

Motor-Driven Metering Pump



Chemical Feed Solutions

The Iwaki LK Series metering pumps are motor-driven, mechanically-actuated diaphragm metering pumps. This larger LK Series can achieve outputs up to 856 GPH (3240 l/h) and maximum pressures of 220 PSI (1.5 MPa). The LK Series is ideal for chemical feed applications in a wide range of fields, including water treatment, chemical process, agriculture, mining and paper.

With market proven results and years of experience, Iwaki has employed state-of-the-art pump technology in the development of the LK Series metering pumps. A robust design transfers rotational force from the motor to the diaphragm via a compact drive unit. The pump drive unit is a worm gear and dual-cam drive gear box design. The advantage of this economical design is reliability, quality, performance, and ease of operation.

Various materials and types

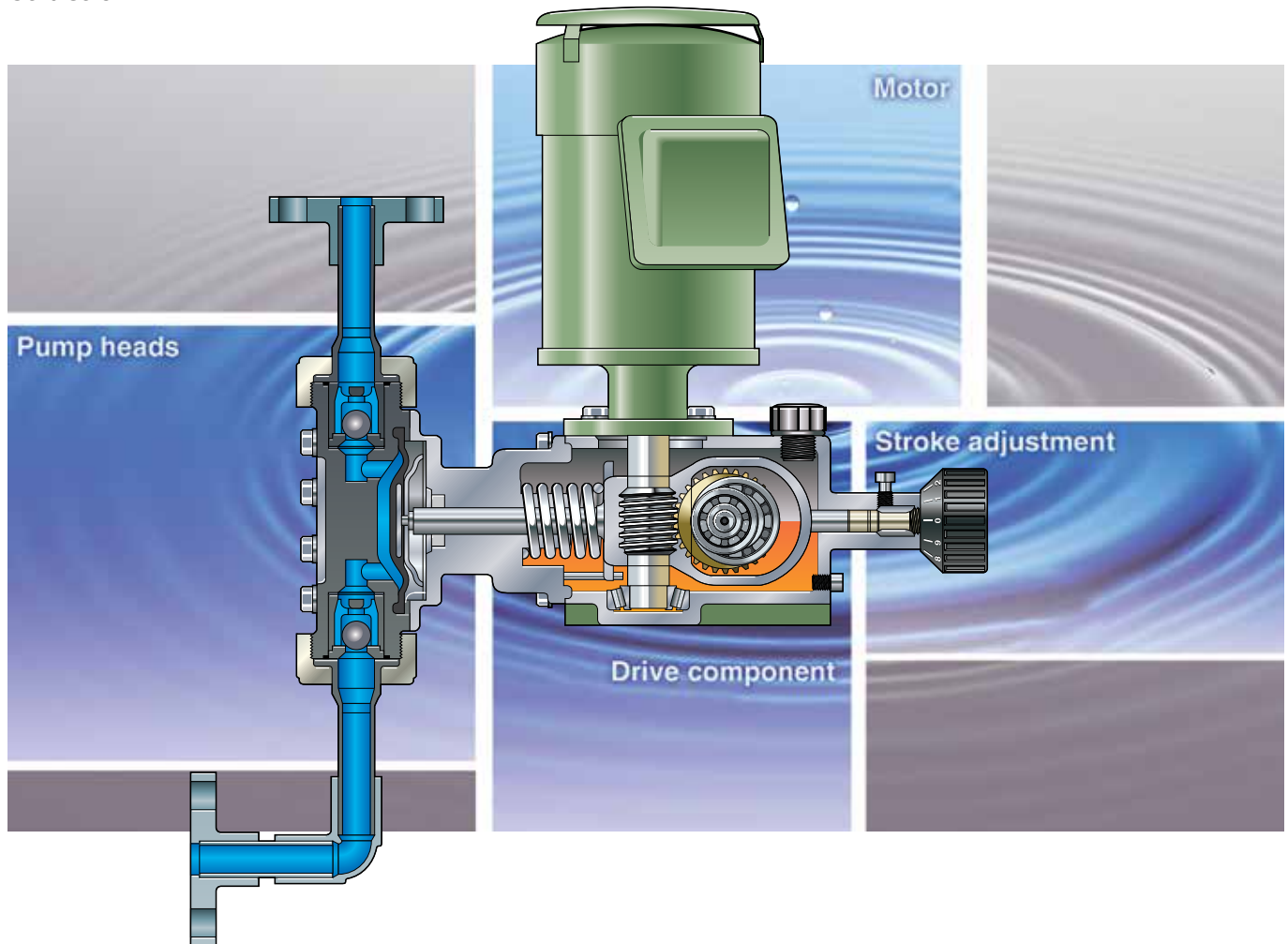
The LK Series offers a variety of sizes to fit a range of small to very large injection flow rates. Several material configurations and flexible motor options combine to satisfy a multitude of applications.

High performance and versatile design

The LK series has a discharge accuracy (repeatability) that is within $\pm 2\%$ FS. Reliability has been enhanced with the improvement in the linearity of the stroke and the discharge ratio of each stroke.



Construction



Liquid End

A diaphragm is attached to the gear reduction unit being driven by an attached motor. Displacement of volume by the diaphragm in the pump head, in combination with check valves, makes for a reliable positive displacement metering pump. Motor driven mechanical metering pumps are both economical and simple, yet retain a high degree of versatility. The LK Series pumps have flange connections available, improving installation flexibility. Three main pump head materials are PVC, stainless steel, or PVDF*. A wide range of chemicals, such as acid, alkalines, organic solvents, slurry, and high-temperature liquids, can be effectively pumped with the LK series. Six different liquid end materials combinations can be chosen to best fit the application. *Please contact your distributor for PVDF models.

Stroke adjustment

Output of flow is regulated by changing the volume per stroke with a micrometer Stroke Length dial. Accurate and reliable adjustments are made possible with the spring-back mechanism of the LK design ensuring repeatable performance.

Motor

The LK-A, LK-B, and LK-C series pump are designed to be fit with general-purpose, vertically mounted TEFC outdoor-use motors, providing different voltage and enclosure options, including VFD-ready and explosion-proof designs.

Drive component

The heart of the LK series is the dual-cam gearbox with a highly reliable, built-in worm gear type reduction unit. This compact and rigid drive unit achieves maximum wear resistance during continuous operation. The aluminum bronze worm gear designed with a large module ratio combined with a tapered roller bearing used at the end of the worm gear enables efficient transmission of motor power to the gearbox. A fully enclosed oil bath lubrication system keeps wear to a minimum while permitting outdoor installation. The LK Series was designed for durability during continuous operation providing long life.



Specifications

Model	Capacity ^{Note 1}		Max. Pressure		Stroke Speed		Effective Diaphragm diameter mm	Max. Stroke length mm	Connection ^{Note 2}		Motor output HP (kW)	IEC Motor ⁴ Mount Frame Size	Approx. net weight ^{Note 3}	
	60 Hz GPH (LPM)	50 Hz GPH (LPM)	PVC PSI (MPa)	SS PSI (MPa)	60 Hz spm	50 Hz spm			(NPT) Flange ANSI 150lb	PVC lbs (kg)			SSS lbs (kg)	
LKN-32	9.51 (0.60)	7.93 (0.50)	145.0 (1.0)	217.5 (1.5)	116	96	ø60	2.5	(1/2" MNPT) N/A	1/3 (0.25)	N/A (42C Face)	26.4 (12)	37.5 (17)	
LKN-45	15.8 (1.00)	13.5 (0.85)	145.0 (1.0)	217.5 (1.5)	58	48	ø72	6.0				30.8 (14)	46.3 (21)	
LKN-47	31.7 (2.0)	26.9 (1.7)	116.0 (0.8)		116	96	ø100	10				(1" MNPT) N/A	35.3 (16)	57.3 (26)
LKN-55	52.3 (3.3)	44.4 (2.8)	72.5 (0.5)		58	48	ø100	10	1"	0.5 (0.4)	71 M	138.9 (63)	176.4 (80)	
LKN-57	114.1 (7.2)	95.1 (6.0)	101.5 (0.7)		116	96						1 1/2"	154.3 (70)	160.9 (73)
LK-A55	52.3 (3.3)	44.4 (2.8)	72.5 (0.5) 101.5 (0.7)		58	48	ø138	17.5	1 1/2"	1.0 (0.75)	80 M	220.5 (100)	220.5 (100)	
LK-A57	114.1 (7.2)	95.1 (6.0)	72.5 (0.5)									ø150	20	2"
LK-A65	171.2 (10.8)	142.6 (9.0)	72.5 (0.5)		86	72	ø150	20	2"	2.0 (1.5)	90 L	264.5 (120)	264.5 (120)	
LK-B65	171.2 (10.8)	142.6 (9.0)	43.5 (0.3)									ø205	2 1/2"	308.6 (140)
LK-B75	253.6 (16.0)	210.8 (13.3)	43.5 (0.3)		116	96								
LK-C76	380.4 (24.0)	317.0 (20.0)	43.5 (0.3)											
LK-C86	634.0 (40.0)	523.0 (33.0)	43.5 (0.3)											
LK-C87	855.9 (54.0)	713.3 (45.0)	43.5 (0.3)											

See LKN Series

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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.

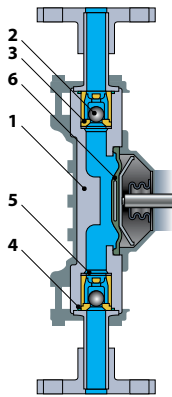
Note 3: The weight is the estimated value when installed with a totally enclosed fan-cooled outdoor motor.

- Standard accessory : A base is furnished to all LK-A, LK-B and LK-C models.
- Coating color : F37-60D (JPMA)

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

Materials

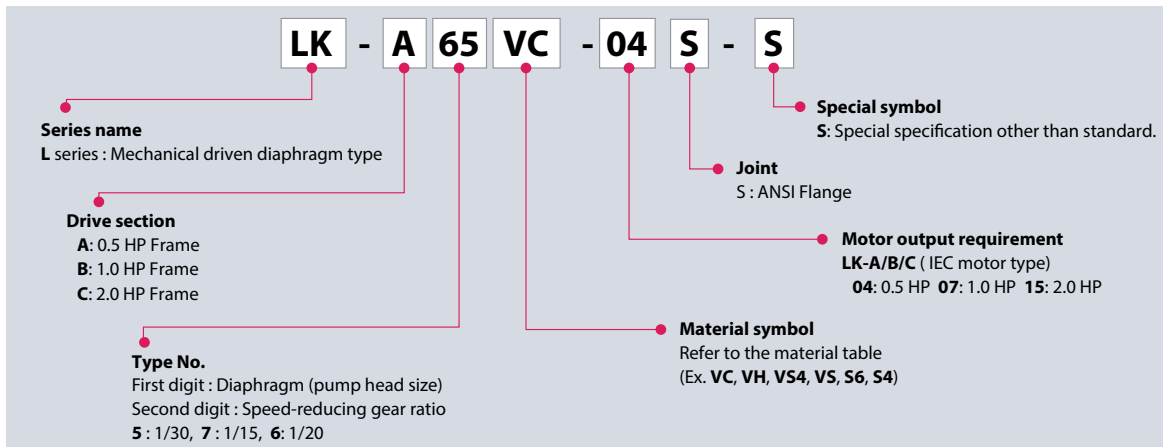
LK-A55 to LK-C87
(Flange)



Type	VC	VH	VS4	VS	S6	S4
Application	Acids	Alkalines		Viscosity and Slurry	Solvents	
Applicable type	A55 to C87	A55 / A57	A65 to C87	A55 to C87	A55 / A57	A65 to C87
1: Pump head	PVC				SS316	SCS13
2: Valve ball	CE	HC	SS304	HC / SS304	HC	SS304
3: Valve seat	PVC			SS304	SS316	SS304
4: O ring	FKM	EPDM			-	
5: Valve gasket	PTFE				PTFE	
6: Diaphragm	PTFE + EPDM					
Typical chemical				Material symbols		
VC: Sulfuric acid, Hydrochloric acid, Sodium hypochlorite				SCS13: Cast Stainless steel equivalent to SUS304		
VH, VS4: Caustic soda, Coagulant. Calcium hydroxide (low density)				CE: Ceramic		
VS: Calcium hydroxide, Highmolecular coagulant				FKM: Fluoro rubber		
S6, S4: Organic solvent, Paper making chemicals				EPDM: Ethylene propylene rubber		
				HC: Hastelloy C276		

- Materials of the VS type valve balls are HC for A55 / A57 type and SS304 for B65 to C87 type.
- PVDF Material is also available. Please contact us for details.

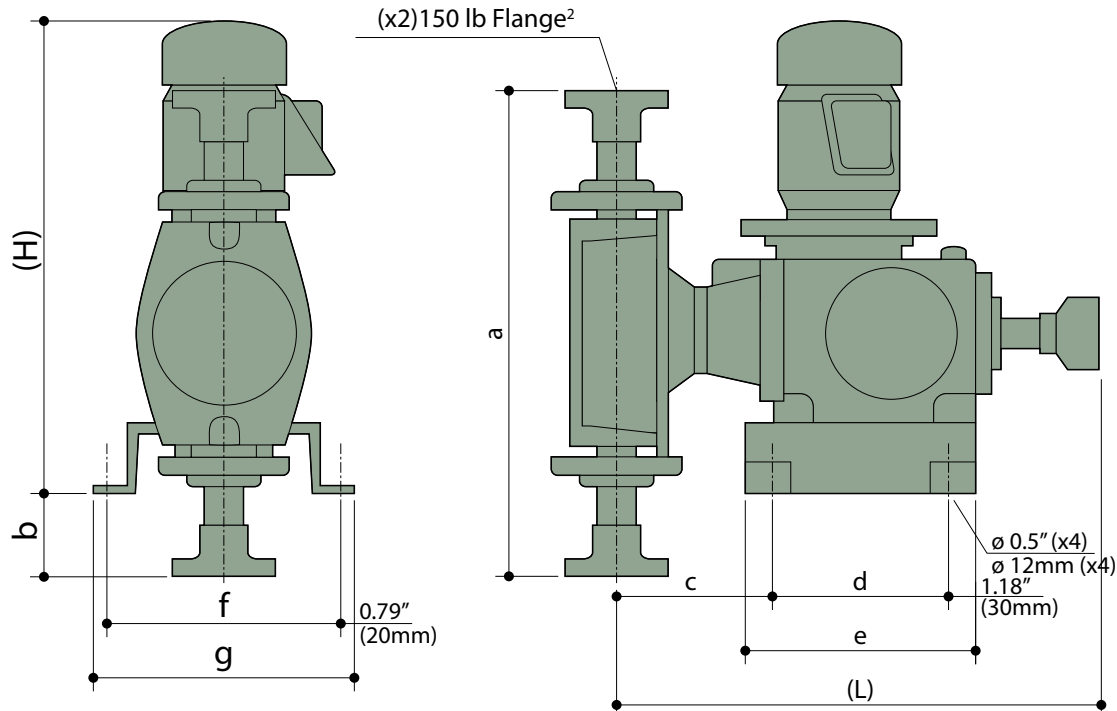
Pump identification



Note 1: Motor not included

Dimensions may be changed without prior notice for the purpose of product improvement.
Be sure to carry out installation work with the most recent and detailed drawings, which are available upon request

LK-A55 to LK-C87 (General purpose motor type)



mm	PVC				SS				PVC/SS				
	L	a	b	c	L	a	b	c	H'	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'	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

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