

# Metering Pumps



## EZ Series

EZ Series electronic metering pumps offer precise chemical injection at a low cost. The compact size and simple control make them ideal for water treatment and OEM applications.

EZ Series have outputs to 6.3 GPH (24 l/h) and a maximum pressure of 150 PSI (10 bar). Advanced microprocessor control and a turndown ratio of 360:1 make this series an exceptional value. The pumps are simple to operate with only three pushbutton keys and the unmatched turndown ratio provides both versatility and high resolution chemical feed which eliminates slug-feeding effects.



### Summary of Key Benefits

#### ➤ High Speed Performance

E-Series pumps operate at 360 strokes-per-minute, providing high resolution chemical feed. Most competitive products operate at slower speeds, resulting in slug feeding, accelerated diaphragm wear and poor feed control.

#### ➤ Engineered Longevity

All E-Series pumps feature dual bearing support. The armature and shaft are supported with a bearing on each end, which ensures proper axial movement, enabling the E-Series 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 guarantees fast priming and reliable performance.

#### ➤ 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-Series pumps feature a very high compression ratio that ensures proper feed especially with off-gassing products (i.e. Sodium Hypochlorite).

#### ➤ Innovative Timer Control

The EZ-Timer module integrates Walchem's EZB pump technology with a versatile programmable timer. Timed feed control can be programmed in daily or weekly cycles.

**W A L C H E M**

IWAKI America Inc.

# Features

Walchem and Iwaki have over 100 years of combined pump experience. This partnership has led to the design of the most innovative and comprehensive metering pump product line in the world, the E-Series Metering Pumps. E-Series features four great series: EZ, EWN, EK, and EHE. The wide range of capabilities within the E-Series ensures that there's a model to fit any water treatment, food & beverage, agriculture, water conditioning, car wash, or other industrial chemical feed applications.

EZ pumps have outputs to 6.3 GPH (24 l/h) and pressure capabilities to 150 PSI (10 bar). The compact size and simple control make it ideal for OEM applications. Effective, reliable performance is achieved through sophisticated engineering. Designed with a turndown ratio of 360:1, the EZ is an exceptional value.



Simply stated - the EZ packs all of the 360spm performance of the bigger pumps into the compact chassis of the industry's easiest pump to operate. The EZ is the best on/off pump on the market. Built to prime, hold prime and to last, the EZ Series metering pump offers precise chemical injection at an economical cost.

Features include double ball check valves, long lasting diaphragm, an optional automatic air vent valve and the ability to remotely mount the control unit.

## Digital Speed Control

The EZ is simple to operate with three pushbutton keys. The 360:1 turndown ratio provides unmatched versatility.



## Timer Control Module Option

The EZ-Timer module integrates Walchem's EZB technology with a versatile programmable timer. Timed feed control can be programmed in daily or weekly cycles. The weekly schedules can be programmed in either 1 or 2-week cycles with a daily on-time. The daily timer can be set for multiple daily on-times. On-times are set in minutes (0-999).

The EZ-Timer pump is a simple and effective way to automate additions in small systems. With capacities up to 3.2 GPH and pressure ratings up to 150 psi, the EZ-Timer pump is perfect for many applications, including accurate, consistent addition of biocides into your cooling tower system.



# Specifications

## Electrical Specifications

| EZ                     | EZB          | EZC          |
|------------------------|--------------|--------------|
| 50/60 Hz, single phase | 20 Watt avg. | 22 Watt avg. |
| 115 VAC $\pm 10\%$     | 0.8 Amp max. | 1.2 Amp max. |
| 230 VAC $\pm 10\%$     | N/A          | 0.6 Amp max. |

## Shipping Weight

|                                  |                                   |
|----------------------------------|-----------------------------------|
| 8 lbs. (3.6 kg)<br>(approximate) | 10 lbs. (4.5 kg)<br>(approximate) |
|----------------------------------|-----------------------------------|

## Operating Conditions

|                      |                                                                                     |
|----------------------|-------------------------------------------------------------------------------------|
| Ambient Temperature: | 32 to 122°F (0 to 50°C)                                                             |
| Relative Humidity:   | 30% to 90% non-condensing                                                           |
| Liquid Temperature:  | PVC liquid ends: 32 to 104°F (0 to 40°C)                                            |
|                      | PP, PVDF, SS liquid ends: 32 to 140°F (0 to 60°C)                                   |
|                      | Below 32°F (0°C), pump is limited to 70% of maximum pressure. Liquid cannot freeze. |

Pumps should always be shielded from direct exposure to the elements.

## Safety Certifications

The EZ series metering pumps\* are WQA tested and certified to NSF/ANSI Standard 50 and Standard 61.

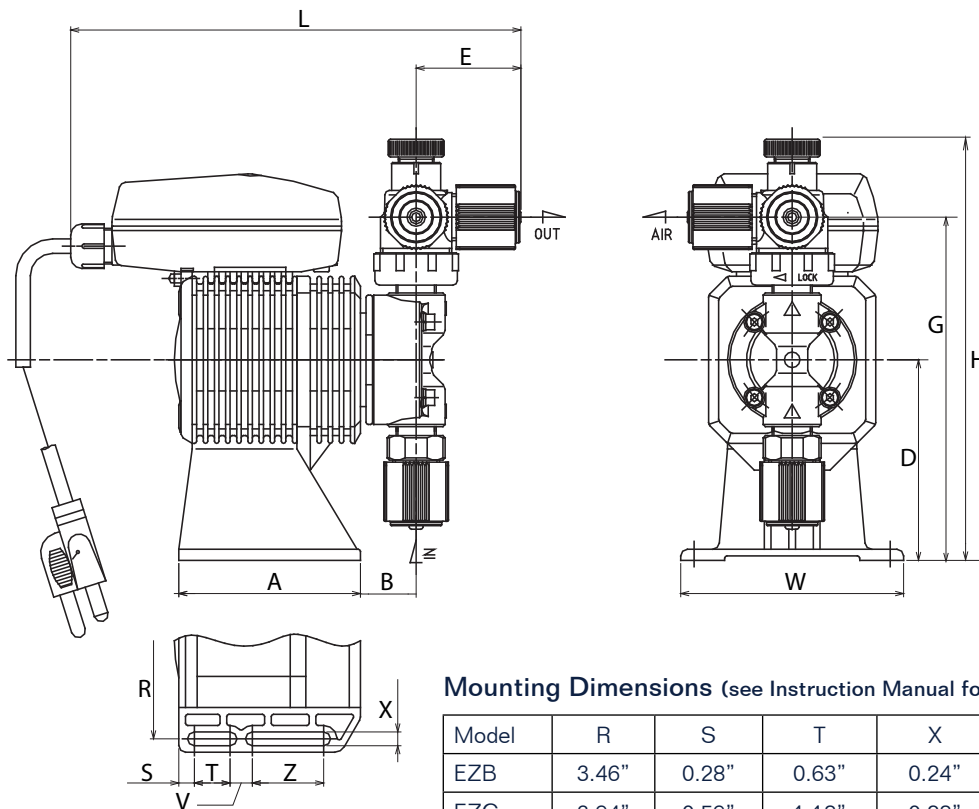
\* See [www.wqa.org](http://www.wqa.org) for specific chemicals and certification parameters.



The EZ series metering pumps are tested by Intertek to UL and CSA standards.



## Dimensions



Mounting Dimensions (see Instruction Manual for FC dimensions)

| Model | R     | S     | T     | X     | V     | Z     |
|-------|-------|-------|-------|-------|-------|-------|
| EZB   | 3.46" | 0.28" | 0.63" | 0.24" | 0.39" | 1.26" |
| EZC   | 3.94" | 0.59" | 1.18" | 0.28" | 0.59" | 1.18" |

| Model | A     | B     | E     | D     | G <sup>2 &amp; 4</sup> | H <sup>3 &amp; 4</sup> | L <sup>1</sup> | W     | IN/OUT/AIR      |
|-------|-------|-------|-------|-------|------------------------|------------------------|----------------|-------|-----------------|
| EZB   | 3.21" | 0.98" | 1.85" | 3.54" | 6.10"                  | 7.47"                  | 7.95"          | 3.94" | Ø ¼ ID x Ø ¾ OD |
| EZC   | 4.13" | 1.06" |       | 3.94" | 6.46"                  | 7.83"                  | 8.66"          | 4.57" | Ø ¾ ID x Ø ½ OD |

### Notes:

1. Addition of a Multifunction valve increases overall length by 0.10".
2. Addition of a Multifunction Valve increases discharge height by 2.62". The Auto Degassing Valve increases discharge height by 1.82"
3. Addition of a Multifunction Valve increases overall liquid end height by 1.25". The Auto Degassing Valve increases overall height by 1.82"
4. Dimensions shown are for 11-21 sizes. Add 0.5" for 31-36 sizes.

# Ordering Information

EZ    B16    D    1    —    VC    A  
Pump   Capacity/   Control   Voltage   Liquid   Options  
series   Pressure   Module     End

## PUMP SERIES

EZ = Electronic metering pump with manual speed control (adjustable to 360 strokes per minute)

## CAPACITY/PRESSURE RATING

See chart on this page

## CONTROL MODULE

D = Manual speed adjustment from 1-360 spm

T = Timer control module (available on 115V EZB pumps only)

## VOLTAGE

1 = 115VAC, 50/60 Hz

2 = 230VAC, 50/60 Hz (Not available for EZB pumps)

## LIQUID END

See chart on this page

## OPTIONS

Blank = Standard manual air vent valve included, except with liquid end code -FC.

A = Auto Degassing Valve installed under manual air vent valve. Available for B11/16/21 & C16/21 sizes with VC/VE liquid ends only.

M = Multifunction Valve is supplied in place of the manual air vent valve. Available on all size pumps and liquid ends except FC or combined with Auto Degassing Valve option.

All pumps also 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.

## Capacity/Pressure Rating

| Size | Max Output Capacity |        | Max output per stroke | Max Pressure <sup>1</sup> |      | Connection Size (in) Tubing O.D. |
|------|---------------------|--------|-----------------------|---------------------------|------|----------------------------------|
|      | GPH                 | mL/min | mL                    | PSI                       | MPa  |                                  |
| B11  | 0.6                 | 38     | 0.11                  | 150                       | 1.0  | 3/8                              |
| B16  | 1.0                 | 65     | 0.18                  | 105                       | 0.7  | 3/8                              |
| B21  | 1.5                 | 95     | 0.26                  | 60                        | 0.4  | 3/8                              |
| B31  | 3.2                 | 200    | 0.56                  | 30                        | 0.2  | 1/2                              |
| C16  | 1.3                 | 80     | 0.22                  | 150                       | 1.0  | 3/8                              |
| C21  | 2.0                 | 130    | 0.36                  | 105                       | 0.7  | 3/8                              |
| C31  | 4.3                 | 270    | 0.75                  | 50                        | 0.35 | 1/2                              |
| C36  | 6.3                 | 400    | 1.17                  | 30                        | 0.2  | 1/2                              |

1 Auto Degassing Valve reduces output by approximately 20%.

## Liquid End Materials

| 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     |
| PA         | GFRPP                |                       |             | PCTFE      | AFLAS®      |        |        |
| PC         | GFRPP                |                       |             | FKM        | FKM         |        |        |
| PE         | GFRPP                |                       |             | EPDM       | EPDM        |        |        |
| VC         | PVC                  |                       |             | FKM        | FKM         |        |        |
| VE         | PVC                  |                       |             | EPDM       | EPDM        |        |        |
| TA         | PVDF                 |                       |             | PCTFE      | AFLAS®      |        |        |
| TC         | PVDF                 |                       |             | FKM        | FKM         |        |        |

|       |                             |       |                                      |
|-------|-----------------------------|-------|--------------------------------------|
| CE    | Alumina ceramic             | EPDM  | Ethylene propylene diene monomer     |
| FKM   | Fluoroelastomer             | GFRPP | Glass fiber reinforced polypropylene |
| PE    | Polyethylene                | PTFE  | Polytetrafluoroethylene              |
| PCTFE | Polychlorotrifluoroethylene | PVC   | Polyvinylchloride (translucent)      |
| PVDF  | Polyvinylidene fluoride     | HC    | Hastelloy C276                       |

## ABOUT US

Walchem integrates its advanced sensing, instrumentation, fluid pumping and communications technologies to deliver reliable and innovative solutions to the global water treatment market. Our in-house engineering is driven by quality, technology and innovation. For more information on the entire Walchem product line, visit: [www.walchem.com](http://www.walchem.com)

