pin, which may break the connection of stem and plug.

To ensure the seal of up to Grade VI, the screw connection of the body and seat offers a choice of different metallic and non-metallic materials.

Also available with choice of design of built-in low-noise cage and or with design of cavitation resistance.

Technical specifications

- Packing: GRAFOIL: -198~+538°C
  PTFE: -40~+232°C
- Construction: single/double/triplex
- Packing of bonnet: 1/2"~1 1/2", Gland Screw, less parts, easy for installation, convenient for maintenance.
- 2"~8", Gland Flange, even work on packing, better seal.
- Bonnet: Standard: -28~+250°C
- Connection of ends:
  ANSI Class 150/300 FF, RF, RJ (DIN, JB)
  ANSI Class 150/300 BW, SW (DIN, JB)
- Size: 1/2"~12" (15 mm~300 mm)
- Pressure rating: ANSI Class 150/ANSI Class 300
- Seat leckage: ANSI/FCI70-2-1991 IV, V, VI
- Rangeability: 50:1

WIKA TÜREN

CONTROL VALVE

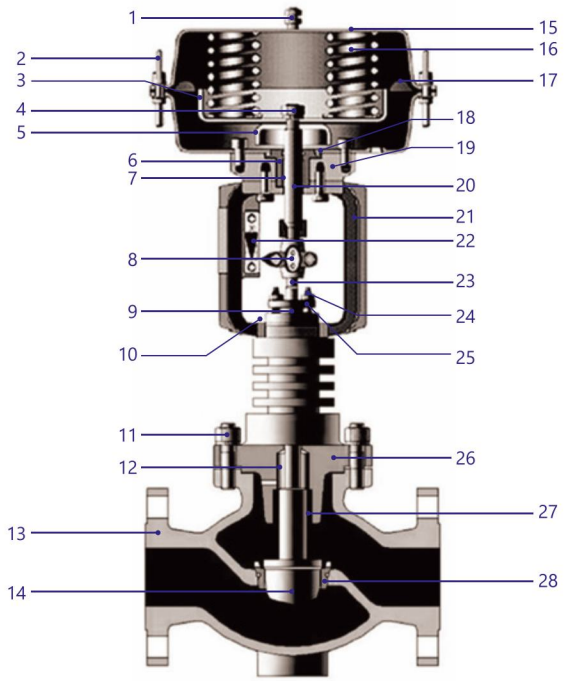
LP-300 SERIES

Note:

Control Valve LP-300 is a linear single-seat valve designed with simple construction and top-guided flow. With its low cost and liability, it's widely applied in such media as water, steam, gas and etc. so to meet the requirements of different standards. Exquisitely designed for free flow and the low loss of pressure, the Control Valve LP-300T is ideal for non-critical application.

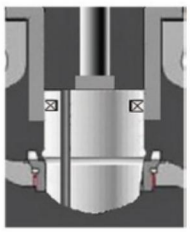
Control Valve LP-300, specially designed with a balanced plug and linear single seat, is widely applied for massive flow and high differential pressure. Designed with simple construction for free flow, Control Valve LP-300H is a choice of low cost due to its stability and less non-balance that requires less output of actuator.

Parts

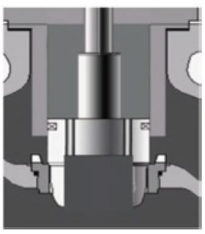


No.	Part Name	No.	Part Name
1	Vent Cap	15	Diapheagm Case
2	Conveyable Nut	16	Spring
3	Spring Guide	17	Diapheagm
4	Stopper Fixer	18	Sealant
5	Stoper	19	Yoke Plate
6	Rod Guide	20	Rod
7	Rod Guide Bush	21	Yoke
8	Red Connection	22	Scale
9	Packing Gland	23	Stem
10	Yoke Nut	24	Gland Bult
11	Bonnet Nut	25	Gland Flange
12	Packing	26	Bonnet
13	Body	27	Plug Guide Bush
14	Plug	28	Seat Ring

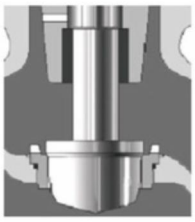
Construction of trim



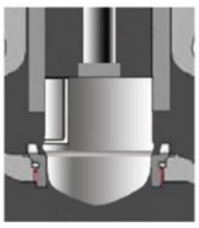
Balanced plug one



Balanced plug two



Nonbalanced plug one



Nonbalanced plug two

WIKA TÜREN

CONTROL VALVE

LP-300 SERIES

Trim & Flow coefficients Cv

S-T Series

Size	Trim Size (in)/Cv Value												
	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"
	2.9	4.7	8.2	12.8	21	30	50	79	117	175	303	443	758
1/2"	■	■											
3/4"	■	■	■										
1"	■	■	■	■									
1-1/2"				■	■	■							
2"					■	■	■						
2-1/2"						■	■	■					
3"							■	■	■				
4"								■	■	■			
6"										■	■	■	
8"											■	■	■
Stroke													

*Other sizes on request

S-H Series

Size	Trim Size (in)/Cv Value										
	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
	21	30	50	79	117	175	303	443	758	1050	1220
2"	■	■	■								
2-1/2"		■	■	■							
3"			■	■	■						
4"				■	■	■					
6"						■	■	■			
8"							■	■	■		
10"								■	■	■	
12"									■	■	■
Stroke	20mm			30mm			60mm			75mm	

*Other sizes on request

WIKA TÜREN

CONTROL VALVE

LP-300 SERIES

Actuator

Type of actuators:

- Pneumatic actuator: LA Series pneumatic actuators
  without handwheel, or LA-HW Series.
  with handwheel on top.

Spring range:

- 3 springs: 20 ... 100 kPa; 40 ... 120 kPa
- 6 springs: 40 ... 200 kPa; 80 ... 240 kPa; 120 ... 280 kPa
- 12 springs: 180 ... 380 kPa

Accessory (Selectable):

- Handwheel on top
- Pneumatic positioner
- Electropneumatic positioner
- Air filter
- Solenoid valve
- Valve positioner
- Limit switch

Model	Area(m^2)	Stroke(mm)	Q'ty of Spring	Spring Range(Psig)	Actuator Force(lbf)	Actuator Force(kgf)	Spring No
LA-1R	38.8	20	4	0.2~1.0kgf/cm²G	101.47	46.02	1A20
				0.8~2.0kgf/cm²G	405.90	184.08	1B20
				0.3~1.1kgf/cm²G	152.21	69.03	1D20
				0.4~1.2kgf/cm²G	203.74	92.04	1E20
LA-2R	54.3	20	4	0.2~1.0kgf/cm²G	119.95	54.4	2A20
				0.8~2.0kgf/cm²G	479.81	217.6	2B20
		25	4	0.2~1.0kgf/cm²G	119.95	54.4	2A25
				0.8~2.0kgf/cm²G	479.81	217.6	2B25
				0.3~1.1kgf/cm²G	179.93	81.6	2D25
				0.4~1.2kgf/cm²G	239.90	108.8	2E25
		30	4	0.2~1.0kgf/cm²G	119.95	54.4	2A30
				0.8~2.0kgf/cm²G	479.81	217.6	2B30
				0.3~1.1kgf/cm²G	179.93	81.6	2D30
				0.4~1.2kgf/cm²G	239.90	108.8	2E30
LA-3R	89.1	25	6	0.2~1.0kgf/cm²G	196.02	88.9	3A25
				0.8~2.0kgf/cm²G	783.66	355.4	3B25
		30	6	0.2~1.0kgf/cm²G	190.07	86.2	3A30
				0.8~2.0kgf/cm²G	760.28	344.8	3B30
				0.3~1.1kgf/cm²G	293.93	133.3	3D30
				0.4~1.2kgf/cm²G	391.83	177.7	3E30
		40	6	0.2~1.0kgf/cm²G	196.02	88.9	3A40
				0.8~2.0kgf/cm²G	783.66	355.4	3B40
		50	6	0.2~1.0kgf/cm²G	196.02	88.9	3A50
				0.8~2.0kgf/cm²G	783.66	355.4	3B50
				0.3~1.1kgf/cm²G	293.93	133.3	3D50
				0.4~1.2kgf/cm²G	391.83	177.7	3E50
LA-4R	155.0	50	6	0.2~1.0kgf/cm²G	368.01	166.9	4A50
			12	0.8~2.0kgf/cm²G	1472.50	667.8	4B50
			6	0.3~1.1kgf/cm²G	552.13	250.4	4D50
				0.4~1.2kgf/cm²G	736.25	333.9	4E50
		75	12	0.2V1.0kgf/cm²G	368.01	166.9	4A75
				0.8~2.0kgf/cm²G	1472.50	667.8	4B75
				0.3~1.1kgf/cm²G	552.13	250.4	4D75
				0.4~1.2kgf/cm²G	736.25	333.9	4E75
		100	12	0.2~1.0kgf/cm²G	368.01	166.9	4A100
				0.8~2.0kgf/cm²G	1472.50	667.8	4B100
				0.3~1.1kgf/cm²G	552.13	250.4	4D100
				0.4~1.2kgf/cm²G	736.25	333.9	4E100

WIKA TÜREN

CONTROL VALVE

LP-300 SERIES

Model	Area (m^2)	Stroke (mm)	Q'ty of Spring	Spring Range (Psig)	Spring ate (lbf/m)	Setting Pressure (Psig/c)	Actuator Force(lbf)	Actuator Force(kgf)	Spring No
LA-1D	38.8	20	4	4.3-15.6	522	40	946	429	1A20
						46	1178	534	
						54	1488	675	
			4	11.4-27	775	40	504	228	1B20
						46	736	334	
						54	1046	475	
LA-2D	54.3	20	4	4.3-11.4	458	40	1562	704	2A20
						46	1877	851	
						54	2311	1048	
			4	11.4-27	1097	40	705	320	2B20
						46	1031	468	
						54	1465	664	
		25	4	4.3-12.8	458	40	1476	669	2A25
						46	1801	817	
						54	2235	1014	
			4	11.4-31.3	1097	40	472	214	2B25
						46	797	362	
						54	1231	559	
		30	4	4.3-11.4	458	40	1552	704	2A30
						46	1877	851	
						54	2311	1048	
			4	11.4-35.6	1097	40	239	108	2B30
						46	564	256	
						54	988	453	
LA-3D	89.1	25	6	4.3-10.7	574.5	40	2611	1185	3A25
						46	3146	1427	
						54	3859	1750	
			6	11.4-21.3	907	40	1667	756	3B25
						46	2201	999	
						54	2914	1322	
		30	6	4.3-11.4	574.5	40	2549	1156	3A30
						46	3084	1399	
						54	3797	1722	
			6	11.4-24	907	40	1426	647	3B30
						46	1961	889	
						54	2674	1213	
		40	6	4.3-14.2	574.5	40	2299	1043	3A40
						46	2834	1286	
						54	3547	1509	
			6	11.4-27	907	40	1159	526	3B40
						46	1693	768	
						54	2046	1092	
		50	6	11.4-21.3	470	40	1667	756	3B50
						46	2201	999	
						54	2914	322	
LA-4D	155.0	40	6	4.3-11.4	665	40	4433	2011	4A40
						46	5363	2433	
						54	6603	2995	
			6	11.4-21.3	998	40	2899	1315	4B40
						46	3829	1737	
						54	5060	2299	
		50	12	4.3-12.8	665	40	4216	1912	4A50
						46	5146	2334	
						54	6186	2897	
			12	11.4-24	998	40	2480	1125	4B50
						46	3410	1547	
						54	4650	2109	
		60	12	4.3-14.2	665	40	3999	1814	4A60
						46	4929	2236	
						54	6169	2798	
			12	11.4-24	998	40	2015	914	4B60
						46	2945	1336	
						54	4185	1898	
		75	12	4.3-14.2	520	40	3999	1814	4A75
						46	4929	2236	
						54	6160	2798	
			12	11.4-27	769	40	2015	914	4B75
						46	2945	1336	
						54	4185	1898	

WIKA TÜREN

D-20544 Hamburg, Wendentstrasse 140-142 Germany