

LK-A/B/C Series Specifications

1.0 Scope

- 1.1 This specification in combination with pump data sheets identifies the minimum requirements for diaphragm metering pumps.

2.0 Definitions

- 2.1 Mechanically Actuated Diaphragm Pump - a positive displacement diaphragm-metering pump in which there is a direct coupling mechanism between the diaphragm and the motor.

3.0 General

- 3.1 Output volume shall be adjustable while pump is in operation.
- 3.2 Weight of pump as installed shall not exceed 350 pounds (including standard TEFC motor).
- 3.3 Pump shall fit within a rectangular volume 34" long by 14" wide by 34" high.
- 3.4 Metering accuracy shall be $\pm 2\%$ full scale or better.
- 3.5 Output linearity shall be $\pm 3\%$ full scale or better.
- 3.6 Noise level shall not exceed 99dB.

4.0 Drive

- 4.1 The mechanically actuated diaphragm metering pump mechanism shall be totally enclosed with no exposed moving parts.
- 4.2 The pump drive shall utilize a lost motion design. The rotation of the motor shall be reduced by means of a worm and wheel. The rotation shall be converted to a reciprocating motion by means of a dual cam, and a spring back mechanism including the worm wheel, shaft, slider, and spring.
- 4.3 The pump drive shall be oil-bath lubricated
- 4.4 The diaphragm shall be mechanically connected to the pump drive. There shall be no hydraulic oil backing of the diaphragm to ensure there is no contamination of the process fluid in the event of a diaphragm failure.
- 4.5 Pump drive shall be operated by an IEC B5 flange electric motor appropriate to size.
- 4.6 Metering pump shall be capable of pumping a maximum capacity (GPH) against a maximum pressure (PSI). (Capacity and Max pressure from Table 1)
- 4.7 Stroke length shall be adjustable from 0% to 100% by means of a micrometer dial.

5.0 Materials of construction

- 5.1 Pump housing shall be epoxy painted aluminum.
- 5.2 All exposed fasteners shall be stainless steel.
- 5.3 Liquid end materials shall be as shown in Table 2.

6.0 Shop tests

- 6.1 All pumps shall pass manufacturer's standard performance test.

Table 1 Capacity/Pressure Rating

Model	Capacity ^{Note 1}		Max. Pressure		Stroke Speed		Effective Diaphragm diameter mm	Connection ^{Note 2}	Motor output HP (kW)	IEC Motor ⁴ Mount Frame Size
	60 Hz GPH (LPM)	50 Hz GPH (LPM)	PVC PSI (MPa)	SS PSI (MPa)	60 Hz spm	50 Hz spm		(NPT) Flange ANSI 150lb		
LK-A55	52.3 (3.3)	44.4 (2.8)	145.0 (1.0)		58	48	ø100	½"	0.5 (0.4)	71 M
LK-A57	114.1 (7.2)	95.1 (6.0)	101.5 (0.7)		116	96				
LK-A65	171.2 (10.8)	142.6 (9.0)	43.5 (0.3)		58	48				
LK-B65	171.2 (10.8)	142.6 (9.0)	72.5 (0.5)	101.5 (0.7)	58	48	ø138	1 ½"	1.0 (0.75)	80 M
LK-B75	253.6 (16.0)	210.8 (13.3)	72.5 (0.5)				ø150	2"		
LK-C76	380.4 (24.0)	317.0 (20.0)	72.5 (0.5)		86	72	ø150	2"	2.0 (1.5)	90 L
LK-C86	634.0 (40.0)	523.0 (33.0)	43.5 (0.3)				ø205	2 ½"		
LK-C87	855.9 (54.0)	713.3 (45.0)					116	96		

Note 1: The capacity is the value when maximum discharge pressure is applied (with pure water at room temperature). The value may be higher than shown in the table if the discharge pressure is lower. Performance may vary and is based on installation conditions and liquid characteristics.

Note 2: VS type connection is different in some models from standard.

Note 3: A base is furnished to all LK-A, LK-B and LK-C models.

Note 4: IEC B5 flange motor mount. Use vertical mount rated, 1800 RPM motor.

Note 5: Coating color : F37-60D (JPMA)

Table 2 Materials of Construction

Material symbol		VC	VH	VS4	VS ¹	S6	S4
Application		Acids	Alkalines		Viscosity & Slurry	Solvents	
Applicable to		A55 to C87	A55/A57	A65 to C87	A55 to C87	A55/A57	A65 to C87
Part	Pump head	PVC				316SS	SCS13
	Valve ball	CE	HC	304SS	HC/304SS	HC	304SS
	Valve seat	PVC			304SS	316SS	304SS
	O ring	FKM	EPDM			---	
	Valve gasket	PTFE					
	Diaphragm	PTFE + EPDM					

Note 1: VS valve ball material is HC for A55/A57 and 304SS for the B65-C87 models

Typical chemical:

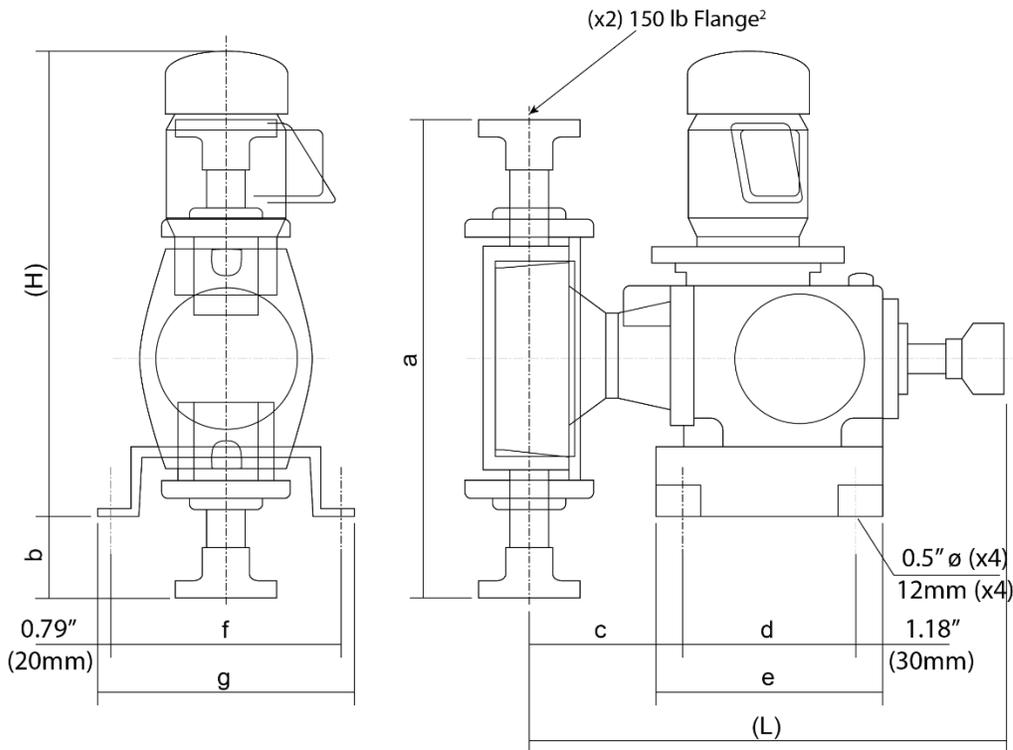
VC: Sulfuric acid, Hydrochloric acid, Sodium hypochlorite
 VH, VS4: Caustic soda, Coagulant. Calcium hydroxide (low density)
 VS: Calcium hydroxide, High molecular coagulant
 S6, S4: Organic solvents

Material symbols

SCS13: Cast Stainless steel equivalent to 304SS
 CE: Ceramic
 FKM: Fluoroelastomer
 EPDM: Ethylene propylene diene monomer
 HC: Hastelloy C276

DIMENSIONS

LK-A55, A57, A65, B65, B75, C76, C86, C87



Dimensions

mm	PVC				SS				PVC/SS				
	L	a	b	c	L	a	b	c	H ¹	d	e	f	g
LK-A5	476	325	-29	111	473	320	-32	108	547	180	240	260	300
LK-A6	523	599	108	154	533	431	24	164	547	180	240	260	300
LK-B6	595	599	90	164	605	431	6	174	594	240	300	310	350
LK-B7	599	600	90	167	610	465	23	178	594	240	300	310	350
LK-C7	599	600	90	167	610	465	23	178	601	240	300	310	350
LK-C8	605	647	114	173	609	633	107	177	601	240	300	310	350

inches	PVC				SS				PVC/SS				
	L	a	b	c	L	a	b	c	H ¹	d	e	f	g
LK-A5	18.74	12.80	-1.14	4.37	18.62	12.60	-1.26	4.25	21.54	7.09	9.45	10.24	11.81
LK-A6	20.59	23.58	4.25	6.06	20.98	16.97	0.94	6.46	21.54	7.09	9.45	10.24	11.81
LK-B6	23.43	23.58	3.54	6.46	23.82	16.97	0.24	6.85	23.39	9.45	11.81	12.20	13.78
LK-B7	23.58	23.62	3.54	6.57	24.02	18.31	0.91	7.01	23.39	9.45	11.81	12.20	13.78
LK-C7	23.58	23.62	3.54	6.57	24.02	18.31	0.91	7.01	23.66	9.45	11.81	12.20	13.78
LK-C8	23.82	25.47	4.49	6.81	23.98	24.92	4.21	6.97	23.66	9.45	11.81	12.20	13.78

Note 1: Motor height is approximate and will vary by manufacturer and motor type.

Note 2: Flanges conform to ANSI B16.5 150 lb standard. PVC: Flat face flange SS: Raised face flange