

Overview

Walchem and Iwaki have created a unique partnership with over 100 years combined pump experience in an array of different markets. Our talent has led to the design of the most innovative and comprehensive metering pump product line in the world, the E-Class Metering Pumps.

E-Class features four great series: EZ, EW, EK and EHE. The variety of pumps within the E-Class will fit any water treatment, wastewater, agriculture, water conditioning, car wash or other industrial feed application.



EK Series

E-Class Metering Pumps

Summary of Benefits

- **High Speed Performance**

E-Class pumps operate at 360 strokes-per-minute. Most competitive products operate at 180 SPM or less resulting in slug feeding, accelerated diaphragm wear and poor feed control.

- **Dual Bearing Support**

All E-Class pumps features dual bearing support. The armature and shaft are supported with a bearing on each end, which ensures proper axial movement, enabling the E-Class to operate at 360 SPM while extending the life of the diaphragm.

- **Superior Check Valve Performance**

Dual Check Valve Assemblies in both suction and discharge fittings feature precision ball guides and tapered seats. Precise machining and molding of parts limit valve ball travel, ensuring that balls fully seat and seal with every stroke. This superior check valve design and performance guarantee fast priming.

- **High Compression Ratio**

The compression ratio of a metering pump is important because it affects the pump's ability to prime and vent. The compression ratio is raised when you reduce the dead volume of the pump head during operation. All E-Class pumps feature a very high compression ratio that ensures proper feed especially with off-gassing products. (e.g. Sodium Hypochlorite)



W A L C H E M

EK Series

The EK Series pumps are the world's first **IP67** electronic metering pumps. This means that the EK is the only pump in the industry guaranteed to operate submerged 3 feet under water for up to 30 minutes! Needless to say, the EK Series pumps are ideal for wet or high humidity environments such as irrigation, agriculture, car wash or paper mill applications. Capacity ratings are up to 6.7 GPH (25.4 l/h) with a maximum pressure of 150 PSI (10 bar). The rugged Polyphenylene Oxide (PPO) enclosure is equipped with a durable clear cover to protect the membrane switches and stroke control of the pump, which are mounted opposite the liquid end. A variety of liquid end combinations are available to ensure a perfect match for your specific application.



316SS

PVDF

GFRPP

PVC

IP67 Construction

By integrating the pump body into a one-piece design, sealing is easier and more effective. Both the drive and the controller are completely insulated from moisture or gas. A watertight clear cover protects the display, controls and stroke length adjustment. All circuit boards and electronic components have been completely encapsulated to prevent failure due to moisture or gas. The display utilizes a high temperature LCD that provides extra protection from long-term exposure to sunlight in outdoor applications. Construction of the EK Series pumps make them perfect for indoor and outdoor applications where the pumps are frequently exposed to wash down.

Control Features

High speed and a 20% minimum stroke length allow the EK Series to achieve an 1800:1 turndown ratio. The digital display and pushbutton speed control make setting the EK pump easy and precise. The EK pumps come equipped with pulse input (1:1) control and also feature an external stop input that can be set to stop the pump from a normally open or normally closed contact. To maintain the IP67 rating a proprietary connector is utilized that makes connection of the inputs simple, yet retains a watertight seal.



2-Year Warranty
"Bumper-to-Bumper" On All
E-Class Pumps
- Including Wetted Parts

Electrical

EK

50/60 Hz, single phase
115 VAC \pm 10%
230 VAC \pm 10%

EKB

20 Watt avg.
0.8 Amp max.
0.4 Amp max.

EKC

22 Watt avg.
1.2 Amp max.
0.6 Amp max.

Shipping Weight (approximate)

12 lbs (5.5kg)

14 lbs (6.4kg)

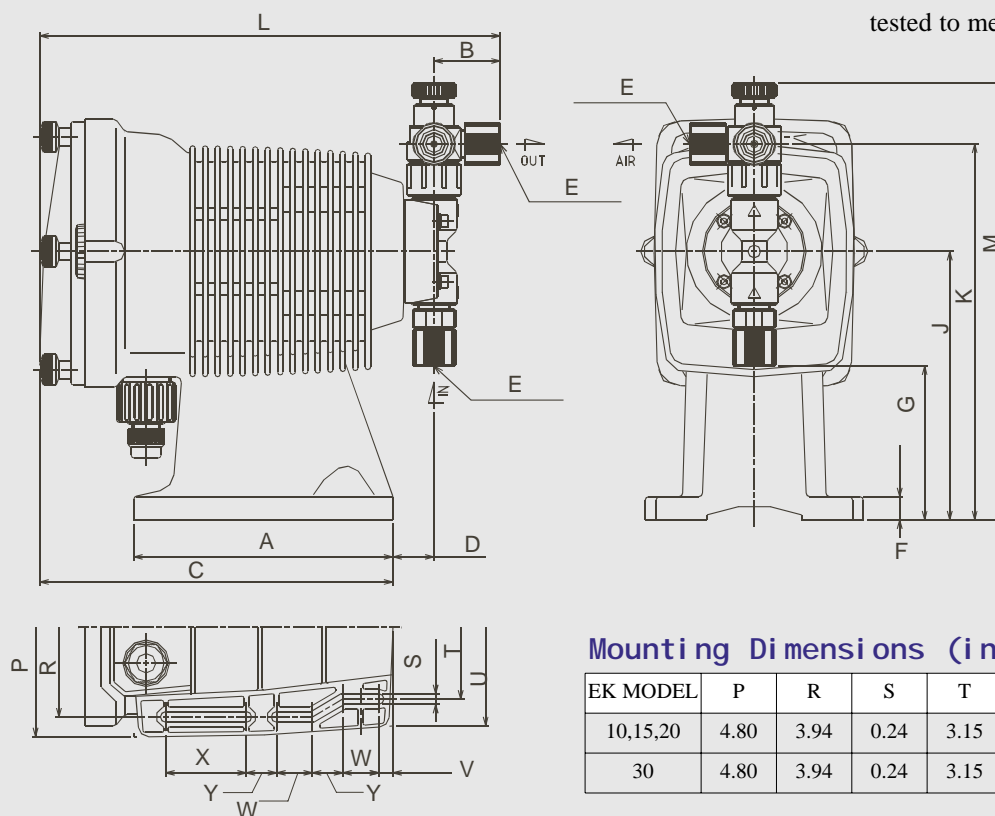
Operating Conditions

Ambient temperature 32°F to 122°F (0°C to 50°C)
Relative humidity to 95% non-condensing
Liquid temperature 32° to 104°F (0 to 40°C) for PVC based liquid ends
32° to 140°F (0 to 60°C) for PP, PVDF, SS based liquid ends
Below 32°F (0°C), pump is limited to 70% of max. pressure. Liquid cannot freeze.

Dimensions

Safety Performance

The EK Series metering pumps have been UL tested to meet UL and CSA standards.



Mounting Dimensions (inches)

EK MODEL	P	R	S	T	U	V	W	X	Y
10,15,20	4.80	3.94	0.24	3.15	4.33	0.31	0.79	1.77	0.67
30	4.80	3.94	0.24	3.15	4.33	0.31	0.79	1.77	0.67

EK MODEL	A	B	C	D	E	F	G	J	K	L	M
10,15,20	5.71	1.46 ¹	7.78	0.91	ø1/4 x ø3/8	0.51	3.39	5.91	8.27 ²	10.14 ¹	9.61 ³
30	5.71	1.50	7.78	1.06	ø3/8 x ø1/2	0.51	2.68	5.91	9.14	10.33	10.40

Notes for EK10, 15, 20:

1. Addition of a Multifunction valve increases overall length by 0.37". Addition of an Auto Air Vent Valve increases overall length by 1.59".
2. Addition of a Multifunction Valve increases discharge height by 0.22". No change for the Auto Air Vent Valve.
3. Addition of a Multifunction Valve increases overall liquid end height by 1.16". No change for the Auto Air Vent Valve.

Standard Materials of Construction

CE	Alumina ceramic	PTFE	Polytetrafluoroethylene
EPDM	Ethylene propylene diene monomer	PCTFE	Polychlorotrifluoroethylene
FKM	Fluoroelastomer	PVC	Polyvinylchloride (translucent)
GFRPP	Glass fiber reinforced polypropylene	PVDF	Polyvinylidene fluoride
PE	Polyethylene	M-PVC	Machined polyvinylchloride

EK **B15** **R** **1** - **VC** **C**
 1 2 3 4 5 6

1 PUMP SERIES

EK IP67 aggressive environment rated electronic metering pump with external pulse control or manual speed control (adjustable to 360 strokes per minute) and manually adjustable stroke length. (Turndown ratio 1800:1)

2 CAPACITY/PRESSURE RATING

Size	Max. Output Capacity		Max. Output per Stroke	Max. Pressure ¹		Connection Size (in) Tubing O.D.
	GPH	ml/min	ml	PSI	MPa	
B10	0.6	38	0.11	150	1.0	3/8
B15	1.0	65	0.18	105	0.7	3/8
B20	1.8	115	0.32	60	0.4	3/8
B30	3.3	210	0.58	30	0.2	1/2
C15	1.3	80	0.22	150	1.0	3/8
C20	2.3	145	0.40	105	0.7	3/8
C30	4.3	270	0.75	50	0.35	1/2
C35 ²	6.7	420	1.17	30	0.2	1/2

1 Auto Air vent valve reduces maximum pressure approx. 35 PSI (0.2 MPa)

2 Output of the EKC35-TC/FC/SH is 6.3 GPH (400 ml/min)

3 CONTROL MODULE

R = For use on all EK models, features external pulse input control and stop input.

4 VOLTAGE

1 = 115VAC, 50/60 Hz

2 = 230VAC, 50/60 Hz

5 LIQUID END

Liquid End	Pump Head & Fittings	Diaphragm	Valve Balls	Valve Seat	Valve Seals	Gasket	Tubing
FC	PVDF	PTFE BONDED TO EPDM	CE	PCTFE	PTFE	PTFE	PE
PC	GFRPP		CE	FKM	FKM		
PE	GFRPP		CE	EPDM	EPDM		
VC	PVC		CE	FKM	FKM		
VE	PVC		CE	EPDM	EPDM		
VF	PVC		PTFE	EPDM	EPDM		
TC	PVDF		CE	FKM	FKM		
SH	316SS		HC	HC	PTFE		1/4" NPTF

6 OPTIONS

C = High compression configuration: supplied standard with Auto Air Vent Valve in place of manual air vent valve. Available for B10, B15, C15 and C20 sizes with -VC liquid ends only.

M = Multifunction Valve is supplied in place of the manual air vent valve. Available for the 10, 15 and 20 size pumps with VC, VE, VF, PC, PE, PCH and PEH liquid ends. Not available with the AAVV feature.

All pumps include a manual air vent valve with the exception of FC liquid ends. All pumps include one foot valve, one injection valve, 20 feet of polyethylene tubing and one ceramic weight.



WEBMASTER GENERAL INDUSTRIAL CONTROLLER



WEBMASTER COOLING TOWER/ BOILER CONTROLLER



METERING PUMPS AND ACCESSORIES



WEBALERT REMOTE MONITORING & DATALOGGING

Walchem designs and manufactures an integrated line of analytical control, sensing and metering equipment.

Our in-house engineering is driven by quality, technology and innovation.

For more information on the entire Walchem product line, visit : www.walchem.com

W A L C H E M

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