

Product List

Effective 01/16/12



Metering Pumps
and
Control Systems

TABLE OF CONTENTS

| | |
|--|-------|
| Important Information | |
| When Placing An Order | 3 |
| Feature Selection Guide | 4 |
| Model Selection Guide | 5-11 |
| PULSAtron - Electronic Metering Pumps | |
| Series MP | 12-13 |
| Series E Plus | 14-15 |
| Series HV | 16-17 |
| Series E | 18-19 |
| Series E-DC | 20-21 |
| Series D | 22-23 |
| Series A Plus | 24-25 |
| Series C Plus | 26-27 |
| Series C | 28-29 |
| PULSAtron PLUS - Electronic Metering Pumps with Integrated Controller | |
| Series CW | 30-31 |
| Series CL | 32-33 |
| Series WT | 34-35 |
| Series ET | 36-37 |
| Series T7 | 38-39 |
| Electronic Metering Pump Accessories | |
| KOPkits | 40-41 |
| Suction/Discharge Valves | 42 |
| Parts | 43-45 |
| OMNI - Mechanical Diaphragm Pumps | |
| Model Selection | 46-48 |
| Accessories and KOPkits | 49 |
| Chem-Tech Pumps – Peristaltic Metering Pumps | |
| Series XP | 50 |
| Series XPV | 51 |
| Series XP and XPV Parts | 52 |
| Mechanical Diaphragm Pumps | |
| Prime Performance | 53 |
| Series 100, 100D, 150, 150D, 200 and Parts | 54-57 |
| Series 250 and Parts | 58 |
| Series 300 and Parts | 59-60 |
| Piston Pumps | |
| Series 400 | 61 |
| Series 500 and Parts | 62-63 |
| Mec-O-Matic Pumps – Diaphragm Metering Pumps | |
| Stingray 100, 200 and Parts | 64-65 |
| T-2000 | 65 |
| Peristaltic Metering Pumps | |
| Dolphin Series and Related Parts | 66 |
| VSP Series and Parts | 67 |
| 2400T, 2400T Plus, 2400T-DC and Parts | 68 |
| Policies and Procedures | 69-70 |
| Terms and Conditions | 71 |

IMPORTANT INFORMATION WHEN PLACING AN ORDER

- 1) Fax, mail or telephone orders directly to the Customer Service Department:

Pulsafeeder Incorporated—A Unit of IDEX Corporation
Standard Product Operations Main Office & Manufacturing Facility
 27101 Airport Road, Punta Gorda, Florida, USA 33982-2462 E-Mail: pulsaspo.cs@idexcorp.com
 Telephone: 800-333-6677 or 941-575-3800 Fax: 800-456-4085 or 941-575-4085
 www.pulsatron.com

- 2) Please have the following information available when placing an order:

| | |
|-----------------------|-----------------------------------|
| Account Name | Special Tags or Marks (if needed) |
| Billing Zip Code | Item(s) Being Ordered |
| Purchase Order Number | Quantity of Each Item |
| Ship To Address | |

- 3) Orders are immediately entered into the computer upon receipt. Our ability to change in house orders is limited. Please be certain your orders are complete when placed.
- 4) For assistance or to order a "special" pump model not available in the price schedule, please contact our Technical Support Department.
- 5) Orders are assigned standard lead times based on the size of the order and the time required to manufacture the particular products. Requests to expedite orders may be routed through our Customer Service Department.
- 6) Repairs and returns are coordinated through our Customer Service Department. All orders returned must have factory authorization and are subject to a 25% restocking charge for standard product.
- 7) Other Locations:

PULSAFEEDER (Knight UK Limited)

15 Brunel Centre Newton Road
 Crawley, West Sussex, England, RH10 9YU
 Tel: +44 80022102210
 Fax: +44 80044104410

Far East (Office Only)

Room 3403, South Tower, Hong Kong Plaza
 No 283 Huai Hai Zhong Road
 Shanghai 200021, China
 Tel: 86-2163906367
 Fax: 86-2163863338

Latin America (Office Only)

Hegel 153-602, Colonia Polanco,
 11560 Mexico, D.F., Mexico
 Tel: 52-555-255-1357
 Fax: 52-555-255-1356

IDEX India Private Ltd.

202 Matharu Arcade
 32, Subhash Road, Vile Parie (East),
 Mumbai-400 057, India
 Tel: 91-22-66976631
 Fax: 91-22-66976633

- Prices are subject to change without notice and are effective when order is accepted and acknowledged at point of shipment.
- When ordering, specify your P.O. number, model number, quantity, price, shipping and/or billing address and order date.
- **Standard terms are NET 30 days from date of invoice for approved accounts on open account.**
- **WE ACCEPT VISA AND MASTERCARD.**
- **ONE PERCENT DISCOUNT AVAILABLE FOR PAYMENT WITHIN 10 DAYS OF INVOICE DATE FOR ACCOUNTS THAT ARE CURRENT.**
- **PAYMENT BY CREDIT CARD WILL NOT RECEIVE AN ADDITIONAL DISCOUNT.**
- All prices are F.O.B. Punta Gorda, FL or factory warehouse location.
- Custom product sales are final.
- Charges for export documentation apply.
- Expediting fees may apply.
- Fees for changes to or cancellation of orders may apply.
- **Minimum factory order of \$50.**
- Possession of price schedule does not guarantee right to purchase direct from factory.

***DUE TO CONTINUOUS IMPROVEMENT OF OUR PRODUCTS, WE RESERVE THE RIGHT
TO UPDATE THE INFORMATION CONTAINED IN THIS CATALOG WITHOUT NOTICE.***

Pulsafeeder offers one of the most flexible electronic metering pumps in the world. The product can be configured to meet a large variety of applications and needs. The next few pages will guide you in structuring a complete and correct model number.

The first step in selecting the right model for your application is to select the correct Series. Each Series offers a variety of features that distinguish it from other Series. Within each Series are selections of models that offer different flow/pressure envelopes to choose from.

The following descriptions will help you understand the different features and then the chart at the bottom of the page will let you select the appropriate models that have the features you need.

| | |
|-----------------------------|--|
| 4-20mA | Control the pump stroke frequency based on a current input signal from an external device. At 4mA input, the pump will not stroke. At 20mA input, the pump will stroke 100% |
| 20-4mA | Same as 4-20 except that at 20mA input, the pump will not stroke and at 4mA input, the pump strokes at 100%. |
| External Pace / Water Meter | Allows the pump stroke to be controlled by an external dry contact closure, such as is provided by a Water Meter. For each closure, the pump will stroke one time. Some models provide the ability to multiply or divide the pulses. |
| Stop Function | A dry contact input that will stop the pump on closure and allow the pump to operate when open. |
| Touch Pad | Electronic 'touch pad' control with internationally recognized symbols. |
| Digital Display | Pump parameters are displayed on an LCD or LED type display. |
| Signal Relay | Provides a 24V DC signal output from the pump based on user specified conditions. |
| Power Relay | Provides AC power output from the pump based on user specified conditions. |
| Alarm Display | Flashing display or LED indicator that will display an alarm condition on the front panel of the pump. |
| Timed Sequences | Ability to pre-program operation for repetitive metering. |
| Programmable Time | Timer that can be programmed with up to 8 on/off cycles per day during a 7-day week. |
| Hall Effect | Hall Effect Water Meter input. |
| Conductivity Control | Includes a conductivity controller built into the pump. |
| Bleed Relay | Separate relay used to control a solenoid that will "Bleed" a cooling tower as part of a control system. |
| Timer Control | User defined timer functions that control when the pump will operate. Used in Cooling Tower control systems. |
| Flow Control | Optional Flow Switch turns pump on when flow is active. |

| Series | Flow Capacity | | Pressure | | Turn Down Ratio | 4-20 mA | 20-4 mA | External Pace And Stop | External Pace Or Stop Function | Touch Pad | Digital Display | Signal/Power Relay | Alarm Signals | Timed Sequences | Programmable Timer | Hall Effect Input | Conductivity Control | Bleed Relay | Timer Control | Flow Control | |
|--------|---------------|-------------|------------|-----------|-----------------|---------|---------|------------------------|--------------------------------|-----------|-----------------|--------------------|---------------|-----------------|--------------------|-------------------|----------------------|-------------|---------------|--------------|---|
| | GPH | LPH | PSIG | BAR | | | | | | | | | | | | | | | | | |
| MP | 0.13 to 21 | 0.50 to | 20 to 300 | 1.3 to 21 | 1000:1 | S | S | S | | S | S | S | S | S | | | | | | | |
| E Plus | 0.13 to 25 | 0.50 to | 30 to 300 | 2.0 to 21 | 100:1 | O | | O | | | | | | | | | | | | | |
| HV | 0.50 to 10 | 1.9 to 37.9 | 80 to 100 | 5.6 to 17 | 100:1 | O | | | | | | | | | | | | | | | |
| E | 0.13 to 25 | 0.50 to | 20 to 300 | 1.3 to 21 | 100:1 | | | | | | | | | | | | | | | | |
| E-DC | 0.25 to 1.85 | 0.90 to 7.0 | 100 to 150 | 7 to 10 | 100:1 | | | | | | | | | | | | | | | | |
| D | 0.25 to 2 | 0.90 to 7.6 | 50 to 250 | 3.3 to 17 | 100:1 | | | S | | S | S | | | | | | | | | | S |
| A Plus | 0.25 to 2 | 0.90 to 7.6 | 50 to 250 | 3.3 to 17 | 100:1 | | | | O | | | | | | | | | | | | |
| C Plus | 0.25 to 1.25 | 0.90 to 4.7 | 80 | 5.6 | 100:1 | | | | O | | | | | | | | | | | | |
| C | 0.25 to 1.25 | 0.90 to 4.7 | 80 | 5.6 | 10:1 | | | | O | | | | | | | | | | | | |
| CW | 0.25 to 1.25 | 0.90 to 4.7 | 100 to 150 | 7 to 10 | 100:1 | | | S | | S | S | | | | | S | S | S | S | S | S |
| CL | 0.25 to 1.25 | 0.90 to 4.7 | 100 to 150 | 7 to 10 | 100:1 | | | | | S | S | | | | | | S | S | S | S | S |
| WT | 0.25 to 1.25 | 0.90 to 4.7 | 100 to 150 | 7 to 10 | 100:1 | | | S | | S | S | | | | | S | | S | | | S |
| ET | 0.21 to 2 | 0.80 to | 20 to 250 | 1.3 to 17 | 100:1 | | | S | | | | | | S | | | | | | | |
| T7 | 0.50 to 2 | 1.9 to 7.6 | 100 | 7 | 10:1 | | | | | | | | | | S | | | | | | |

S = Standard Features

O = Optional Features

PULSAtron® *Model Selection Guide*

Once you have selected the appropriate Series, you must configure the model so that it is built with the features you desire. The Configuration Guide associated with each Series will present the most popular selections. Select one code from each category to build up a complete model string.

To help you better understand the model string, in the following pages, we will explain what each of the digits represent and provide you some additional charts to help you select options not found in the Configuration Guides.

Model Selection:

The first four digits represent the Series and Flow/Pressure Selection.

LB02

The first digit will always start with the letter 'L'.

LB02

All PULSAtron models begin with this letter. The second letter designates the Series (e.g. Series MP, Series E+, Series A+, etc.). Each series has a different set of features that are available in terms of control and flow/pressure capacity. The next two digits represent the flow/pressure capacity of the pump.

Digits 3 & 4 represent the Flow/Pressure Code.

This code represents the specific flow/pressure rating for the model and can be found in the specification for each Series.

| Series Code Designator | |
|------------------------|---|
| Series MP | M |
| Series E Plus | P |
| Series HV | V |
| Series E | E |
| Series E-DC | S |
| Series D | F |
| Series A Plus | B |
| Series C Plus | D |
| Series C & T7 | C |
| Series CW | W |
| Series CL | L |
| Series WT | Q |
| Series ET | T |

LB02SA

Digits 5 & 6 represent the Controls and Electrical selections.

These selections are explained for each model in the Configuration Guide.

PULSAtron® Selection Guide cont'd.

Selecting the Wet-End Code & Connection Type:

Digits 7-10 in the string represent the wet-end code. It is the group of four digits set apart by the dash lines.

LB02SA-PTC1



These four digits represent your wet-end code and connection type.

The four digits in the wet-end code represent the Head Material, Seats & O-Rings, Ball Material and Connection type. Using the above example, the code breaks down as follows:

- P** - Head Material, including fittings. In this example, the P represents GFPP.
- T** - Seat & O-Ring Material. In this example, the T represents TFE.
- C** - Types of Balls used in the valves. In this example, the C represents Ceramic.
- 1** - Connection type. In this example, the 1 represents tubing connections for 3/8" OD tubing.

In the configuration Guide, we have listed the most popular Wet-End codes. If you don't find the materials or connection selection to meet your needs, refer to the following selection guides to configure the proper Wet-End Code.

Selecting the Wet-End Code:

The wet-end code represents the materials of construction that will be in contact with the chemical you are pumping. It is critical that the materials selected are compatible. If you do not find the wet-end code to meet your application in the configuration guides, you can use the Wet-End Code Selection Guide to determine the correct Head Material, Seats & O-Rings and Balls. If you do not know what materials are compatible with the chemicals you are pumping, refer to the chemical compatibility chart below. We have identified the proper wet-end code for the chemicals in the list. If your chemical is not found in the list, please contact your chemical supplier or visit www.pulsatron.com for a complete listing.

PULSAtron Wet-End Code Selection

Head & Fittings

- A** = 316 Stainless Steel (All models except H8)
- K** = PVDF (Kynar) (Consult factory for J7, H8 models)
- P** = GFPP (Polypropylene)
- V** = PVC (Poly Vinyl Chloride) (for models rated < 150 psi excluding K7, H7, H8)
- W** = PVC (for models > 150 psi and K7, H7, H8)

Seats

- H** = CSPE
- T** = TFE (not available with TFE ball over 150 psi)
- V** = Viton (150 psi max.)

Balls

- C** = Ceramic
- H** = Alloy C (Hastelloy)
- S** = 316 Stainless Steel
- T** = TFE (not available with TFE seat over 150 psi)

Chemical Compatibility Chart

| Chemical | Liquid End Code |
|------------------------------|-----------------|
| ACETIC ACID, 5 - 10% | PHC |
| ALUMINUM SULFATE | VHC |
| AMMONIA, 10% | PHC |
| BROMINE | KTC |
| CALCIUM HYPOCHLORITE | VVC |
| CITRIC ACID, 10 - 20% | PHC |
| DEAE - Steamline Treatment | ATS |
| ETHYLENE GLYCOL | PTC |
| FERRIC CHLORIDE | VTC |
| FERRIC SULFATE | PTC |
| FLUOSILICIC ACID | PTT |
| HYDROCHLORIC ACID, 0 - 37% | PTC |
| HYDROCHLORIC ACID, 37 - 100% | KTT |
| HYDROFLUOSILICIC ACID, 20% | PTT |
| HYDROGEN PEROXIDE, 0 - 30% | VVC |
| LACTIC ACID | PTC |
| NITRIC ACID, 0 - 20% | PVC |
| PHOSPHORIC ACID, 0 - 100% | KTC |
| POTASSIUM CHLORIDE | PTC |
| POTASSIUM PERMANGANATE | PTC |
| SODIUM BI-CARBONATE | PTC |
| SODIUM BI-SULFATE | PTC |
| SODIUM BI-SULFITE | PTC |
| SODIUM CARBONATE | PTC |
| SODIUM HYDROXIDE, 0 - 50% | PHC |
| SODIUM HYPOCHLORITE | VVC |
| SODIUM NITRATE | PTC |
| SODIUM SILICATE | PHC |
| SODIUM SULFATE | PHC |
| SODIUM SULFIDE | PHC |
| SULFURIC ACID, 0 - 10% | PTC |
| SULFURIC ACID, 10 - 75% | PTC |
| SULFURIC ACID, 95 - 100% | KTC |

CSPE is generic formulation of Hypalon, a registered trademark of E.I. DuPont Co.
Viton is a registered trademark of E.I. DuPont Company.

This is an abbreviated version using most common chemicals. Refer to the Chemical Resistance Guide (EMP-030) for a more detailed listing.

Selecting the Connection Code:

Selecting the proper connection code is probably the most difficult part of choosing a PULSAtron pump. Because of the flexibility built into this product line to meet a large variety of applications, the connection codes are determined by a lot more factors than just the size of the tubing. Connection code is probably the wrong name for this selection because you are selecting more than just the tubing size. This code also determines the type of valves used in the pump. The valve type is determined by factors such as flow rate of the pump, ball type selected and viscosity of the fluid you will be pumping.

Flow Rate:

The pump you select is rated to pump a certain number of gallons per hour (GPH). When selecting the connection code, please note the GPH limitations and select a connection that fits within the parameters of the pump model that you selected.

Ball Type:

If the material selected for the balls used in the check valves is TFE, you will probably need to use a spring-loaded connection. This is due to the fact that the weight of the balls will not allow them to seat properly without the spring. See the connection chart for a list of spring loaded connection types.

Viscosity:

Viscosity of the fluid you are pumping impacts the connection. The higher viscosity fluids (>3000 cps) require larger connection types and spring-loaded valves. Medium viscosity fluids (1000 to 3000 cps) can be pumped without the spring-loaded valves but you must use SS balls with these connections in order for the balls to seat properly in the valve.

| Connection Codes | | | | | | | |
|------------------|--------------|-------------|-------------|--------|-----------------------------|----------------------------------|---------------------------|
| Code | Connect Type | Suction | Discharge | Spring | GPH Flow Limitations | Viscosity | Other Factors |
| 2 | Piping | .25" FNPT | .25" FNPT | | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| 4 | Piping | .25" FNPT | .25" FNPT | | 1.63 - 10 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| 6 | Piping | .25" FNPT | .25" FNPT | Yes | Up to 10 | less than 10,000 cps | No Bleed Valve |
| 8 | Piping | .50" FNPT | .50" FNPT | Yes | Up to 25 | less than 10,000 cps | No Bleed Valve |
| C | Piping | .50" FNPT | .50" FNPT | | 25 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| G | Piping | .25" FNPT | .25" FNPT | Yes | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| I | Piping | .50" MNPT | .50" MNPT | Yes | Up to 10 | less than 10,000 cps | No Bleed Valve |
| L | Piping | .50" MNPT | .50" MNPT | | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| X | Piping | .50" MNPT | .50" MNPT | | 1.63 - 10 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| 1 | Tubing | .25" x .38" | .25" x .38" | | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | |
| 3 | Tubing | .38" x .50" | .38" x .50" | | 1.63 - 10 | 1000 up to 3000 cps w / SS balls | |
| 5 | Tubing | .50" x .75" | .38" x .50" | Yes | Up to 10 | less than 10,000 cps | |
| 7 | Tubing | .50" x .75" | .50" FNPT | Yes | Up to 25 | less than 10,000 cps | No Bleed Valve |
| 9 | Tubing | .25" x .38" | .25" x .38" | Yes | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | Degas Head/No Bleed Valve |
| A | Tubing | .38" x .50" | .38" x .50" | | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | |
| B | Tubing | .50" x .75" | .50" x .75" | | 25 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| D | Tubing | .25" x .38" | .25" x .38" | Yes | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | |
| E | Tubing | .38" x .50" | .38" x .50" | Yes | 0 - 1.88 | 1000 up to 3000 cps w / SS balls | |
| F | Tubing | .38" x .50" | .38" x .50" | Yes | 1.63 - 10 | 1000 up to 3000 cps w / SS balls | Not Available In PVDF |
| H | Tubing | .25" x .38" | .25" x .38" | | 1.63 - 10 | 1000 up to 3000 cps w / SS balls | |
| J | Tubing | .25" x .38" | .25" x .38" | | 0 - 1.04 | 1000 up to 3000 cps w / SS balls | |
| K | Tubing | .50" x .75" | .50" x .75" | Yes | 1.88 - 25 (<50 psi) | less than 10,000 cps | No Bleed Valve |
| | | | | | LPH Flow Limitations | | |
| M | Piping | G 1/2 A | G 1/2 A | | 6.15 - 37.85 | 1000 up to 3000 cps w / SS balls | |
| R | Piping | G 1/2 A | G 1/2 A | | 0 - 7.10 | 1000 up to 3000 cps w / SS balls | |
| N | Tubing | 4 x 10 mm | 4 x 10 mm | | 0 - 7.10 | 1000 up to 3000 cps w / SS balls | |
| P | Tubing | 4 x 6 mm | 4 x 6 mm | | 0 - 3.94 | 1000 up to 3000 cps w / SS balls | |
| Q | Tubing | 10 x 14 mm | 10 x 14 mm | | 6.15 - 37.85 | 1000 up to 3000 cps w / SS balls | |
| S | Tubing | 6 x 10 mm | 6 x 10 mm | | > 18.93 | 1000 up to 3000 cps w / SS balls | |
| T | Tubing | 6 x 10 mm | 6 x 10 mm | | 0 - 7.10 | 1000 up to 3000 cps w / SS balls | Degas Head/No Bleed Valve |
| U | Tubing | 6 x 10 mm | 6 x 10 mm | | 0 - 7.10 | 1000 up to 3000 cps w / SS balls | |
| V | Tubing | 12 x 19 mm | 12 x 19 mm | | > 29.96 | 1000 up to 3000 cps w / SS balls | No Bleed Valve |
| W | Tubing | 10 x 16 mm | 10 x 16 mm | | 6.15 - 37.85 | 1000 up to 3000 cps w / SS balls | |
| Y | Tubing | 6 x 12 mm | 6 x 12 mm | | 0 - 7.10 | 1000 up to 3000 cps w / SS balls | |

- Pumps ranging from 0.25 gph (0.9 lph) to 0.90 gph (3.4 lph) with the stainless steel ball option ("S" in the 9th digit of the model number) must select a connection code with a spring.
- Pumps less than or equal to .25 gph (0.9 lph) require a connection code with a spring and must use a ceramic ball in place of stainless steel.
- Stainless steel head assemblies are only available in piping connections.

Sensor/Flow Options (Models D, CL, CW & WT Only):

The Series D, CL, CW and WT have optional features that are covered by two additional digits in the Model Selection.

Series D:

LF02SA-PTC1-1A



Flow Switch Option
Electronic Connection Option

These selections are explained for each model in the Configuration Guide.

Series CL, CW & WT:

LW02SA-PTC1-2A



Flow Switch/Assembly Option
Sensor Option

These selections are explained for each model in the Configuration Guide.

Suffix Code:

LW02SA-PTC1-XXX

← Suffix Code

The last three digits of the model string are referred to as the Suffix Code. It is through the suffix code that the pump can be customized with optional features or customer specific features, e.g. private labeling. If your company has specific features that will be ordered on every pump, contact customer service with a description of what you want customized. We will then assign a unique suffix code that can be used as the last three digits in the model string when you place an order.

CZXXX = CE Approval

This suffix code tells us that you require CE Approval on the pump you are ordering. This suffix code is five digits and can be used in conjunction with other suffix codes by replacing the XXX after the CZ with another suffix code. For instance, if you require CE Approval and a Five Function Valve (shown below), the suffix code would be CZ500.

Standard Suffix Code Descriptions:

On the following pages are additional features that can be added to your PULSAtron pump through the use of the Suffix Code. Anytime you order a pump with one of these codes, it will be configured with that option.

130 = PVDF Tubing

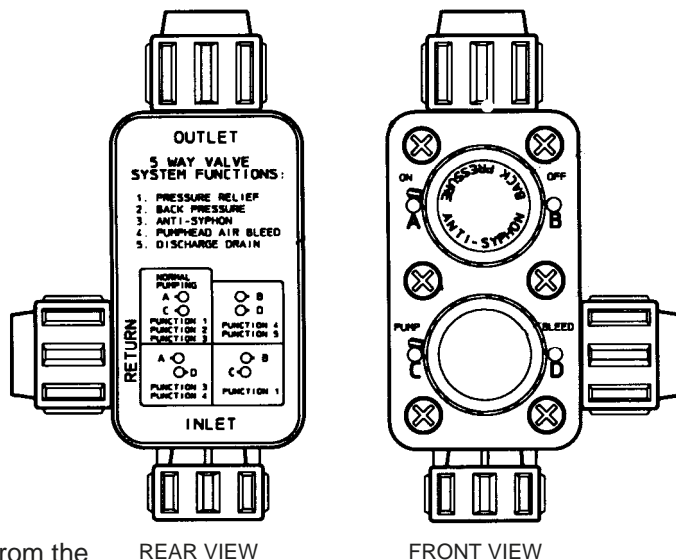
This suffix code will replace the standard pump tubing with PVDF Tubing.

500 = Five Function Valve

The five function valve is easily installed, no tools required. The valve operates with all PULSAtron models up to 240 GPD. The five function valve is packed with features that increase safety, enhance performance and generally improves the convenience of operation.

FEATURES

- Pressure Relief – Allows for relief of excessive pressure in discharge line to protect connections and tubing.
- Back Pressure – Maintains output reproducibility and allows metering into atmospheric discharge.
- Anti-Siphon – Prevents siphoning through the pump when point of injection is lower than the pump or into the suction line of another pump. Rated at total vacuum.
- Air Bleed – Used during priming to manually remove air from the pump head.
- Discharge Drain – Depressurize pump discharge line without loosening tubing or fittings. Protects the operator from chemical exposure.



SPECIFICATIONS

Material Of Construction:

| | |
|-------------------|---------------------------------|
| Valve Body | Polyvinylidene Flouride (PVDF) |
| Diaphragm | TFE faced CSPE |
| O-Rings | TFE |
| Hardware | 18-8 Stainless Steel (Recessed) |

Maximum Operating

Pressure: 300 PSI/21 BAR (except PVC)

Maximum Flow: 10 GPH (37.85 LPH)

Maximum Viscosity: 1000 CPS

Pressure Relief

Settings:
 (nominal cracking pressure)
 275 PSI (17 BAR) - red
 175 PSI (12 BAR) - green
 125 PSI (8.6 BAR) - blue
 50 PSI (2.8 BAR) - black (PVC only)

Note: Pressure relief will occur at no more than 50% above maximum rating of pump.

OPERATION

The functions are selected by setting two dual position selector knobs. The label on the back panel of the valve identifies each function with selector knob positions.

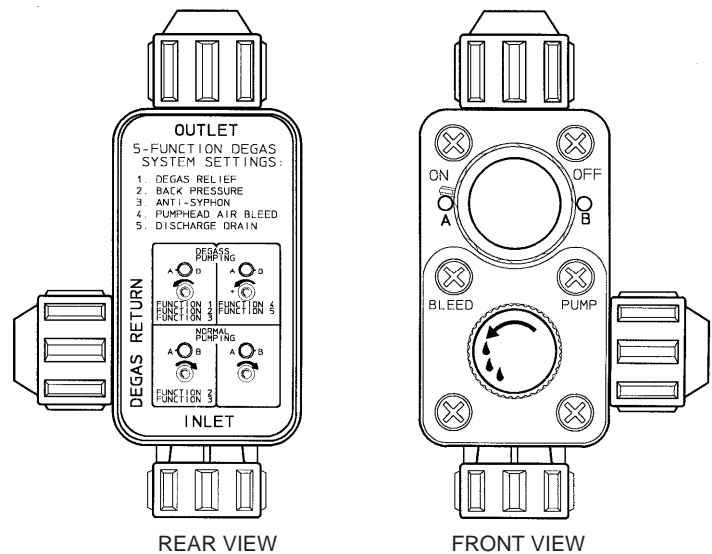
The five function valve is compatible with most PULSAtron pumps. Connected to the existing discharge valve the five function valve is capable of handling a large output flow as well as viscous liquids. A return port located on the side body provides flow of chemical back to the solution tank when in the air bleed or drain discharge mode.

520 = DG/5FV Five Function Valve with De-Gas

With the DG/5FV you don't have to give up the accuracy and control of a solenoid metering pump in order to pump gaseous solutions. Available in a variety of materials and popular sizes, the DG/5FV is ready to tackle most applications. Not only does the DG/5FV provide degassing, it is packed with features that increase safety, enhance performance and generally improves the convenience of operation.

FEATURES

- De-Gas – Bypass gasses and fluid during normal pump operation. Allows for the constant removal of gases that would otherwise “air bind” the pump.
- Back Pressure – Maintains output reproducibility and allows metering into atmospheric discharge.
- Anti-Siphon – Prevents siphoning through the pump when point of injection is lower than the pump or into the suction line of another pump. Rated at total vacuum.
- Air Bleed – Used during priming to manually remove air from the pump head.
- Discharge Drain – Depressurize pump discharge line without loosening tubing or fittings. Protects the operator from chemical exposure.



SPECIFICATIONS

Material Of Construction:

| | |
|-------------------|---------------------------------|
| Valve Body | Polyvinylidene Flouride (PVDF) |
| Diaphragm | TFE faced CSPE |
| O-Rings | Viton or CSPE |
| Hardware | 18-8 Stainless Steel (Recessed) |

Maximum Flow: 10 GPH (37.85 LPH)

Minimum Flow: 3 GPD (.47LPH)

Maximum Viscosity: 1000 CPS

MAX Pressure Ratings: Up to 250 psi (17 BAR)

Note: Degas/bypass volume is adjustable, typically 1-10% of pump output.

Connections: ¼" (0.635 cm) Male NPT
 ½" (1.27 cm) OD tubing
 3/8" (0.95 cm) OD tubing

All ports (input, output & bypass) on the selected valve will be the same.

OPERATION

The functions are selected by setting two dual position selector knobs. The label on the back panel of the DG/5FV identifies each function with selector knob positions.

The DG/5FV is compatible with most PULSAtron pumps. Connected to the existing discharge valve the GG/5FV is capable of handling a large output flow as well as viscous liquids. A return port located on the side body provides flow of chemical back to the solution tank when in the degas, air bleed or drain discharge mode.

ITS = Integrated Tank System

The ITS System is a completely integrated tank system constructed of high density UV resistant polyethylene (PE) with a 15 gallon capacity. This tank system is translucent with 5 gallon increments and the tank's low level indicator allows visual monitoring of chemicals without opening the tank. The tight fitting child-proof lid keeps the chemical free of contaminants and protects the surrounding area from chemical fumes.

The ITS System also allows for easy access to the liquid end and control panel of the mounted pump.

A system consists of a chemical tank with lid and bulkhead fittings; a liquid level indicator float assembly; and feeder mounting hardware.



ITS Tank not available on LM, LP, LT, and LE: H4, H5, H6, H7, J7, H8, K7 models) If you require a different type or size tank, please refer to our accessory price book.

Series MP

Key Features

- Automatic Control, Fully scalable 4-20mA current signal that can also be calibrated to precisely match the current signal reading of the sending device.
- Manual Control allows for a combined 1000:1 turndown resulting in accurate metering for critical applications.
- Flow Verification option is available on select sizes.
- Relay Output for computer interface or AC power allows for external control.
- Six-button Touch Pad Control with internationally recognized symbols for simplified programming.
- Simple Prompts in plain language allow for easy-to-understand instructions for programming. Available in three languages.
- Alarm Signals for signal loss, full count, circuit failure, pulse overflow and pulse rate high. Liquid low level indicator capability is standard.
- Timed Sequences can be set for selected intervals and rate for repetitive metering.
- Pulse Signals can be multiplied or divided by 1 to 999 allowing for pumps to handle peak requirements.
- LCD, 3 line backlit multi-lingual display allows for easy reading and user-friendly programming.
- Calibrated Flow Rate display with total volume pumped last day, month and since last reset.



Pressure and Flow Rate Capacity

| MODEL | LMK2 | LMB2 | LMA2 | LMD3 | LMB3 | LMA3 | LMK3 | LMF4 | LMD4 | LMB4 | LMH4 | LMG4 | LME4 | LMK5 | LMH5 | LMH6 | LMK7 | LMH7 | LMH8 | |
|-------------------------|--------|--|------|------|------|------|------|------|------|------|------|------|--|------|------|------|------|------|-------|-------|
| Capacity nominal (max.) | GPH | 0.13 | 0.21 | 0.25 | 0.50 | 0.50 | 0.50 | 0.60 | 0.85 | 0.90 | 1.00 | 1.70 | 1.75 | 1.85 | 2.50 | 3.15 | 5.00 | 8.00 | 10.00 | 21.00 |
| | GPD | 3 | 5 | 6 | 12 | 12 | 12 | 14 | 20 | 22 | 24 | 41 | 42 | 44 | 60 | 76 | 120 | 192 | 240 | 504 |
| | LPH | 0.5 | 0.8 | 0.9 | 1.9 | 1.9 | 1.9 | 2.3 | 3.2 | 3.4 | 3.8 | 6.4 | 6.6 | 7.0 | 9.5 | 11.9 | 18.9 | 30.3 | 37.9 | 79.5 |
| Pressure (max.) | PSIG | 300 | 250 | 150 | 250 | 150 | 100 | 100 | 250 | 150 | 100 | 250 | 150 | 100 | 150 | 150 | 100 | 50 | 35 | 20 |
| | BAR | 21 | 17 | 10 | 17 | 10 | 7 | 7 | 17 | 10 | 7 | 17 | 10 | 7 | 10 | 10 | 7 | 3.3 | 2.4 | 1.3 |
| Connections | Tubing | 1/4" ID X 3/8" OD 3/8" ID X 1/2" OD | | | | | | | | | | | 3/8" ID X 1/2" OD 1/2" ID X 3/4" OD (LPH8 ONLY) FLOW VERIFICATION (See Note) | | | | | | | |
| | Piping | 1/4" FNPT | | | | | | | | | | | 1/4" FNPT 1/2" FNPT | | | | | | | |

Note: Flow Verification: Available on K3, B4 and E4 with connection code 1; H6, K7 and H7 with connection code H; 1/4" ID x 3/8" OD only.

Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 2% at maximum capacity |
| Viscosity Max CPS: | |
| For viscosity up to 3000 CPS, select connection size 3, 4, B or C with 316SS ball material. Flow rate will determine connection/ball size. Greater than 3000 CPS require spring loaded ball checks. See Selection Guide for proper connection. | |
| Controls: | 6-Station Membrane Switch |
| Status Display: | 16-Position LCD Dot Matrix Backlight |
| LED Indicator Lights, Panel Mount: | Power On - Green Pulsing - Green Flashing Stop - Red |
| Stroke Frequency Max SPM: | 125 |
| External Stroke Frequency Control (Automatic): | 4-20 mADC, 20-4 mADC External Pacing |
| Output Relay (Signal Level Option): | 24 VDC, 10 mA |
| Output Relay (Power Option): | 250 VAC, 50/60 HZ, 0.5A |
| Stroke Frequency Turn-Down Ratio: | 100:1 |
| Stroke Length Turn-Down Ratio: | 10:1 |

Engineering Data

| | |
|--------------------------------|--|
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115 VAC; Amps: | 1.0 Amps |
| @ 230 VAC; Amps: | 0.5 Amps |
| Peak Input Power: | 300 Watts |
| Average Input Power @ Max SPM: | 130 Watts |

PULSAtron Series MP Selection Guide

| MODELS: | | |
|---------|---------------------------------|-----------------------------|
| K2 | = 0.13 gph / 3 gpd (0.5 lph) | max pres.: 300 PSI (21 BAR) |
| B2 | = 0.21 gph / 5 gpd (0.8 lph) | max pres.: 250 PSI (17 BAR) |
| D3 | = 0.50 gph / 12 gpd (1.9 lph) | max pres.: 250 PSI (17 BAR) |
| F4 | = 0.85 gph / 20 gpd (3.2 lph) | max pres.: 250 PSI (17 BAR) |
| H4 | = 1.70 gph / 41 gpd (6.4 lph) | max pres.: 250 PSI (17 BAR) |
| A2 | = 0.25 gph / 6 gpd (0.9 lph) | max pres.: 150 PSI (10 BAR) |
| B3 | = 0.50 gph / 12 gpd (1.9 lph) | max pres.: 150 PSI (10 BAR) |
| D4 | = 0.90 gph / 22 gpd (3.4 lph) | max pres.: 150 PSI (10 BAR) |
| G4 | = 1.75 gph / 42 gpd (6.6 lph) | max pres.: 150 PSI (10 BAR) |
| K5 | = 2.50 gph / 60 gpd (9.5 lph) | max pres.: 150 PSI (10 BAR) |
| H5 | = 3.15 gph / 76 gpd (11.9 lph) | max pres.: 150 PSI (10 BAR) |
| A3 | = 0.50 gph / 12 gpd (1.9 lph) | max pres.: 100 PSI (7 BAR) |
| K3 | = 0.60 gph / 14 gpd (2.3 lph) | max pres.: 100 PSI (7 BAR) |
| B4 | = 1.00 gph / 24 gpd (3.8 lph) | max pres.: 100 PSI (7 BAR) |
| E4 | = 1.85 gph / 44 gpd (7.0 lph) | max pres.: 100 PSI (7 BAR) |
| H6 | = 5.00 gph / 120 gpd (18.9 lph) | max pres.: 100 PSI (7 BAR) |
| K7 | = 8.00 gph / 192 gpd (30.3 lph) | max pres.: 50 PSI (3.3 BAR) |
| H7 | = 10.0 gph / 240 gpd (37.9 lph) | max pres.: 35 PSI (2.4 BAR) |
| H8 | = 21.0 gph / 504 gpd (79.5 lph) | max pres.: 20 PSI (1.3 BAR) |

| CONTROLS: | | |
|-----------|-----------------------------|--|
| T | = Signal Level Output Relay | |
| K | = Power Level Output Relay | |

| ELECTRICAL: | | |
|-------------|--|--|
| A | = 115 Volt / 50-60Hz | |
| 1 | = 115 Volt / 50-60Hz (w ithout agency approvals) | |
| B | = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug | |
| 2 | = 230 Volt / 50-60Hz (w ithout agency approvals) | |

| LIQUID END MATERIALS: | | |
|-----------------------|---|--|
| PTC | = GFPPL / TFE / Ceramic | |
| KTC | = PVDF / TFE / Ceramic (Consult factory for H8) | |
| VHC | = PVC / CSPE / Ceramic (not available on H7, H8, K7) | |
| VTC | = PVC / TFE / Ceramic (models <= 150 psi excluding H7, H8, K7) | |
| WTC | = PVC / TFE / Ceramic (models > 150 psi and H7, H8, K7) | |
| VVC | = PVC / Viton / Ceramic (not available on H8) | |
| ATS | = 316 S.S. / TFE / 316 S.S. (must use FNPT piping connection) (not available on H8) | |

See page 6 for additional liquid end materials.

| CONNECTION SIZES: | | |
|-------------------|---|--|
| 1 | = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH | |
| 3 | = Tubing .38" I.D. x .50" O.D. / .38" Ball, 1.63 - 10 GPH | |
| 9 | = Degas Head: .25" I.D. x .38" O.D. / 0-1.83 GPH | |
| J | = Tubing, .25" I.D. x .38" O.D. / .19 Ball; 0 - 1.04 GPH | |
| METRIC: | | |
| M | = G 1/2 A Threads, .38" Ball, 6.15 - 37.85 LPH | |
| R | = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH | |
| Y | = 6 x 12mm, .25" Ball, 0 - 7.10 LPH | |

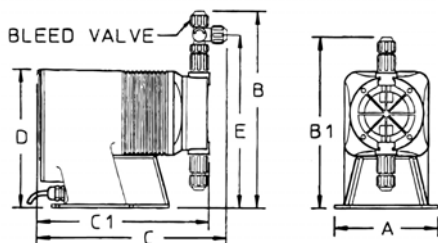
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

| SUFFIX CODES: | | |
|---------------|---|--|
| XXX | = No Additional Options | |
| 130 | = PVDF Tubing | |
| 500 | = Five Function Valve | |
| 520 | = Five Function Degas Valve | |
| FVE | = Flow Verification / EPDM (not available on pumps greater than 100 psi) | |
| FVV | = Flow Verification / Viton (not available on pumps greater than 100 psi) | |
| ITS | = 15 gal. ITS Tank System (ITS Tank not available on LM, LP, LT, and LE: H4, H5, H6, H7, H8, J7, K7 models) | |
| CZXXX | = CE Approval (5 digits used for this suffix code) | |

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LMB3TA-PTC1-XXX'

Dimensions



Series MP Dimensions (inches)

| Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt | Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt |
|-----------|-----|------|----|------|----|-----|-----|---------|-----------|-----|------|------|------|------|-----|------|---------|
| LMA2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 | LMH4 | 6.2 | 10.9 | - | 11.2 | - | 8.2 | 9.5 | 21 |
| LMA3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 | LMH5 | 6.2 | 11.3 | - | 11.2 | - | 8.2 | 9.9 | 21 |
| LMB2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 | LMH6 | 6.2 | 11.3 | - | 11.2 | - | 8.2 | 9.9 | 21 |
| LMB3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 | LMH7 | 6.1 | 11.7 | - | 11.2 | - | 8.2 | 10.3 | 21 |
| LMB4 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 | LMH8* | 6.1 | - | 10.9 | - | 10.6 | 8.2 | - | 25 |
| LMD3 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 | LMK2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 |
| LMD4 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 | LMK3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 |
| LME4 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 | LMK5 | 5.4 | 10.9 | - | 11.7 | - | 7.5 | 9.5 | 18 |
| LMF4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 18 | LMK7 | 6.1 | 11.7 | - | 11.2 | - | 8.2 | 10.3 | 21 |
| LMG4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 18 | | | | | | | | | |

NOTE: Inches X 2.54 = cm / * the LMH8 is designed without a bleed valve available

PULSAtron®

Electronic Metering Pumps

Series E PLUS

Key Features

- **Automatic Control**, available with 4-20 mA DC direct or external pacing, with stop function.
- **Manual Control** by on-line adjustable stroke rate and stroke length.
- **Auto-Off-Manual** switch.
- **Highly Reliable** timing circuit.
- **Circuit Protection** against voltage and current upsets.
- **Panel Mounted Fuse.**
- **Solenoid Protection** by thermal overload with auto reset.
- **Water Resistant**, for outdoor and indoor applications.
- **Indicator Lights**, panel mounted.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Safe & Easy Priming** with durable leak-free bleed valve assembly (standard).



Pressure and Flow Rate Capacity

| MODEL | LPK2 | LPB2 | LPA2 | LPD3 | LPB3 | LPA3 | LPK3 | LPF4 | LPD4 | LPB4 | LPH4 | LPG4 | LPE4 | LPK5 | LPH5 | LPH6 | LPK7 | LPH7 | LPJ7 | LPH8 | |
|-------------------------|--------|--|------|------|------|------|------|------|------|------|------|------|--|------|------|------|------|------|-------|-------|-------|
| Capacity nominal (max.) | GPH | 0.13 | 0.21 | 0.25 | 0.5 | 0.50 | 0.50 | 0.60 | 0.85 | 0.90 | 1.00 | 1.70 | 1.75 | 1.85 | 2.50 | 3.15 | 5.00 | 8.00 | 10.00 | 10.00 | 25.00 |
| | GPD | 3 | 5 | 6 | 12 | 12 | 12 | 14 | 20 | 22 | 24 | 41 | 42 | 44 | 60 | 76 | 120 | 192 | 240 | 240 | 600 |
| Pressure (max.) | PSIG | 300 | 250 | 150 | 250 | 150 | 100 | 100 | 250 | 150 | 100 | 250 | 150 | 100 | 150 | 150 | 100 | 50 | 35 | 80 | 30 |
| | BAR | 21 | 17 | 10 | 17 | 10 | 7 | 7 | 17 | 10 | 7 | 17 | 10 | 7 | 10 | 10 | 7 | 3.3 | 2.4 | 5.5 | 2 |
| Connections | Tubing | 1/4" ID X 3/8" OD 3/8" ID X 1/2" OD | | | | | | | | | | | 3/8" ID X 1/2" OD 1/2" ID X 3/4" OD (LPH8 ONLY) | | | | | | | | |
| | Piping | 1/4" FNPT | | | | | | | | | | | 1/4" FNPT 1/2" FNPT | | | | | | | | |

Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 2% at maximum capacity |
| Viscosity Max CPS : | |
| For viscosity up to 3000 CPS, select connection size 3, 4, B or C with 316SS ball material. | |
| Flow rate will determine connection/ball size. Greater than 3000 CPS require spring loaded ball checks. See Selection Guide for proper connection. | |
| Stroke Frequency Max SPM: | 125 |
| Stroke Frequency Turn-Down Ratio: | 10:1 |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115 VAC; Amps: | 1.0 Amps |
| @ 230 VAC; Amps: | 0.5 Amps |
| Peak Input Power: | 300 Watts |
| Average Input Power @ Max SPM: | 130 Watts |

PULSAtron Series E Plus Selection Guide

| | |
|----------------|---|
| MODELS: | K2 = 0.13 gph / 3 gpd (0.5 lph) max pres.: 300 PSI (21 BAR) |
| | B2 = 0.21 gph / 5 gpd (0.8 lph) max pres.: 250 PSI (17 BAR) |
| | D3 = 0.50 gph / 12 gpd (1.9 lph) max pres.: 250 PSI (17 BAR) |
| | F4 = 0.85 gph / 20 gpd (3.2 lph) max pres.: 250 PSI (17 BAR) |
| | H4 = 1.70 gph / 41 gpd (6.4 lph) max pres.: 250 PSI (17 BAR) |
| | A2 = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) |
| | B3 = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) |
| | D4 = 0.90 gph / 22 gpd (3.4 lph) max pres.: 150 PSI (10 BAR) |
| | G4 = 1.75 gph / 42 gpd (6.6 lph) max pres.: 150 PSI (10 BAR) |
| | K5 = 2.50 gph / 60 gpd (9.5 lph) max pres.: 150 PSI (10 BAR) |
| | H5 = 3.15 gph / 76 gpd (11.9 lph) max pres.: 150 PSI (10 BAR) |
| | A3 = 0.50 gph / 12 gpd (1.9 lph) max pres.: 100 PSI (7 BAR) |
| | K3 = 0.60 gph / 14 gpd (2.3 lph) max pres.: 100 PSI (7 BAR) |
| | B4 = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) |
| | E4 = 1.85 gph / 44 gpd (7.0 lph) max pres.: 100 PSI (7 BAR) |
| | H6 = 5.00 gph / 120 gpd (18.9 lph) max pres.: 100 PSI (7 BAR) |
| | K7 = 8.00 gph / 192 gpd (30.3 lph) max pres.: 50 PSI (3.3 BAR) |
| | H7 = 10.0 gph / 240 gpd (37.9 lph) max pres.: 35 PSI (2.4 BAR) |
| | J7 = 10.0 gph / 240 gpd (37.9 lph) max pres.: 80 PSI (5.5 BAR) |
| | H8 = 25.0 gph / 600 gpd (94.6 lph) max pres.: 30 PSI (2 BAR) |

| | |
|------------------|--|
| CONTROLS: | S = Manual On/Off |
| | M = 4-20mADC Direct, w/ Stop |
| | E = External/Remote Pacing, w/ Stop |

| | |
|--------------------|---|
| ELECTRICAL: | A = 115 Volt / 50-60Hz |
| | 1 = 115 Volt / 50-60Hz (w ithout agency approvals) |
| | B = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug |
| | 2 = 230 Volt / 50-60Hz (w ithout agency approvals) |

| | |
|------------------------------|--|
| LIQUID END MATERIALS: | PTC = GFPP / TFE / Ceramic |
| | PTT = GFPP / TFE / TFE |
| Pump Head & Fittings/Seats | KTC = PVDF / TFE / Ceramic (Consult factory for H8) |
| & O-rings/Balls | VHC = PVC / CSPE / Ceramic (not available on H7, H8, K7) |
| | VTC = PVC / TFE / Ceramic (models <= 150 psi excluding H7, H8, K7) |
| | WTC = PVC / TFE / Ceramic (models > 150 psi and H7, H8, K7) |
| | ATS = 316 S.S. / TFE / 316 S.S. (must use FNPT piping connection) (not available on H8) |

See page 6 for additional liquid end materials.

| | |
|--------------------------|--|
| CONNECTION SIZES: | 1 = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH |
| | 3 = Tubing .38" I.D. x .50" O.D. / .38" Ball, 1.63 - 10 GPH |
| | 4 = Piping .25" FNPT / .38" Ball, 1.63 - 10 GPH |
| | B = Tubing .50" I.D. x .75" O.D. / .50" Ball, 25 GPH only |
| METRIC: | M = G 1/2 A Threads, .38" Ball, 6.15 - 37.85 LPH |
| | R = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH |
| | Y = 6 x 12mm, .25" Ball, 0 - 7.10 LPH |

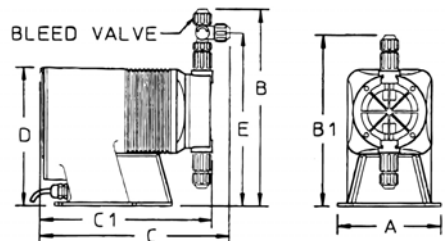
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

| | |
|----------------------|--|
| SUFFIX CODES: | XXX = No Additional Options |
| | 130 = PVDF Tubing |
| | 500 = Five Function Valve |
| | 520 = Five Function Degas Valve |
| | ITS = 15 gal. ITS Tank System (ITS Tank not available on LM, LP, LT, and LE: H4, H5, H6, H7, H8, J7, K7 models) |
| | CZXXX = CE Approval (5 digits used for this suffix code) |

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LPB3SA-PTC1-XXX'

Dimensions



Series E Plus Dimensions (inches)

| Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt | Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt |
|-----------|---|----|----|----|----|---|---|---------|-----------|---|----|----|----|----|---|-----|---------|
| LPA2 | 5 | 10 | - | 11 | - | 8 | 9 | 13 | LPH4 | 6 | 11 | - | 11 | - | 8 | 9.5 | 21 |
| LPA3 | 5 | 11 | - | 11 | - | 8 | 9 | 13 | LPH5 | 6 | 11 | - | 11 | - | 8 | 9.9 | 21 |
| LPB2 | 5 | 10 | - | 11 | - | 8 | 9 | 13 | LPH6 | 6 | 11 | - | 12 | - | 8 | 9.9 | 21 |
| LPB3 | 5 | 11 | - | 11 | - | 8 | 9 | 13 | LPH7 | 6 | 12 | - | 12 | - | 8 | 10 | 21 |
| LPB4 | 5 | 11 | - | 11 | - | 8 | 9 | 13 | LPH8* | 6 | - | 11 | - | 11 | 8 | - | 26 |
| LPD3 | 5 | 11 | - | 11 | - | 8 | 9 | 15 | LPK2 | 5 | 10 | - | 11 | - | 8 | 8.9 | 13 |
| LPD4 | 5 | 11 | - | 11 | - | 8 | 9 | 15 | LPK3 | 5 | 11 | - | 11 | - | 8 | 9.2 | 13 |
| LPE4 | 5 | 11 | - | 11 | - | 8 | 9 | 15 | LPK5 | 5 | 11 | - | 12 | - | 8 | 9.5 | 18 |
| LPF4 | 5 | 11 | - | 12 | - | 8 | 9 | 18 | LPK7 | 6 | 12 | - | 11 | - | 8 | 10 | 21 |
| LPG4 | 5 | 11 | - | 12 | - | 8 | 9 | 18 | LPJ7 | 6 | 10 | - | 11 | - | - | - | 21 |

NOTE: Inches X 2.54 = cm /* the LPH8 is designed w ithout a bleed valve avail

PULSAtron® *Electronic Metering Pumps*

Series HV

Key Features

- **Automatic Control**, available with 4-20 mA DC direct or external pacing, with stop function.
- **Manual Control** by on-line adjustable stroke rate and stroke length.
- **Agency approved** for demanding **OUTDOOR** and indoor applications.
- **Auto-Off-Manual** switch.
- **Highly Reliable** timing circuit.
- **Circuit Protection** against voltage and current upsets.
- **Panel Mounted Fuse.**
- **Solenoid Protection** by thermal overload with auto reset.
- **Water Resistant**, for outdoor and indoor applications.
- **Indicator Lights**, panel mounted.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Viscosities to 20,000 CPS.**



Pressure and Flow Rate Capacity

| MODEL | | LVB3 | LVF4 | LVG4 | LVG5 | LVH7 |
|-------------------------|--------|---|------|------|------|-------|
| Capacity nominal (max.) | GPH | 0.50 | 1.00 | 2.00 | 4.00 | 10.00 |
| | GPD | 12 | 24 | 48 | 96 | 240 |
| | LPH | 1.9 | 3.8 | 7.6 | 15.1 | 37.9 |
| Pressure (max.) | PSIG | 150 | 150 | 110 | 110 | 80 |
| | BAR | 10 | 10 | 7 | 7 | 5.6 |
| Connections | Tubing | (S) .50" I.D. X .75" O.D. .38" I.D. X .50" OD (LVB3 & F4 only) (S & D) .50" I.D. X .75" O.D. (LVG4,G5 & H7 only) | | | | |



Engineering Data

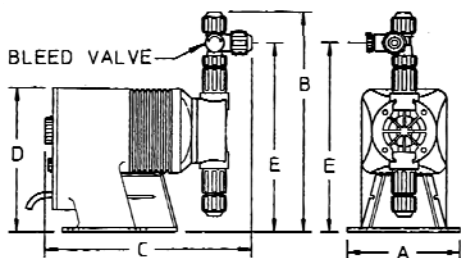
| | |
|--|--|
| Reproducibility: | +/- 2% at maximum capacity |
| Viscosity Max CPS: | 20,000 CPS |
| Stroke Frequency Max SPM: | 125 |
| Stroke Frequency Turn-Down Ratio: | 10:1 |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115 VAC; Amps: | 1.0 Amps |
| @ 230 VAC; Amps: | 0.5 Amps @ 230 VAC |
| Peak Input Power: | 300 Watts |
| Average Input Power @ Max SPM: | 130 Watts |

PULSAtron Series HV Selection Guide

| | | | | | | | |
|------------------------------|---|----|--|--|--|--|--|
| MODELS: | B3 = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) F4 = 1.00 gph / 24 gpd (3.8 lph) max pres.: 150 PSI (10 BAR) G4 = 2.00 gph / 48 gpd (7.6 lph) max pres.: 110 PSI (7 BAR) G5 = 4.00 gph / 96 gpd (15.1 lph) max pres.: 110 PSI (7 BAR) H7 = 10.0 gph / 240 gpd (37.9 lph) max pres.: 80 PSI (5.6 BAR) | LV | | | | | |
| CONTROLS: | S = Manual On/Off M = 4-20mADC Direct, w/ Stop E = External/Remote Pacing, w/ Stop | | | | | | |
| ELECTRICAL: | A = 115 Volt / 50-60Hz 1 = 115 Volt / 50-60Hz (w without agency approvals) B = 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-w ire US Plug 2 = 230 Volt / 50-60Hz (w without agency approvals) | | | | | | |
| LIQUID END MATERIALS: | PTT = GFPP / TFE / TFE - LVB3 & F4 only PTS = GFPP / TFE / 316 SS - LVG4, G5 & H7 only WTS = PVC / TFE / 316 SS - LVH7 only VTT = PVC / TFE / TFE - LVB3 & F4 only VTS = PVC / TFE / 316 SS - LVG5 & G4 No other liquid end materials available. | | | | | | |
| CONNECTION SIZES: | 5 = Tubing (S) .50" I.D. x .75" O.D. / .38" I.D. x .50" O.D. - LVB3 & F4 only K = Tubing .50" I.D. x .75" O.D. - LVG4, G5 & H7 only No other connection sizes available. Pumps come with 4' suction tubing and 8' discharge tubing. No bleed | | | | | | |
| SUFFIX CODES: | XXX = No Additional Options CZXXX = CE Approval (5 digits used for this suffix code) | | | | | | |

See pages 9, 10 & 11 for additional information and specs.
A completed model number should look like 'LVB3SA-VTT5-XXX'

Dimensions



| Series HV Dimensions (inches) | | | | | |
|-------------------------------|-----|------|------|-----|-----------------|
| Model No. | A | B | C | D | Shipping Weight |
| LVB3 | 5.4 | 9.3 | 9.5 | 7.5 | 13 |
| LVF4 | 5.4 | 10.8 | 10.8 | 7.5 | 18 |
| LVG4 | 5.4 | 9.5 | 10.6 | 7.5 | 18 |
| LVG5 | 5.4 | 10.8 | 10.8 | 7.5 | 18 |
| LVH7 | 6.1 | 11.5 | 11 | 8.2 | 25 |

NOTE: Inches X 2.54 = cm

PULSAtron® *Electronic Metering Pumps*

Series E

Key Features

- **Manual Control** by on-line adjustable stroke rate and stroke length.
- **Agency approved** for demanding **OUTDOOR** and indoor applications.
- **Highly Reliable** timing circuit.
- **Water Resistant** excellent for **OUTDOOR** and indoor applications.
- **Internally Dampened To Reduce Noise**, very acceptable for household installations.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Premium Standard Wetted Component Materials**.
- **Few Moving Parts** and **Wall Mountable**.
- **Safe & Easy Priming** with durable leak-free **bleed valve assembly** (standard).



Pressure and Flow Rate Capacity



| MODEL | | LEK2 | LE12 | LE02 | LE33 | LE13 | LE03 | LEK3 | LEF4 | LE34 | LE14 | LEH4 | LEG4 | LE44 | LEK5 | LEH5 | LEH6 | LEK7 | LEH7 | LEJ7 | LEH8 |
|-------------------------|--------|--|------|------|------|------|------|------|------|------|------|--|------|------|------|------|------|------|-------|-------|-------|
| Capacity nominal (max.) | GPH | 0.13 | 0.21 | 0.25 | 0.50 | 0.50 | 0.50 | 0.60 | 0.85 | 0.90 | 1.00 | 1.70 | 1.75 | 1.85 | 2.50 | 3.15 | 5.00 | 8.00 | 10.00 | 10.00 | 25.00 |
| | GPD | 3 | 5 | 6 | 12 | 12 | 12 | 14 | 20 | 22 | 24 | 41 | 42 | 44 | 60 | 76 | 120 | 192 | 240 | 240 | 600 |
| Pressure (max.) | LPH | 0.5 | 0.8 | 0.9 | 1.9 | 1.9 | 1.9 | 2.3 | 3.2 | 3.4 | 3.8 | 6.4 | 6.6 | 7 | 9.5 | 11.9 | 18.9 | 30.3 | 37.9 | 37.9 | 94.6 |
| | PSIG | 300 | 250 | 150 | 250 | 150 | 100 | 100 | 250 | 150 | 100 | 250 | 150 | 100 | 150 | 150 | 100 | 50 | 35 | 80 | 30 |
| Connections | BAR | 21 | 17 | 10 | 17 | 10 | 7 | 7 | 17 | 10 | 7 | 17 | 10 | 7 | 10 | 10 | 7 | 3.3 | 2.4 | 5.5 | 2 |
| | Tubing | 1/4" ID X 3/8" OD 3/8" ID X 1/2" OD | | | | | | | | | | 3/8" ID X 1/2" OD 1/2" ID X 3/4" OD (LPH8 ONLY) | | | | | | | | | |
| | Piping | 1/4" FNPT | | | | | | | | | | 1/4" FNPT 1/2" FNPT | | | | | | | | | |

Engineering Data

| | |
|-----------------------------------|--|
| Reproducibility: | +/- 3% at maximum capacity |
| Viscosity Max CPS: | For viscosity up to 3000 CPS, select connection size 3, 4, B or C with 316SS ball material. Flow rate will determine connection/ball size. Greater than 3000 CPS require spring loaded ball checks. See Selection Guide for proper connection. |
| Stroke Frequency Max SPM: | 125 |
| Stroke Frequency Turn-Down Ratio: | 10:1 |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115VAC; Amps: | 1.0 Amps |
| @ 230 VAC; Amps: | 0.5 Amps |
| Peak Input Power: | 300 Watts |
| Average Input Power @ Max SPM: | 130 Watts |

PULSAtron Series E Selection Guide

| | | |
|----------------|-----------|---|
| MODELS: | K2 | = 0.13 gph / 3 gpd (0.5 lph) max pres.: 300 PSI (21 BAR) |
| | 12 | = 0.21 gph / 5 gpd (0.8 lph) max pres.: 250 PSI (17 BAR) |
| | 33 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 250 PSI (17 BAR) |
| | F4 | = 0.85 gph / 20 gpd (3.2 lph) max pres.: 250 PSI (17 BAR) |
| | H4 | = 1.70 gph / 41 gpd (6.4 lph) max pres.: 250 PSI (17 BAR) |
| | 02 | = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) |
| | 13 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) |
| | 34 | = 0.90 gph / 22 gpd (3.4 lph) max pres.: 150 PSI (10 BAR) |
| | G4 | = 1.75 gph / 42 gpd (6.6 lph) max pres.: 150 PSI (10 BAR) |
| | K5 | = 2.50 gph / 60 gpd (9.5 lph) max pres.: 150 PSI (10 BAR) |
| | H5 | = 3.15 gph / 76 gpd (11.9 lph) max pres.: 150 PSI (10 BAR) |
| | 03 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 100 PSI (7 BAR) |
| | K3 | = 0.60 gph / 14 gpd (2.3 lph) max pres.: 100 PSI (7 BAR) |
| | 14 | = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) |
| | 44 | = 1.85 gph / 44 gpd (7.0 lph) max pres.: 100 PSI (7 BAR) |
| | H6 | = 5.00 gph / 120 gpd (18.9 lph) max pres.: 100 PSI (7 BAR) |
| | K7 | = 8.00 gph / 192 gpd (30.3 lph) max pres.: 50 PSI (3.3 BAR) |
| | H7 | = 10.0 gph / 240 gpd (37.9 lph) max pres.: 35 PSI (2.4 BAR) |
| | J7 | = 10.0 gph / 240 gpd (37.9 lph) max pres.: 80 PSI (5.5 BAR) |
| | H8 | = 25.0 gph / 600 gpd (94.6 lph) max pres.: 30 PSI (2 BAR) |

CONTROLS: S = No Options Available

ELECTRICAL: A = 115 Volt / 50-60Hz
 1 = 115 Volt / 50-60Hz (w ithout agency approvals)
 B = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug
 2 = 230 Volt / 50-60Hz (w ithout agency approvals)

LIQUID END MATERIALS: PHC = GFPP / CSPE / Ceramic
 PTC = GFPP / TFE / Ceramic
 Pump Head & Fittings/Seats: KTC = PVDF / TFE / Ceramic (Consult factory for J7 or H8)
 VHC = PVC / CSPE / Ceramic (not available on H7, H8, K7)
 & O-rings/Balls: VTC = PVC / TFE / Ceramic (models <= 150 psi excluding H7, H8, K7)
 WTC = PVC / TFE / Ceramic (models > 150 psi and H7, H8, K7)
 ATS = 316 S.S. / TFE / 316 S.S. (must use FNPT piping connection) (not available on J7 or H8)

See page 6 for additional liquid end materials.

CONNECTION SIZES: 1 = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH
 3 = Tubing .38" I.D. x .50" O.D. / .38" Ball, 1.63 - 10 GPH
METRIC:
 M = G 1/2 A Threads, .38" Ball, 6.15 - 37.85 LPH
 P = 4 x 6mm, .25" Ball, 0 - 3.94 LPH

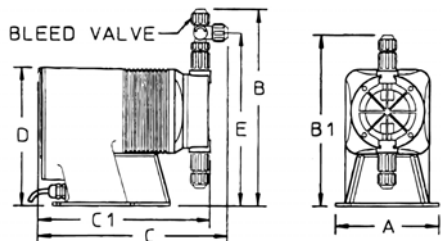
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES: XXX = No Additional Options
 130 = PVDF Tubing
 500 = Five Function Valve
 520 = Five Function Degas Valve
 ITS = 15 gal. ITS Tank System (ITS Tank not available on LM, LP, LT, and LE: H4, H5, H6, H7, H8, J7, K7 models)
 CZXXX = CE Approval (5 digits used for this suffix code)

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LE33SA-PTC1-XXX'

Dimensions



Series E Dimensions (inches)

| Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt | Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt |
|-----------|-----|------|----|------|----|-----|-----|---------|-----------|-----|------|------|------|------|-----|------|---------|
| LE02 | 5 | 9.6 | - | 9.5 | - | 6.4 | 8.2 | 7 | LEH4 | 6.2 | 10.9 | - | 11.2 | - | 8.2 | 9.5 | 18 |
| LE03 | 5 | 9.8 | - | 9.5 | - | 6.4 | 8.4 | 7 | LEH5 | 6.2 | 11.3 | - | 11.2 | - | 8.2 | 9.9 | 18 |
| LE12 | 5 | 9.6 | - | 9.5 | - | 6.4 | 8.2 | 7 | LEH6 | 6.2 | 11.3 | - | 11.2 | - | 8.2 | 9.9 | 18 |
| LE13 | 5 | 9.8 | - | 9.5 | - | 6.4 | 8.4 | 7 | LEH7 | 6.1 | 11.7 | - | 11.2 | - | 8.2 | 10.3 | 18 |
| LE14 | 5 | 9.8 | - | 9.5 | - | 6.4 | 8.4 | 7 | LEH8* | 6.1 | - | 10.9 | - | 10.6 | 8.2 | - | 23 |
| LE33 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 12 | LEK2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 10 |
| LE34 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 12 | LEK3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 10 |
| LE44 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 12 | LEK5 | 5.4 | 10.9 | - | 11.7 | - | 7.5 | 9.5 | 15 |
| LEF4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 15 | LEK7 | 6.1 | 11.7 | - | 11.2 | - | 8.2 | 10.3 | 18 |
| LEG4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 15 | LEJ7 | 6.1 | 10.0 | - | 10.7 | - | - | - | 18 |

NOTE: Inches X 2.54 = cm

* the LEH8 is designed without a bleed valve available

PULSAtron® *Electronic Metering Pumps*

Series E-DC

Key Features

- **Powered by 12 Volt DC..**
- **Manual Control** by on-line adjustable stroke rate and stroke length.
- **Agency approved** for demanding **OUTDOOR** and indoor applications.
- **Highly Reliable** timing circuit.
- **Water Resistant** excellent for **OUTDOOR** and indoor applications.
- **Internally Dampened To Reduce Noise**, very acceptable for household installations.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Premium Standard Wetted Component Materials.**
- **Few Moving Parts** and **Wall Mountable.**
- **Safe & Easy Priming** with durable leak-free bleed valve assembly (standard).



Pressure and Flow Rate Capacity

| MODEL | | LS02 | LS13 | LS14 | LS44 |
|-------------------------|--------|--|------|------|------|
| Capacity nominal (max.) | GPH | 0.25 | 0.50 | 1.00 | 1.85 |
| | GPD | 6 | 12 | 24 | 44 |
| Pressure (max.) | LPH | 0.9 | 1.9 | 3.8 | 7.0 |
| | PSIG | 150 | 150 | 100 | 100 |
| | BAR | 10 | 10 | 7 | 7 |
| Connections | Tubing | 1/4" ID X 3/8" OD 3/8" ID X 1/2" OD | | | |
| | Piping | 1/4" FNPT | | | |



Engineering Data

| | |
|-----------------------------------|--------------------------------------|
| Reproducibility: | +/- 3% at maximum capacity |
| Viscosity Max CPS: | |
| LS02, 13: | 300 CPS |
| LS14, 44: | 1000 CPS |
| Stroke Frequency Max SPM: | 125 |
| Stroke Frequency Turn-Down Ratio: | 10:1 |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 12.6 VDC Nominal Range 11.8-14.0 VDC |
| Average Current Draw: | |
| LS02, 13, 14 Amps: | 4.0 Amps |
| LS44 Amps: | 8.0 Amps |
| Peak Input Power: | |
| LS02, 13, 14 Amps: | 138.6 Watts |
| LS44 Amps: | 189 Watts |
| Average Input Power @ Max SPM: | |
| LS02, 13, 14 Amps: | 50.4 Watts |
| LS44 Amps: | 100.8 Watts |

PULSAtron Series E-DC Selection Guide

| | | |
|----------------|-----------|--|
| MODELS: | 02 | = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) |
| | 13 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) |
| | 14 | = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) |
| | 44 | = 1.85 gph / 44 gpd (7.0 lph) max pres.: 100 PSI (7 BAR) |

CONTROLS: **S** = No Options Available

ELECTRICAL: **4** = 12V DC

LIQUID END MATERIALS: **PHC** = GFPP / CSPE / Ceramic

PTC = GFPP / TFE / Ceramic

Pump Head & **PVC** = GFPP / Viton / Ceramic

Fittings/Seats & O-rings/Balls **VTC** = PVC / TFE / Ceramic

See page 6 for additional liquid end materials.

CONNECTION SIZES: **1** = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH

J = Tubing .25" I.D. x .38" O.D./ 19" Ball, 0 - 1.04 GPH

METRIC:

M = G 1/2 A Threads, .38" Ball, 6.15 - 37.85 LPH

R = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH

Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES: **XXX** = No Additional Options

130 = PVDF Tubing

500 = Five Function Valve

520 = Five Function Degas Valve

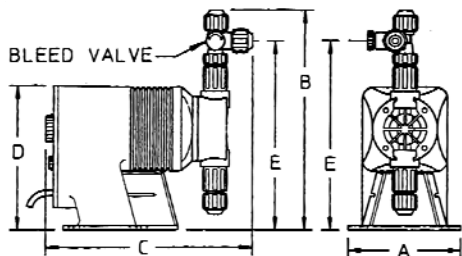
ITS = 15 gal. ITS Tank System

CZXXX = CE Approval (5 digits used for this suffix code)

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LS02S4-PTC1-XXX'

Dimensions



| Model No. | A | B | C | D | E | Shipping Weight |
|-----------|-----|------|------|-----|-----|-----------------|
| LS02 | 5.0 | 9.6 | 9.6 | 6.5 | 8.2 | 10 |
| LS13 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LS14 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LS44 | 5.0 | 10.6 | 11.4 | 7.5 | 9.2 | 15 |

NOTE: Inches X 2.54 = cm

PULSAtron®

Electronic Metering Pumps

Series D

Key Features

- **Completely Digital.** The Series D is easy to set-up with scrolling menus that appear on the easy to read 16 digit LCD backlit display.
- **Flow Control Option.** Create a flow control system. Pump will stop if you lose flow.
- **Hall Effect or Dry Contact water meter input.**
- **Four-button Touch Pad Control** with internationally recognized symbols for simplified programming.
- **Water Resistant** excellent for **OUTDOOR** and indoor applications.
- **Internally Dampened To Reduce Noise**, very acceptable for household installations.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Safe & Easy Priming** with durable leak-free **bleed valve assembly** (standard).

OPTIONS

Add a flow switch to the Series D to create a Flow Control System. Available in 3/4" and 1" for easy installation in most systems.



Pressure and Flow Rate Capacity

| MODEL | LF02 | LFC3 | LF03 | LF04 | LF64 | LFC4 | |
|-------------------------|--------|--|------|------|------|------|------|
| Capacity nominal (max.) | GPH | 0.25 | 0.42 | 0.50 | 1.00 | 1.25 | 2.00 |
| | GPD | 6 | 10 | 12 | 24 | 30 | 48 |
| | LPH | 0.9 | 1.6 | 1.9 | 3.8 | 4.7 | 7.6 |
| Pressure (max.) | PSIG | 150 | 250 | 150 | 100 | 100 | 50 |
| | BAR | 10 | 17 | 10 | 7 | 7 | 3.3 |
| Connections | Tubing | 1/4" ID X 3/8" OD 3/8" ID X 1/2" OD | | | | | |
| | Piping | 1/4" FNPT | | | | | |

Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 3% at maximum capacity |
| Viscosity Max CPS: | 1000 CPS |
| Status Display: | 16-Position LCD Dot Matrix Backlight |
| Stroke Frequency Max SPM: | 125 |
| Stroke Frequency Turn-Down Ratio: | 100:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115 VAC; Amps: | 0.6 Amps |
| @ 230 VAC; Amps: | 0.3 Amps @ 230 VAC |
| Peak Input Power: | 130 Watts |
| Average Input Power @ Max SPM: | 50 Watts |

PULSAtron Series D Selection Guide

| | | |
|----------------|-----------|---|
| MODELS: | C3 | = 0.42 gph / 10 gpd (1.6 lph) max pres.: 250 PSI (17 BAR) |
| | 02 | = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) |
| | 03 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) |
| | 04 | = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) |
| | 64 | = 1.25 gph / 30 gpd (4.7 lph) max pres.: 100 PSI (7 BAR) |
| | C4 | = 2.00 gph / 48 gpd (7.6 lph) max pres.: 50 PSI (3.3 BAR) |

CONTROLS: **S** = No Options Available

ELECTRICAL: **A** = 115 Volt / 50-60Hz
1 = 115 Volt / 50-60Hz (w ithout agency approvals)
B = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug
2 = 230 Volt / 50-60Hz (w ithout agency approvals)

LIQUID END MATERIALS: **PHC** = GFPP / CSPE / Ceramic
PTC = GFPP / TFE / Ceramic
PVC = GFPP / Viton / Ceramic
KTC = PVDF / TFE / Ceramic
VHC = PVC / CSPE / Ceramic
VTC = PVC / TFE / Ceramic (models <= 150 psi)
WTC = PVC / TFE / Ceramic (models > 150 psi)

See page 6 for additional liquid end materials.

CONNECTION SIZES: **1** = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH
3 = Tubing .38" I.D. x .50" O.D. / .38" Ball, 1.63 - 10 GPH
9 = Degas Head: .25" I.D. x .38" O.D. / 0-1.83 GPH
J = Tubing, .25" I.D. x .38" O.D./ .19 Ball; 0 - 1.04 GPH
METRIC:
R = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH
Y = 6 x 12mm, .25" Ball, 0 - 7.10 LPH

Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

CONNECTION ELECTRONIC OPTIONS: **X** = Liquid Tight Connector for Hardw iring Options

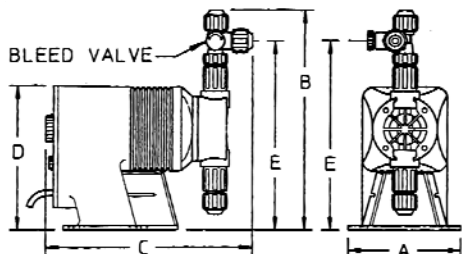
FLOW: **X** = No Flow
A = Flow Sw itch 3/4" w ith 8.5 ft. cable
B = Flow Sw itch 3/4" w ith 25 ft. cable
C = Flow Sw itch 1" w ith 8.5 ft. cable
D = Flow Sw itch 1" w ith 25 ft. cable
E = 25 ft. - 22g, four conductor cable

SUFFIX CODES: **XXX** = No Additional Options
130 = PVDF Tubing
500 = Five Function Valve
520 = Five Function Degas Valve
ITS = 15 gal. ITS Tank System
CZXXX = CE Approval (5 digits used for this suffix code)

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LF03SA-PTC1-XA-XXX'

Dimensions



| Model No. | A | B | C | D | E | Shipping Weight |
|-----------|-----|-----|-----|-----|-----|-----------------|
| LF02 | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 10 |
| LFC3 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LF03 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LF04 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LF64 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LFC4 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |

NOTE: Inches X 2.54 = cm

PULSAtron® *Electronic Metering Pumps*

Series A PLUS

Key Features

- **Manual Control** by on-line adjustable stroke rate and stroke length.
- **Agency approved** for demanding **OUTDOOR** and indoor applications.
- **Highly Reliable** timing circuit.
- **Water Resistant** excellent for **OUTDOOR** and indoor applications.
- **Internally Dampened To Reduce Noise**, very acceptable for household installations.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Premium Standard Wetted Component Materials**.
- **Few Moving Parts** and **Wall Mountable**.
- **Safe & Easy Priming** with durable leak-free **bleed valve assembly** (standard).
- **Optional Control:**
 - External pace with auto/manual selection.
 - External stop function
 - 1000:1 turndown control (S2, S3 & S4 sizes only)



Pressure and Flow Rate Capacity



| MODEL | | LBC2 | LB02 | LBC3 | LB03 | LB04 | LB64 | LBC4 | LBS2 | LBS3 | LBS4 | |
|------------------------------|---|-------------------|----------|----------|----------|----------|---------|-------------------|----------|-------------------|----------|---------|
| Capacity nominal (max.) | GPH | 0.25 | 0.25 | 0.42 | 0.50 | 1.00 | 1.25 | 2.00 | 0.50 | 1.38 | 2.42 | |
| | GPD | 6 | 6 | 10 | 12 | 24 | 30 | 48 | 12 | 33 | 58 | |
| | LPH | 0.9 | 0.9 | 1.6 | 1.9 | 3.8 | 4.7 | 7.6 | 1.9 | 5.2 | 9.14 | |
| Pressure ¹ (max.) | GFPP, PVDF, 316SS or PVC (W code) w/TFE Seats | PSIG (Bar) | 250 (17) | 150 (10) | 250 (17) | 150 (10) | 100 (7) | 100 (7) | 50 (3.3) | 250 (17) | 150 (10) | 100 (7) |
| | PVC (V code) Viton or CSPE Seats / Degas Liquid End | | 150 (10) | | | | | | | 150 (10) | | |
| Connections | Tubing | 1/4" ID X 3/8" OD | | | | | | 3/8" ID X 1/2" OD | | 1/4" ID X 3/8" OD | | |
| | Piping | 1/4" FNPT | | | | | | | | | | |
| Strokes/Minute | SPM | 125 | | | | | | | 250 | | | |

Note 1: Pumps with rated pressure above 150 PSI will be de-rated to 150 PSI Max. when selecting certain valve options, see Price Book for details.

Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 3% at maximum capacity |
| Viscosity Max CPS: | 1000 CPS |
| Stroke Frequency Max SPM: | 125 / 250 by Model |
| Stroke Frequency Turn-Down Ratio: | 10:1 / 100:1 by Model |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |

Average Current Draw:

| | |
|---------------------------------------|-----------|
| @ 115 VAC; Amps: | 0.6 Amps |
| @ 230 VAC; Amps: | 0.3 Amps |
| Peak Input Power: | 130 Watts |
| Average Input Power @ Max SPM: | 50 Watts |

Pulsatron Series A Plus Selection Guide

Models

| Product Code | Flow Rate | | | Pressure Rating ¹ | | Stroke Rate (SPM) | Standard Valve Size | Max. Viscosity (cps) |
|--------------|-----------|------|-----|------------------------------|-----|-------------------|---------------------|----------------------|
| | GPD | GPH | LPH | PSI | BAR | | | |
| S2 | 12 | 0.50 | 1.9 | 250 | 17 | 250 | J (Teflon Only) | 1,000 |
| S3 | 33 | 1.38 | 5.2 | 150 | 10 | | | |
| S4 | 58 | 2.42 | 9.1 | 100 | 7 | | | |
| C2 | 6 | 0.25 | 0.9 | 250 | 17 | 125 | J (Teflon only) | |
| C3 | 10 | 0.42 | 1.6 | | | | | |
| 02 | 6 | 0.25 | 0.9 | 150 | 10 | | | |
| 03 | 12 | 0.50 | 1.9 | | | | | |
| 04 | 24 | 1.00 | 3.8 | 100 | 7 | | | |
| 64 | 30 | 1.25 | 4.7 | | | | | |
| C4 | 48 | 2.00 | 7.6 | | | | | 50 |

Controls

| | | | |
|---|--|-----------------|---------------------------------------|
| S | Manual, Control, Analog Adjustment | 100:1 Turndown | 10:1 Stroke Length 10:1 Frequency |
| E | External Pace w/ Auto/Manual Switch | | |
| P | Stop Function Option | | |
| X | Manual Control, Analog Adjustment (S2, S3 & S4 sizes only) | 1000:1 Turndown | 10:1 Stroke Length 100:1 Frequency |

Electrical

| | |
|---|--|
| A | 115 VAC, 60Hz |
| B | 230 VAC, 50-60Hz, 1 Ph, 6' (2m) cord with 3 prong US plug |
| 1 | 115 VAC, 60Hz less Agency Approvals |
| 2 | 230 VAC, 50-60Hz, 1 Ph, 6' (2m) cord, no plug, less Agency |

Liquid End Configuration - Head & Valves / Seats & O-Rings / Check Balls

| | |
|-------|---|
| PHC | GFPPL / CSPE / Ceramic (150 PSI Max) ¹ |
| PTC | GFPPL / TFE / Ceramic |
| VTC | PVC / TFE / Ceramic (150 PSI Max) ¹ |
| WTC | PVC / TFE / Ceramic (models > 150 PSI Max); For use on S2, C2, C3 |
| KTC | PVDF / TFE / Ceramic |
| VVC | PVC / Viton / Ceramic (Not available with J Valve) (150 PSI Max) ¹ |
| VHC | PVC / CSPE / Ceramic (Not available with J Valve) (150 PSI Max) ¹ |
| Other | See Page 6 for additional materials of construction |

Connection Sizes

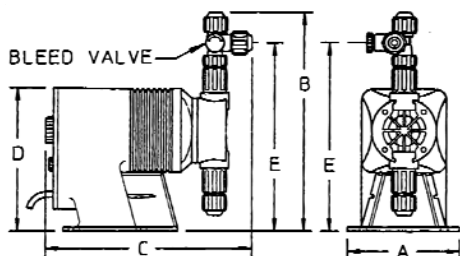
| | |
|--------|--|
| J | Tubing .25" I.D. x .38" O.D. Standard for pumps from 0 - 33 GPD |
| 1 | Tubing .25" I.D. x .38" O.D. Standard for pumps from 20 - 45 GPD |
| 3 | Tubing .38" I.D. x .50" O.D. Standard for pumps from 45 - 240 GPD |
| 9 | Degas Head: Vent Tubing .25" I.D. x .38" O.D. (0-150 PSI pumps only) |
| Metric | |
| R | G 1/2 A Threads, .25" Ball, 0-7.1 LPH |
| Y | Tubing 6 x 12mm, .25" Ball, 0-7.1 LPH |
| Other | See Page 7 for additional connection options |

Options

| | |
|-------|-------------------------------|
| XXX | Standard Pump - No Options |
| 130 | PVDF Tubing |
| 500 | Five Function Valve |
| 520 | Five Function Degassing Valve |
| ITS | 15 gal. ITS Tank System |
| CZXXX | CE Listed |

Note 1: Pumps with rated pressure above 150 PSI will be de-rated to 150 PSI Max. when selecting these valve options.

Dimensions



Series A PLUS Dimensions (inches)

| Model No. | A | B | C | D | E | Shipping Weight |
|-----------|-----|-----|-----|-----|-----|-----------------|
| LB02 / S2 | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 10 |
| LBC2 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LBC3 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LB03 / S3 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LB04 / S4 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LB64 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LBC4 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |

NOTE: Inches X 2.54 = cm

PULSAtron®

Electronic Metering Pumps

Series C PLUS

Key Features

- **Manual Control** by on-line adjustable stroke rate and stroke length.
- **Agency approved** for demanding **OUTDOOR** and indoor applications.
- **Highly Reliable** timing circuit.
- **Water Resistant** excellent for **OUTDOOR** and indoor applications.
- **Internally Dampened To Reduce Noise**, very acceptable for household installations.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Premium Standard Wetted Component Materials**.
- **Few Moving Parts** and **Wall Mountable**.
- **Safe & Easy Priming** with durable leak-free **bleed valve assembly** (standard).
- **Optional Control**: External pace with auto/manual selection.



Pressure and Flow Rate Capacity

| MODEL | | LD02 | LD03 | LD04 | LD54 |
|-------------------------|--------|--|------|------|------|
| Capacity nominal (max.) | GPH | 0.25 | 0.50 | 1.00 | 1.25 |
| | GPD | 6 | 12 | 24 | 30 |
| | LPH | 0.9 | 1.9 | 3.8 | 4.7 |
| Pressure (max.) | PSIG | 80 | 80 | 80 | 80 |
| | BAR | 5.6 | 5.6 | 5.6 | 5.6 |
| Connections | Tubing | 1/4" ID X 3/8" OD 3/8" ID X 1/2" OD | | | |
| | Piping | 1/4" FNPT | | | |



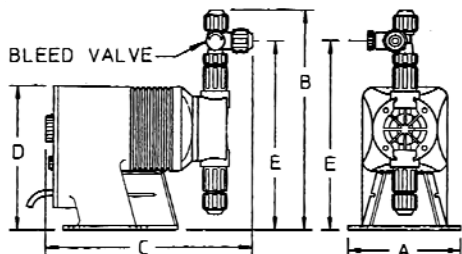
Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 3% at maximum capacity |
| Viscosity Max CPS: | 1000 CPS |
| Stroke Frequency Max SPM: | 125 |
| Stroke Frequency Turn-Down Ratio: | 10:1 |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115 VAC; Amps: | 0.6 Amps |
| @ 230 VAC; Amps: | 0.3 Amps @ 230 VAC |
| Peak Input Power: | 130 Watts |
| Average Input Power @ Max SPM: | 50 Watts |

PULSAtron Series C Plus Selection Guide

| | | | | | | |
|---|---|----|--|--|--|--|
| MODELS: | 02 = 0.25 gph / 6 gpd (0.9 lph) max pres.: 80 PSI (5.6 BAR) | LD | | | | |
| | 03 = 0.50 gph / 12 gpd (1.9 lph) max pres.: 80 PSI (5.6 BAR) | | | | | |
| | 04 = 1.00 gph / 24 gpd (3.8 lph) max pres.: 80 PSI (5.6 BAR) | | | | | |
| | 54 = 1.25 gph / 30 gpd (4.7 lph) max pres.: 80 PSI (5.6 BAR) | | | | | |
| CONTROLS: | S = Manual | | | | | |
| | E = External Pacing w / Auto/Manual Switch | | | | | |
| | G = External Pacing w / Prime Button | | | | | |
| | P = Stop Function Option | | | | | |
| ELECTRICAL: | A = 115 Volt / 50-60Hz | | | | | |
| | 1 = 115 Volt / 50-60Hz (w ithout agency approvals) | | | | | |
| | B = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug | | | | | |
| | 2 = 230 Volt / 50-60Hz (w ithout agency approvals) | | | | | |
| LIQUID END MATERIALS: | PHC = GFPP / CSPE / Ceramic | | | | | |
| | PTC = GFPP / TFE / Ceramic | | | | | |
| Pump Head & Fittings/Seats | KTC = PVDF / TFE / Ceramic | | | | | |
| & O-rings/Balls | VHC = PVC / CSPE / Ceramic | | | | | |
| | VTC = PVC / TFE / Ceramic | | | | | |
| See page 6 for additional liquid end materials. | | | | | | |
| CONNECTION SIZES: | 1 = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH | | | | | |
| | A = Tubing .38" I.D. x .50" O.D. / .25" Ball, 0 - 1.88 GPH | | | | | |
| | J = Tubing, .25" I.D. x .38" O.D./ .19 Ball; 0 - 1.04 GPH | | | | | |
| | METRIC: | | | | | |
| | R = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH | | | | | |
| | Y = 6 x 12mm, .25" Ball, 0 - 7.10 LPH | | | | | |
| Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve. | | | | | | |
| SUFFIX CODES: | XXX = No Additional Options | | | | | |
| | 130 = PVDF Tubing | | | | | |
| | 500 = Five Function Valve | | | | | |
| | 520 = Five Function Degas Valve | | | | | |
| | ITS = 15 gal. ITS Tank System | | | | | |
| | CZXXX = CE Approval (5 digits used for this suffix code) | | | | | |
| See pages 9, 10 & 11 for additional information and specs. | | | | | | |
| A completed model number should look like 'LD03SA-PTC1-XXX' | | | | | | |

Dimensions



| Model No. | A | B | C | D | E | Shipping Weight |
|-----------|-----|-----|-----|-----|-----|-----------------|
| LD02 | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 10 |
| LD03 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LD04 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LD54 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |

NOTE: Inches X 2.54 = cm

PULSAtron®

Electronic Metering Pumps

Series C

Key Features

- **Automatic Control** by external pacing with prime switch (optional).
- **Manual Control** by on-line adjustable stroke length (fixed stroke rate).
- **Liquid Low Level Option** available to prevent loss of prime.
- **Agency approved** for demanding **OUTDOOR** and indoor applications.
- **Highly Reliable** timing circuit.
- **Water Resistant** excellent for **OUTDOOR** and indoor applications.
- **Internally Dampened To Reduce Noise**, very acceptable for household installations.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Premium Standard Wetted Component Materials**.
- **Few Moving Parts** and **Wall Mountable**.
- **Safe & Easy Priming** with durable leak-free **bleed valve assembly** (standard).



Pressure and Flow Rate Capacity

| MODEL | | LC02 | LC03 | LC04 | LC54 |
|-------------------------|--------|--|------|------|------|
| Capacity nominal (max.) | GPH | 0.25 | 0.50 | 1.00 | 1.25 |
| | GPD | 6 | 12 | 24 | 30 |
| | LPH | 0.9 | 1.9 | 3.8 | 4.7 |
| Pressure (max.) | PSIG | 80 | 80 | 80 | 80 |
| | BAR | 5.6 | 5.6 | 5.6 | 5.6 |
| Connections | Tubing | 1/4" ID X 3/8" OD 3/8" ID X 1/2" OD | | | |
| | Piping | 1/4" FNPT | | | |



Engineering Data

| | |
|--------------------------------|--|
| Reproducibility: | +/- 3% at maximum capacity |
| Viscosity Max CPS: | 1000 CPS |
| Stroke Frequency Max SPM: | 125 |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115 VAC; Amps: | 0.6 Amps |
| @ 230 VAC; Amps: | 0.3 Amps @ 230 VAC |
| Peak Input Power: | 130 Watts |
| Average Input Power @ Max SPM: | 50 Watts |

PULSAtron Series C Selection Guide

| | | |
|----------------|-----------|---|
| MODELS: | 02 | = 0.25 gph / 6 gpd (0.9 lph) max pres.: 80 PSI (5.6 BAR) |
| | 03 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 80 PSI (5.6 BAR) |
| | 04 | = 1.00 gph / 24 gpd (3.8 lph) max pres.: 80 PSI (5.6 BAR) |
| | 54 | = 1.25 gph / 30 gpd (4.7 lph) max pres.: 80 PSI (5.6 BAR) |

| | | |
|------------------|----------|--|
| CONTROLS: | S | = Manual |
| | E | = External Pacing w / Auto/Manual Switch |
| | G | = External Pacing w / Prime Button |
| | P | = Stop Function Option |

| | | |
|--------------------|----------|--|
| ELECTRICAL: | A | = 115 Volt / 50-60Hz |
| | 1 | = 115 Volt / 50-60Hz (w ithout agency approvals) |
| | B | = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug |
| | 2 | = 230 Volt / 50-60Hz (w ithout agency approvals) |

| | | |
|------------------------------|------------|-------------------------|
| LIQUID END MATERIALS: | PHC | = GFPP / CSPE / Ceramic |
| | PTC | = GFPP / TFE / Ceramic |
| Pump Head & Fittings/Seats | VHC | = PVC / CSPE / Ceramic |
| | VTC | = PVC / TFE / Ceramic |
| & O-rings/Balls | VVC | = PVC / Viton / Ceramic |

See page 6 for additional liquid end materials.

| | | |
|--------------------------|----------------|---|
| CONNECTION SIZES: | 1 | = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH |
| | A | = Tubing .38" I.D. x .50" O.D. / .25" Ball, 0 - 1.88 GPH |
| | J | = Tubing, .25" I.D. x .38" O.D. / .19" Ball; 0 - 1.04 GPH |
| | METRIC: | |
| | P | = 4 x 6mm, .25" Ball, 0 - 3.94 LPH |
| | U | = 6 x 10mm, .25" Ball, 0 - 7.10 LPH |

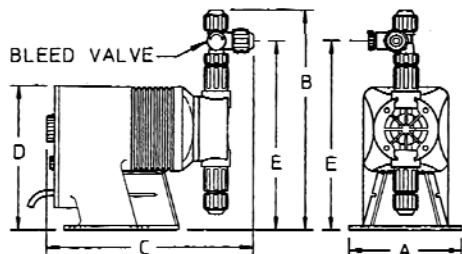
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

| | | |
|----------------------|--------------|--|
| SUFFIX CODES: | XXX | = No Additional Options |
| | 130 | = PVDF Tubing |
| | 500 | = Five Function Valve |
| | 520 | = Five Function Degas Valve |
| | ITS | = 15 gal. ITS Tank System |
| | CZXXX | = CE Approval (5 digits used for this suffix code) |

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LC03SA-PTC1-XXX'

Dimensions



| Series C Dimensions (inches) | | | | | | |
|------------------------------|-----|-----|-----|-----|-----|-----------------|
| Model No. | A | B | C | D | E | Shipping Weight |
| LC02 | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 10 |
| LC03 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LC04 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LC54 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |

NOTE: Inches X 2.54 = cm

PULSAtron[®] PLUS

Electronic Metering Pumps with Integrated Controller

Series CW

Conductivity Control with Water Meter Feed

The Series CW was designed to control conductivity and feed inhibitor in an open-air cooling tower. Chemical feed is initiated and controlled by input from a water meter. The Series CW combines everything you need to control conductivity and feed inhibitor into one unique, compact package to create a simple and cost effective metering and control system.

Principal of Operation

The Series CW includes a solenoid actuated metering pump, conductivity sensor, bleed relay and a dry contact input for water meter control. At set-up, the operator sets the conductivity set point, differential (or dead-band), the pump stroke frequency and run time. When conductivity reaches the set point, the system activates the bleed relay.

As make-up water passes through the water meter, it generates a series of pulses based on the volume of flow. The pump counts the pulses until the total reaches the Count set point. The pump runs at the frequency and run-time specified at set-up and the count is reset.



Features

- 120VAC or 250VAC @ 50/60 HZ, 5A max
- 4-electrode conductivity input
- 0-6000 mS/cm \pm 1%, temperature compensated
- Relay rated to 5A at 240VAC
- Isolated dry contact flow switch input
- Isolated dry contact water meter input
- 4 Digit LED, 9 key membrane keypad
- Single-button function keys
- Set, Differential, Calibration, Pulse Timer, and Count functions
- Stroke rate adjusts 0-100% in 1% increments, turndown ratio 100:1



Pressure and Flow Rate Capacity

| MODEL | | LW02 | LW03 | LW04 | LW64 |
|-------------------------|------|------|------|------|------|
| Capacity nominal (max.) | GPH | 0.25 | 0.50 | 1.00 | 1.25 |
| | GPD | 6 | 12 | 24 | 30 |
| | LPH | 0.9 | 1.9 | 3.8 | 4.7 |
| Pressure (max.) | PSIG | 150 | 150 | 100 | 100 |
| | BAR | 10 | 10 | 7 | 7 |

Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 2% at maximum capacity |
| Controls: | 9 key membrane keypad, Single button function keys |
| Conductivity Sensor: | 4 electrode |
| Conductivity Range: | 0-6000 μ S/cm +/- 1%, Temperature Compensated |
| Input: | Isolated Dry Contact Flow Switch Isolated Dry Contact Water Meter |
| Functions: | Set, Differential, Calibration, and Pulse Timer and Count Function |
| Status Display: | 4 Digit LED |
| Stroke Frequency Turn-Down Ratio: | 100:1 |
| Stroke Length Turn-Down Ratio: | 100:1 |
| Relay Ratings: | 5A at 240 VAC |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph 5 Amp max |

PULSAtron Series CW Selection Guide

| | | | | | | | | | |
|----------------|---|----|-----|-----|-----|-----|-----|-----|-----|
| MODELS: | 02 = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) | LW | --- | --- | --- | --- | --- | --- | --- |
| | 03 = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) | | | | | | | | |
| | 04 = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) | | | | | | | | |
| | 64 = 1.25 gph / 30 gpd (4.7 lph) max pres.: 100 PSI (7 BAR) | | | | | | | | |

| | |
|------------------|--|
| CONTROLS: | R = Rising Set Point (standard) |
| | F = Falling Set Point |

| | |
|--------------------|--|
| ELECTRICAL: | A = 115 Volt / 50-60Hz |
| | 1 = 115 Volt / 50-60Hz (w without agency approvals) |
| | B = 230 Volt / 50-60Hz / 1ph w with 6' (1.8m) 3-w ire US Plug |
| | 2 = 230 Volt / 50-60Hz (w without agency approvals) |

| | |
|--|-------------------------------------|
| LIQUID END MATERIALS: | PHC = GFPP / CSPE / Ceramic |
| | PTC = GFPP / TFE / Ceramic |
| Pump Head & Fittings/Seats & O-rings/Balls | PVC = GFPP / Viton / Ceramic |
| | KTC = PVDF / TFE / Ceramic |
| | VHC = PVC / CSPE / Ceramic |
| | VTC = PVC / TFE / Ceramic |

See page 6 for additional liquid end materials.

| | |
|--------------------------|---|
| CONNECTION SIZES: | 1 = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH |
| | 9 = Degas Head: .25" I.D. x .38" O.D. / 0-1.83 GPH |
| | J = Tubing, .25" I.D. x .38" O.D. / .19 Ball; 0 - 1.04 GPH |
| | METRIC: |
| | R = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH |
| | Y = 6 x 12mm, .25" Ball, 0 - 7.10 LPH |

Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

| | |
|----------------|--|
| SENSOR: | 2 = Stainless Steel w ith 8.5 ft. cable |
| | 3 = Stainless Steel w ith 25 ft. cable |
| | 4 = Carbon Graphite w ith 8.5 ft. cable |
| | 5 = Carbon Graphite w ith 25 ft. cable |

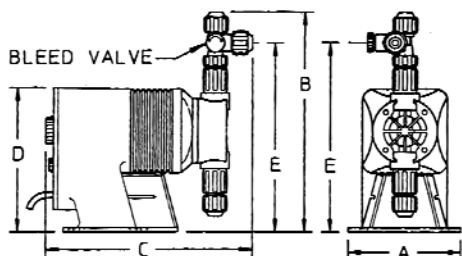
| | |
|--------------|---|
| FLOW: | X = No Flow |
| | A = Flow Switch 3/4" w ith 8.5 ft. cable and 3" nipple |
| | B = Flow Switch 3/4" w ith 25 ft. cable and 3" nipple |
| | C = Flow Assembly w ith 8.5 ft. cable |
| | D = Flow Assembly w ith 25 ft. cable |

| | |
|----------------------|---|
| SUFFIX CODES: | XXX = No Additional Options |
| | 130 = PVDF Tubing |
| | 500 = Five Function Valve |
| | 520 = Five Function Degas Valve |
| | CZXXX = CE Approval (5 digits used for this suffix code) |

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LW03RA-PTC1-2A-XXX'

Dimensions



| Model No. | A | B | C | D | E | Shipping Weight (lbs.) |
|-----------|-----|-----|-----|-----|-----|------------------------|
| LW02 | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 13 |
| LW03 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |
| LW04 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |
| LW64 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |

NOTE: Inches X 2.54 = cm

PULSAtron® PLUS

Electronic Metering Pumps with Integrated Controller

Series CL

Conductivity Control with Limit Timer

The Series CL was designed to control conductivity and feed inhibitor in an open-air cooling tower. The Series CL combines everything you need to control conductivity and feed inhibitor into one unique, compact package to create a simple and cost effective metering and control system.

Principle of Operation

The Series CL includes a conductivity sensor, bleed relay and a user programmable limit timer. When conductivity reaches the user specified level, the system activates the bleed relay and begins pumping inhibitor. The 'feed & bleed' cycle will continue until the conductivity returns to the desired level. The programmable limit timer allows the user to specify a maximum pumping time for the feed cycle. If the limit time expires before the conductivity level returns to the set range, the pump stops feeding while the bleed continues. Once the conductivity level is reached and the system stops bleeding, the feed limit timer is automatically reset for the next bleed cycle.

Features

- 120VAC or 250VAC @ 50/60 HZ, 5A max
- 4-electrode conductivity input
- 0-6000 mS/cm \pm 1%, temperature compensated
- Relay rated to 5A at 240VAC
- Isolated dry contact flow switch input
- 4 Digit LED, 9 key membrane keypad
- Single-button function keys
- Set, Differential, Calibration, Pulse Timer, and Count functions
- Stroke rate adjusts 0-100% in 1% increments, turndown ratio 100:1



Pressure and Flow Rate Capacity

| MODEL | | LL02 | LL03 | LL04 | LL64 |
|-------------------------|------|------|------|------|------|
| Capacity nominal (max.) | GPH | 0.25 | 0.50 | 1.00 | 1.25 |
| | GPD | 6 | 12 | 24 | 30 |
| | LPH | 0.9 | 1.9 | 3.8 | 4.7 |
| Pressure (max.) | PSIG | 150 | 150 | 100 | 100 |
| | BAR | 10 | 10 | 7 | 7 |

Engineering Data

| | |
|--|---|
| Reproducibility: | +/- 2% at maximum capacity |
| Controls: | 9 key membrane keypad, Single button function keys |
| Conductivity Sensor: | 4 electrode |
| Conductivity Range: | 0-6000 μ S/cm +/- 1%, Temperature Compensated |
| Input: | Isolated Dry Contact Flow Switch |
| Functions: | Set, Differential, Calibration, and Pulse Timer |
| Status Display: | 4 Digit LED |
| Stroke Frequency Turn-Down Ratio: | 100:1 |
| Stroke Length Turn-Down Ratio: | 100:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph 5 Amp max |

PULSAtron Series CL Selection Guide

| | | |
|----------------|-----------|---|
| MODELS: | 02 | = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) |
| | 03 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) |
| | 04 | = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) |
| | 64 | = 1.25 gph / 30 gpd (4.7 lph) max pres.: 100 PSI (7 BAR) |

| | | |
|------------------|----------|-------------------------------|
| CONTROLS: | R | = Rising Set Point (standard) |
| | F | = Falling Set Point |

| | | |
|--------------------|----------|--|
| ELECTRICAL: | A | = 115 Volt / 50-60Hz |
| | 1 | = 115 Volt / 50-60Hz (w ithout agency approvals) |
| | B | = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug |
| | 2 | = 230 Volt / 50-60Hz (w ithout agency approvals) |

| | | |
|--|------------|--------------------------|
| LIQUID END MATERIALS: | PHC | = GFPP / CSPE / Ceramic |
| | PTC | = GFPP / TFE / Ceramic |
| Pump Head & Fittings/Seats & O-rings/Balls | PVC | = GFPP / Viton / Ceramic |
| | KTC | = PVDF / TFE / Ceramic |
| | VHC | = PVC / CSPE / Ceramic |
| | VTC | = PVC / TFE / Ceramic |

See page 6 for additional liquid end materials.

| | | |
|--------------------------|----------------|--|
| CONNECTION SIZES: | 1 | = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH |
| | 9 | = Degas Head: .25" I.D. x .38" O.D. / 0-1.83 GPH |
| | J | = Tubing, .25" I.D. x .38" O.D. / .19 Ball; 0 - 1.04 GPH |
| | METRIC: | |
| | R | = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH |
| | Y | = 6 x 12mm, .25" Ball, 0 - 7.10 LPH |

Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

| | | |
|----------------|----------|---------------------------------------|
| SENSOR: | 2 | = Stainless Steel w ith 8.5 ft. cable |
| | 3 | = Stainless Steel w ith 25 ft. cable |
| | 4 | = Carbon Graphite w ith 8.5 ft. cable |
| | 5 | = Carbon Graphite w ith 25 ft. cable |

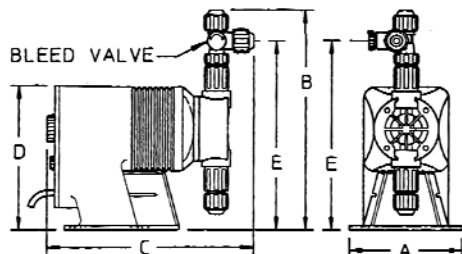
| | | |
|--------------|----------|---|
| FLOW: | X | = No Flow |
| | A | = Flow Sw itch 3/4" w ith 8.5 ft. cable and 3" nipple |
| | B | = Flow Sw itch 3/4" w ith 25 ft. cable and 3" nipple |
| | C | = Flow Assembly w ith 8.5 ft. cable |
| | D | = Flow Assembly w ith 25 ft. cable |

| | | |
|----------------------|--------------|--|
| SUFFIX CODES: | XXX | = No Additional Options |
| | 130 | = PVDF Tubing |
| | 500 | = Five Function Valve |
| | 520 | = Five Function Degas Valve |
| | CZXXX | = CE Approval (5 digits used for this suffix code) |

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LL03RA-PTC1-2A-XXX'

Dimensions



| Model No. | A | B | C | D | E | Shipping Weight (lbs.) |
|-----------|-----|-----|-----|-----|-----|------------------------|
| LL02 | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 13 |
| LL03 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |
| LL04 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |
| LL64 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |

NOTE: Inches X 2.54 = cm

PULSAtron® PLUS

Electronic Metering Pumps with Integrated Controller

Sereis WT

Water Meter Feed & Bleed Control

The Series WT was designed to control the feed and bleed cycle in an open-air cooling tower. The feed and bleed cycle is initiated and controlled by input from a water meter. The Series WT combines everything you need to bleed off the tower and feed inhibitor into one unique, compact package to create a simple and cost effective metering and control system.

Principal of Operation

The Series WT includes a water meter input with programmable pulse timers that control the feed and bleed relays. When the water level in the cooling tower drops, the make-up water is turned on creating flow through the water meter. As make-up water passes through the water meter, it generates a series of pulses based on the volume of flow.

The Series WT has two pulse counters with independent set points that monitor output of the water meter. One controls the pump and one controls the bleed relay. When the count exceeds the set point, the counter is reset and the control function is activated for the run-time specified at set-up.



Features

- 120VAC or 250VAC @ 50/60 HZ, 5A max
- Relay rated to 5A at 240VAC
- Isolated dry contact flow switch input
- Isolated dry contact water meter input
- 4 Digit LED, 9 key membrane keypad
- Single-button function keys
- Pump and bleed timers, pump and bleed counters
- Stroke rate adjusts 0-100% in 1% increments, turndown ratio 100:1



Pressure and Flow Rate Capacity

| MODEL | | LQ02 | LQ03 | LQ04 | LQ64 |
|-------------------------|------|------|------|------|------|
| Capacity nominal (max.) | GPH | 0.25 | 0.50 | 1.00 | 1.25 |
| | GPD | 6 | 12 | 24 | 30 |
| | LPH | 0.9 | 1.9 | 3.8 | 4.7 |
| Pressure (max.) | PSIG | 150 | 150 | 100 | 100 |
| | BAR | 10 | 10 | 7 | 7 |

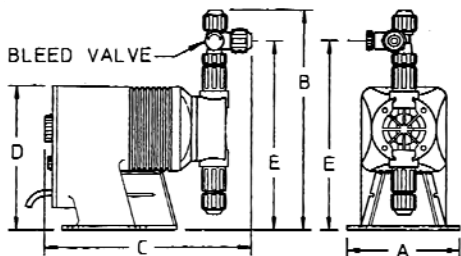
Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 2% at maximum capacity |
| Controls: | 9 key membrane keypad, Single button function keys |
| Conductivity Sensor: | 4 electrode |
| Conductivity Range: | 0-6000 µS/cm +/- 1%, Temperature Compensated |
| Input: | Isolated Dry Contact Flow Switch Isolated Dry Contact Water Meter |
| Functions: | Pump and Bleed Timers, Pump and Bleed Counters |
| Status Display: | 4 Digit LED |
| Stroke Frequency Turn-Down Ratio: | 100:1 |
| Stroke Length Turn-Down Ratio: | 100:1 |
| Relay Ratings: | 5A at 240 VAC |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph 5 Amp max |

PULSAtron Series WT Selection Guide

| | | | | | | | | | |
|---|---|-----------|----------|---|---|---|----------|---|---|
| MODELS: | 02 = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) | LQ | X | - | - | - | X | - | - |
| | 03 = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) | | | | | | | | |
| | 04 = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) | | | | | | | | |
| | 64 = 1.25 gph / 30 gpd (4.7 lph) max pres.: 100 PSI (7 BAR) | | | | | | | | |
| CONTROLS: | X = No options Available | | | | | | | | |
| ELECTRICAL: | A = 115 Volt / 50-60Hz | | | | | | | | |
| | 1 = 115 Volt / 50-60Hz (w ithout agency approvals) | | | | | | | | |
| | B = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-wire US Plug | | | | | | | | |
| | 2 = 230 Volt / 50-60Hz (w ithout agency approvals) | | | | | | | | |
| LIQUID END MATERIALS: | PHC = GFPP / CSPE / Ceramic | | | | | | | | |
| | PTC = GFPP / TFE / Ceramic | | | | | | | | |
| Pump Head & Fittings/Seats & O-rings/Balls | PVC = GFPP / Viton / Ceramic | | | | | | | | |
| | KTC = PVDF / TFE / Ceramic | | | | | | | | |
| | VHC = PVC / CSPE / Ceramic | | | | | | | | |
| | VTC = PVC / TFE / Ceramic | | | | | | | | |
| See page 6 for additional liquid end materials. | | | | | | | | | |
| CONNECTION SIZES: | 1 = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH | | | | | | | | |
| | 9 = Degas Head: .25" I.D. x .38" O.D. / 0-1.83 GPH | | | | | | | | |
| | J = Tubing, .25" I.D. x .38" O.D. / .19 Ball; 0 - 1.04 GPH | | | | | | | | |
| | METRIC: | | | | | | | | |
| | R = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH | | | | | | | | |
| | Y = 6 x 12mm, .25" Ball, 0 - 7.10 LPH | | | | | | | | |
| Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve. | | | | | | | | | |
| SENSOR: | X = No Options Available | | | | | | | | |
| FLOW: | X = No Flow | | | | | | | | |
| | A = Flow Sw itch 3/4" w ith 8.5 ft. cable and 3" nipple | | | | | | | | |
| | B = Flow Sw itch 3/4" w ith 25 ft. cable and 3" nipple | | | | | | | | |
| | C = Flow Assembly w ith 8.5 ft. cable | | | | | | | | |
| | E = Flow Assembly w ith 25 ft. cable | | | | | | | | |
| SUFFIX CODES: | XXX = No Additional Options | | | | | | | | |
| | 130 = PVDF Tubing | | | | | | | | |
| | 500 = Five Function Valve | | | | | | | | |
| | 520 = Five Function Degas Valve | | | | | | | | |
| | CZXXX = CE Approval (5 digits used for this suffix code) | | | | | | | | |
| See pages 9, 10 & 11 for additional information and specs. | | | | | | | | | |
| A completed model number should look like 'LQ03XA-PTC1-XA-XXX' | | | | | | | | | |

Dimensions



| Model No. | A | B | C | D | E | Shipping Weight (lbs.) |
|-----------|-----|-----|-----|-----|-----|------------------------|
| LQ02 | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 13 |
| LQ03 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |
| LQ04 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |
| LQ64 | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 13 |

Note: Inches x 2.54 = cm

PULSAtron® PLUS

Electronic Metering Pumps with Integrated Controller

Series ET

Feed Control with Water Meter Input

The Series ET was designed to feed chemical in response to a water meter input. Typical applications include inhibitor feed for an open air-cooling tower. The Series ET provides everything you need in one unique, compact package to create a simple and cost effective metering system.

Principal of Operation

The Series ET counts pulses from a water meter. When the count exceeds a set value (either 1 or 10), the pump starts. The pump will continue to run for an adjustable time period. There are two time ranges – either 2 to 200 seconds or 12 seconds to 20 minutes. The setting is made by selecting a time base value (200 seconds or 20 minutes) and then setting the time base percentage from 1 to 100%.

Other control features include a standby mode, continuous 'ON' mode and the ability to adjust the stroke length from 0 – 100%.

The pump includes both input and output water meter connections at the front panel. The output connection provides an isolated dry contact output of the water meter contact to operate additional pumps or timers off the same water meter.

Features

- Isolated from Earth Ground
- 120VAC or 250VAC @ 50/60 HZ, 5A max
- Isolated Dry Contact (Water Meter)
- Isolated Dry Contact (Water Meter)
- Mode Select Knob, Stroke Length, Stroke Rate
- Standby, On, 200 sec/count, 200 sec/10 count, 20 min/count and 20 min/10 count
- Stroke rate and stroke length adjust 0-100% in 1% increments. Frequency turn-down ratio 100:1.
- Agency approved for demanding **OUTDOOR** and indoor applications



Pressure and Flow Rate Capacity

| MODEL | | LTB2 | LTA2 | LTB3 | LTA3 | LTF4 | LTD4 | LTB4 | LTH4 | LTG4 | LTE4 | LTH5 | LTH6 | LTH7 | LTH8 |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Capacity nominal (max.) | GPH | 0.21 | 0.25 | 0.50 | 0.50 | 0.85 | 0.90 | 1.00 | 1.70 | 1.75 | 1.85 | 3.15 | 5.00 | 10.00 | 21 |
| | GPD | 5 | 6 | 12 | 12 | 20 | 22 | 24 | 41 | 42 | 44 | 76 | 120 | 240 | 504 |
| Pressure (max.) | LPH | 0.8 | 0.9 | 1.9 | 1.9 | 3.2 | 3.4 | 3.8 | 6.4 | 6.6 | 7.0 | 11.9 | 18.9 | 37.9 | 79.5 |
| | PSIG | 250 | 150 | 150 | 100 | 250 | 150 | 100 | 250 | 150 | 100 | 150 | 100 | 35 | 20 |
| | BAR | 17 | 10 | 10 | 7 | 17 | 10 | 7 | 17 | 10 | 7 | 10 | 7 | 2.4 | 1.3 |

Engineering Data

| | |
|--|---|
| Reproducibility: | +/- 2% at maximum capacity |
| Controls: | Standby On |
| | 200 sec/count 200 sec/10 count |
| | 20 min/count 20 min/10 count |
| Stroke Frequency Turn-Down Ratio: | 100:1 |
| Stroke Length Turn-Down Ratio: | 100:1 |
| Power Input: | 120 VAC/50-60 HZ/1 ph |
| | 250 VAC/50-60 HZ/1 ph |
| | 5 Amp max |

PULSAtron Series ET Selection Guide

| | | |
|----------------|---|---|
| MODELS: | B2 | = 0.21 gph / 5 gpd (0.8 lph) max pres.: 250 PSI (17 BAR) |
| | F4 | = 0.85 gph / 20 gpd (3.2 lph) max pres.: 250 PSI (17 BAR) |
| | H4 | = 1.70 gph / 41 gpd (6.4 lph) max pres.: 250 PSI (17 BAR) |
| | A2 | = 0.25 gph / 6 gpd (0.9 lph) max pres.: 150 PSI (10 BAR) |
| | B3 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 150 PSI (10 BAR) |
| | D4 | = 0.90 gph / 22 gpd (3.4 lph) max pres.: 150 PSI (10 BAR) |
| | G4 | = 1.75 gph / 42 gpd (6.6 lph) max pres.: 150 PSI (10 BAR) |
| | H5 | = 3.15 gph / 76 gpd (11.9 lph) max pres.: 150 PSI (10 BAR) |
| | A3 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 100 PSI (7 BAR) |
| | B4 | = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) |
| | E4 | = 1.85 gph / 44 gpd (7.0 lph) max pres.: 100 PSI (7 BAR) |
| | H6 | = 5.00 gph / 120 gpd (18.9 lph) max pres.: 100 PSI (7 BAR) |
| | H7 | = 10.0 gph / 240 gpd (37.9 lph) max pres.: 35 PSI (2.4 BAR) |
| H8 | = 21.0 gph / 504 gpd (79.5 lph) max pres.: 20 PSI (1.3 BAR) | |

CONTROLS: **S** = Manual On/Off

ELECTRICAL: **A** = 115 Volt / 50-60Hz
1 = 115 Volt / 50-60Hz (w ithout agency approvals)
B = 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-w ire US Plug
2 = 230 Volt / 50-60Hz (w ithout agency approvals)

LIQUID END MATERIALS: **PTC** = GFPPPL / TFE / Ceramic
PTT = GFPPPL / TFE / TFE
KTC = PVDF / TFE / Ceramic (Consult factory for H8)
VHC = PVC / CSPE / Ceramic
VTC = PVC / TFE / Ceramic (models <= 150 psi excluding H7, H8, K7)
WTC = PVC / TFE / Ceramic (models > 150 psi and H7, H8, K7)
ATS = 316 S.S. / TFE / 316 S.S. (must use FNPT piping connection)

See page 6 for additional liquid end materials.

CONNECTION SIZES: **1** = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH
3 = Tubing .38" I.D. x .50" O.D. / .38" Ball, 1.63 - 10 GPH
4 = Piping .25" FNPT / .38" Ball, 1.63 - 10 GPH
B = Tubing .50" I.D. x .75" O.D. / .50" Ball, 21 GPH only
METRIC:
M = G 1/2 A Threads, .38" Ball, 6.15 - 37.85 LPH
R = G 1/2 A Threads, .25" Ball, 0 - 7.10 LPH
Y = 6 x 12mm, .25" Ball, 0 - 7.10 LPH

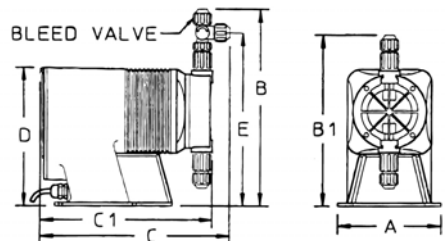
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES: **XXX** = No Additional Options
130 = PVDF Tubing
500 = Five Function Valve
520 = Five Function Degas Valve
ITS = 15 gal. ITS Tank System (ITS Tank not available on LM, LP, LT, and LE: H4, H5, H6, H7, H8, J7, K7 models)
CZXXX = CE Approval (5 digits used for this suffix code)

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LTA3SA-PTC1-XXX'

Dimensions



Series ET Dimensions (inches)

| Model No. | A | B | B1 | C | C1 | D | E | Shipping Weight |
|-----------|-----|------|------|------|------|-----|------|-----------------|
| LTA2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 |
| LTA3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 |
| LTB2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 |
| LTB3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 |
| LTB4 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 |
| LTD4 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 |
| LTE4 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 |
| LTF4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 18 |
| LTG4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 18 |
| LTH4 | 6.1 | 10.9 | - | 11.2 | - | 8.2 | 9.5 | 21 |
| LTH5 | 6.1 | 11.3 | - | 11.2 | - | 8.2 | 9.9 | 21 |
| LTH6 | 6.1 | 11.3 | - | 11.2 | - | 8.2 | 9.9 | 21 |
| LTH7 | 6.1 | 11.7 | - | 11.2 | - | 8.2 | 10.3 | 21 |
| LTH8 * | 6.1 | - | 10.9 | - | 10.6 | 8.2 | - | 25 |

NOTE: Inches X 2.54 = cm

* the LPH8 is designed without a bleed valve available

PULSAtron® PLUS

Electronic Metering Pumps with Integrated Controller

Series T7

Feed Control with 7 Day Timer

The Series T7 was designed to feed chemical products on a timed schedule. Typical applications include the feed of biocides in open-air cooling towers. The feed cycle is initiated and controlled by the programmable timer. The Series T7 provides everything you need in one unique, compact package to create a simple and cost effective metering system for timed applications.

Principal of Operation

The Series T7 is controlled by a 7-day programmable timer. The timer is programmable in 1-minute increments with up to 8 on/off cycles per day. Each timed event can be set to run any day of the week on a 7-day cycle.

Other control features include a standby mode, continuous 'ON' mode and the ability to adjust the stroke length from 0 – 100%.

Features

- Isolated from Earth Ground
- 120VAC or 250VAC @ 50/60 HZ, 5A max
- Mode Select Knob, Stroke Length, Stroke Rate
- 12, 22, 30 & 44 GPD @ 100 psi – 7 bar
- Stroke length adjust 0-100% in 1% increments. Turn down ratio 10:1



Pressure and Flow Rate Capacity

| MODEL | | LC13BA | LC14BA | LC64BA | LC44BA |
|-------------------------|------|--------|--------|--------|--------|
| Capacity nominal (max.) | GPH | 0.50 | 1.00 | 1.25 | 2.00 |
| | GPD | 12 | 24 | 30 | 48 |
| | LPH | 1.9 | 3.8 | 4.7 | 7.6 |
| Pressure (max.) | PSIG | 100 | 100 | 100 | 50 |
| | BAR | 7 | 7 | 7 | 3.3 |

Engineering Data

| | |
|---------------------------------------|--|
| Reproducibility: | +/- 3% at maximum capacity |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |
| Average Current Draw: | |
| @ 115 VAC; Amps: | 0.6 Amps |
| @ 230 VAC; Amps: | 0.3 Amps @ 230 VAC |



7-Day Timer

Solid-state 7-day electronic timer for easy adjustment of metering schedules and feed rates. Manual control allows for easy priming and start-up. The timer is programmable in 1 minute increments, with up to 8 events per day.

PULSAtron Series T7 Selection Guide

| | | |
|----------------|-----------|---|
| MODELS: | 13 | = 0.50 gph / 12 gpd (1.9 lph) max pres.: 100 PSI (7 BAR) |
| | 14 | = 1.00 gph / 24 gpd (3.8 lph) max pres.: 100 PSI (7 BAR) |
| | 64 | = 1.25 gph / 30 gpd (4.7 lph) max pres.: 100 PSI (7 BAR) |
| | 44 | = 2.00 gph / 48 gpd (7.6 lph) max pres.: 50 PSI (3.3 BAR) |

CONTROLS: B = No Options Available

ELECTRICAL: A = 115 Volt / 50-60Hz
 1 = 115 Volt / 50-60Hz (w ithout agency approvals)
 B = 230 Volt / 50-60Hz / 1ph w ith 6' (1.8m) 3-w ire US Plug
 2 = 230 Volt / 50-60Hz (w ithout agency approvals)

LIQUID END MATERIALS: PHC = GFPP / CSPE / Ceramic
 PTC = GFPP / TFE / Ceramic
 Pump Head & KTC = PVDF / TFE / Ceramic
 Fittings/Seats VHC = PVC / CSPE / Ceramic
 & O-rings/Balls VTC = PVC / TFE / Ceramic

See page 6 for additional liquid end materials.

CONNECTION SIZES: 1 = Tubing .25" I.D. x .38" O.D. / .25" Ball, 0 - 1.88 GPH
 9 = Degas Head: .25" I.D. x .38" O.D. / 0-1.83 GPH
 J = Tubing, .25" I.D. x .38" O.D. / .19 Ball; 0 - 1.04 GPH
METRIC:
 Y = 6 x 12mm, .25" Ball, 0 - 7.10 LPH
 T = 6 x 10mm, Degassing (Note: has 10mm suction), 0 - 7.10 LP

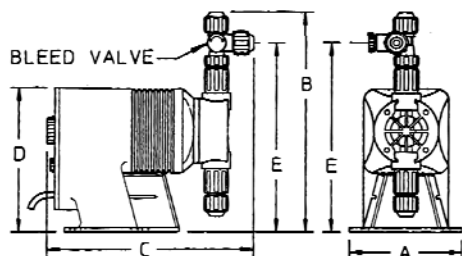
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps and pumps >150PSI in PVC): 4' Suction, 4' Return, 8' discharge tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES: XXX = No Additional Options
 130 = PVDF Tubing
 500 = Five Function Valve
 520 = Five Function Degas Valve
 ITS = 15 gal. ITS Tank System
 CZXXX = CE Approval (5 digits used for this suffix code)

See pages 9, 10 & 11 for additional information and specs.

A completed model number should look like 'LC13BA-PTC1-XXX'

Dimensions



Series T7 Dimensions (inches)

| Model No. | A | B | C | D | E | Shipping Weight |
|-----------|-----|------|------|-----|-----|-----------------|
| LC13BA | 5.0 | 9.6 | 9.5 | 6.5 | 8.2 | 10 |
| LC14BA | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LC64BA | 5.0 | 9.9 | 9.5 | 6.5 | 8.5 | 10 |
| LC44BA | 5.4 | 10.6 | 11.3 | 7.4 | 9.2 | 11.8 |

NOTE: inches X 2.54 = cm

Selecting a KOPkit:

All KOPkit model strings begin with the letter K. The remainder of the string can be determined by knowing your pump model.

When you select your KOPkit, you will need to build the model number based on the pump model string that you purchased. The two pieces of information you need are the head size and the wet-end code, which is part of the model string of the pump.

The pump head size is the fourth digit in the pump model number.

LB02SA-PTC1-XXX
|

The 2 represents your pump head size.

Digits 7-20 in the pump model string represent the wet-end code. It is the group of four digits set apart by the dash lines.

LB02SA-PTC1-XXX
|

These four digits represent your wet-end code.

In the following selection guide, you will break down your wet-end code into the four parts to get your total price for the KOPkit. The four digits in the wet-end code represent the Head Material, Seats & O-Rings, Ball Material and Connection Type. Using the above example, the code breaks down as follows:

- P** - Head Material, including fittings. In this example, the P represents GFPP.
- T** - Seat & O-Ring Material. In this example, the T represents Teflon.
- C** - Types of Balls used in the valves. In this example, the C represents Ceramic.
- 1** - Connection type. In this example, the 1 represents tubing connections for 3/8" OD tubing.

The completed KOPkit number for the above example is:

K2PTC1

Note: If you do not find your connection size in the following selection guide, please consult the factory for accurate pricing. Our philosophy with the PULSAtron product line is to make it as flexible as our customers need it to be.



PULSAtron KOPkit Selection

| | |
|--|---|
| HEAD SIZE The digits 2-8 following the K represents the pump head size. This is represented by the fourth digit in the pump model string. | 2 = |
| | 3 = |
| | 4 = |
| | 5 = |
| | 6 = |
| | 7 = |
| | 8 = (Applies to WTCB only-for other options Consult factory) |

| | |
|-----------------------|---|
| HEAD MATERIALS | A = 316 Stainless Steel |
| | K = PVDF (Kynar) |
| | P = GFPP (Polypropylene) |
| | V = PVC (Poly Vinyl Chloride) (models <= 150 psi excluding H7, H8, K7) |
| | W = PVC (models > 150 psi and H7, H8, K7) |

| | |
|----------------------|------------------|
| SEATS/O-RINGS | H = CSPE |
| | V = Viton |
| | T = TFE |

| | |
|--------------|--------------------------------|
| BALLS | T = TFE |
| | C = Ceramic |
| | S = 316 Stainless Steel |
| | H = Alloy C (Hastelloy) |

| CONNECTION TYPE | Type | Suction | Discharge | Spring |
|-----------------|----------|-------------|-------------|-----------|
| 1 | = Tubing | .25" x .38" | .25" x .38" | |
| 2 | = Piping | .25" FNPT | .25" FNPT | |
| 3 | = Tubing | .38" x .50" | .38" x .50" | |
| 4 | = Piping | .25" FNPT | .25" FNPT | |
| 5 | = Tubing | .50" x .75" | .38" x .50" | Yes |
| 6 | = Piping | .25" FNPT | .25" FNPT | Yes |
| 7 | = Tubing | .50" x .75" | .50" FNPT | Yes |
| 8 | = Piping | .50" FNPT | .50" FNPT | Yes |
| 9 | = Tubing | .25" x .38" | .25" x .38" | Yes Degas |
| A | = Tubing | .38" x .50" | .38" x .50" | |
| B | = Tubing | .50" x .75" | .50" x .75" | |
| C | = Piping | .50" FNPT | .50" FNPT | |
| D | = Tubing | .25" x .38" | .25" x .38" | Yes |
| E | = Tubing | .38" x .50" | .38" x .50" | Yes |
| F | = Tubing | .38" x .50" | .38" x .50" | Yes |
| G | = Piping | .25" FNPT | .25" FNPT | Yes |
| I | = Piping | .50" MNPT | .50" MNPT | Yes |
| J | = Tubing | .25" x .38" | .25" x .38" | |
| K | = Tubing | .50" x .75" | .50" x .75" | Yes |
| L | = Piping | .50" MNPT | .50" MNPT | |
| M | = Piping | G 1/2 A | G 1/2 A | |
| N | = Tubing | 4 x 10 mm | 4 x 10 mm | |
| P | = Tubing | 4 x 6 mm | 4 x 6 mm | |
| Q | = Tubing | 10 x 14 mm | 10 x 14 mm | |
| R | = Piping | G 1/2 A | G 1/2 A | |
| S | = Tubing | 6 x 10 mm | 6 x 10 mm | |
| T | = Tubing | 6 x 10 mm | 6 x 10 mm | Degas |
| U | = Tubing | 6 x 10 mm | 6 x 10 mm | |
| V | = Tubing | 12 x 19 mm | 12 x 19 mm | |
| W | = Tubing | 10 x 16 mm | 10 x 16 mm | |
| Y | = Tubing | 6 x 12 mm | 6 x 12 mm | |
| X | = Piping | .50" MNPT | .50" MNPT | |

PULSAtron® Suction/Discharge Valves

| Suction/Discharge Valve Selection Guide | | L3 | | | | |
|---|---|----|--|--|--|--|
| VALVE TYPE: | 101 = Suction Valve 201 = Discharge Valve | | | | | |
| SEATS: | H = CSPE V = Viton T = TFE | | | | | |
| BALLS: | T = TFE C = Ceramic S = 316 Stainless Steel H = Alloy C (Hastelloy) | | | | | |
| CONNECTION TYPE: | 1 = Double Balls w hen TFE seats selected 2 = Double Balls w hen TFE seats selected 3 = Double Balls w hen TFE seats selected 4 = Double Balls w hen TFE seats selected 5* = Available for Discharge Only (L3201) 6 = 7* = Available for Suction Only (L3101) 8 = A = B* = C = D = Spring Loaded w ith SS Balls E = Spring Loaded w ith SS Balls F = Spring Loaded w ith SS Balls G = Spring Loaded w ith SS Balls I = J = K* = L = M = N = P = Q = R = S = U = V* = W = Y = X = | | | | | |
| MATERIALS OF CONSTRUCTION: | FPP = Glass Filled Polypropylene PVC = Poly Vinyl Chloride PVC = Kynar 316 = 316 Stainless Steel | | | | | |

* Available with Ceramic Balls and PVC Body Only - Consult factory for pricing on other options

LIQUID END COMPONENTS

| Item No. | Part No. | Description | |
|----------|--------------|------------------------------|-------|
| 1 | L0200200-316 | HEAD, PUMP | .750 |
| 1 | L0200200-FPH | HEAD, PUMP | .750 |
| 1 | L0200900-FPH | HEAD, PUMP HSA #2 HEAD J | .750 |
| 1 | L0200900-PV | HEAD, PUMP HSA #2 HEAD J | .750 |
| 1 | L0200200-PV | HEAD, PUMP HSA #2 HEAD J | .750 |
| 1 | L0200300-316 | HEAD, PUMP | 1.000 |
| 1 | L0200300-FPH | HEAD, PUMP | 1.000 |
| 1 | L0202500-HP | HEAD, PUMP | 1.000 |
| 1 | L0200300-PV | HEAD, PUMP | 1.000 |
| 1 | L0200300-PV | HEAD, PUMP | 1.000 |
| 1 | L0201000-FPH | HEAD, PUMP HSA #3 HEAD J | 1.000 |
| 1 | L0201000-PV | HEAD, PUMP HSA #3 HEAD J | 1.000 |
| 1 | L0201000-PV | HEAD, PUMP HSA #3 HEAD J | 1.000 |
| 1 | L0200400-316 | HEAD, PUMP | 1.250 |
| 1 | L0200400-FPH | HEAD, PUMP | 1.250 |
| 1 | L0200400-PV | HEAD, PUMP | 1.250 |
| 1 | L0200400-PV | HEAD, PUMP | 1.250 |
| 1 | L0200500-SS | HEAD, PUMP | 1.625 |
| 1 | L0200500-FPH | HEAD, PUMP | 1.625 |
| 1 | L0200500-PV | HEAD, PUMP | 1.625 |
| 1 | L0200500-PV | HEAD, PUMP | 1.625 |
| 1 | L0200600-SS | HEAD, PUMP | 2.000 |
| 1 | L0200600-FPH | HEAD, PUMP | 2.000 |
| 1 | L0200600-PV | HEAD, PUMP | 2.000 |
| 1 | L0200600-PV | HEAD, PUMP | 2.000 |
| 1 | L0200700-316 | HEAD, PUMP | 2.500 |
| 1 | L0200700-FPH | HEAD, PUMP | 2.500 |
| 1 | L0200700-HP | HEAD, PUMP | 2.500 |
| 1 | L0200700-PV | HEAD, PUMP | 2.500 |
| 1 | L0200800-PP | HEAD, PUMP | 3.625 |
| 1 | L0200800-HP | HEAD, PUMP | 3.625 |
| 2 | L0300900-TH | DIAPHRAGM | .750 |
| 2 | L0301000-TH | DIAPHRAGM | 1.000 |
| 2 | L0301100-TH | DIAPHRAGM | 1.250 |
| 2 | L0301200-TH | DIAPHRAGM | 1.625 |
| 2 | L0301300-TH | DIAPHRAGM | 2.000 |
| 2 | L0301400-TH | DIAPHRAGM | 2.500 |
| 2 | L0301600-TH | DIAPHRAGM | 3.625 |
| 18 | L1501300-HY | SUC/DIS VLV O-RING, CSPE | |
| 18 | L1501300-TF | SUC/DIS VLV O-RING, TFE | |
| 18 | L1501300-VT | SUC/DIS VLV O-RING, VTN | |
| 24 | L1103400-PV | COUPLING NUT 5/16" OD | |
| 24 | L1100300-FPH | COUPLING NUT 3/8" OD | |
| 24 | L1100300-PV | COUPLING NUT 3/8" OD | |
| 24 | L1100300-PV | COUPLING NUT 3/8" OD | |
| 24 | L1100400-FPH | COUPLING NUT 1/2" OD | |
| 24 | L1100400-PV | COUPLING NUT 1/2" OD | |
| 24 | L1100400-PV | COUPLING NUT 1/2" OD | |
| 25 | L9906700-000 | WEIGHT, CERAMIC TUBE | |
| 36 | L1501200-TF | BLEED VLV O-RING, TFE | |
| 60 | L1500700-NTH | SECONDARY SEAL, O-RING 2-109 | |

DRIVE END COMPONENTS

| Item No. | Part No. | Description | |
|----------|--------------|---|--------|
| 3 | L2100200-FPH | DEFLECTION PLATE | .750 |
| 3 | L2100300-FPH | DEFLECTION PLATE | 1.000 |
| 3 | L2100400-FPH | DEFLECTION PLATE | 1.250 |
| 3 | L2100500-FPH | DEFLECTION PLATE | 1.625 |
| 3 | L2100600-FPH | DEFLECTION PLATE | 2.000 |
| 3 | L2100700-FPH | DEFLECTION PLATE | 2.500 |
| 4 | L0400200-FPH | ADAPTER, .750 | HSG #2 |
| 4 | L0400300-FPH | ADAPTER, 1.000 | HSG #2 |
| 4 | L0400400-FPH | ADAPTER, 1.250 | HSG #2 |
| 4 | L0400500-FPH | ADAPTER, 1.625 | HSG #2 |
| 4 | L0400600-FPH | ADAPTER, 1.250 | HSG #3 |
| 4 | L0400700-FPH | ADAPTER, 1.625 | HSG #3 |
| 4 | L0400800-FPH | ADAPTER, 2.000 | HSG #3 |
| 4 | L0400900-FPH | ADAPTER, 2.500 | HSG #3 |
| 4 | L0401100-FPH | ADAPTER, .750 | HSG #1 |
| 4 | L0401200-FPH | ADAPTER, 1.000 | HSG #1 |
| 4 | L0401300-FPH | ADAPTER, 1.250 | HSG #1 |
| 4 | L0401400-PP | ADAPTER, 3.625 | HSG #3 |
| 5 | L9901200-BR | SHIM, DIAPHRAGM | |
| 6 | L1500400-NTH | EPW/ADAPTER O-RING | |
| 6 | L1500600-NTH | EPW/ADAPTER O-RING (ALL H PUMPS) | |
| 7 | L9801700-188 | #10-32 X 2.62 PAN HEAD, PHILLIPS LP_2-4 | |
| 7 | L9801800-188 | .25-20 X 2.62 PAN HEAD, PHILLIPS LP_5-7 | |
| 7 | L9803400-188 | .25-20 X 2.00 PAN HEAD LP_8 | |
| 7 | L9803300-188 | #10-32 X 2.00 PAN HEAD | 316SS |
| 8 | L9801300-188 | #10 REG FLAT WASHER LP_2-4 | |
| 8 | L9801400-188 | .25 REG FLAT WASHER LP_5-8 | |
| 50 | L0100100-115 | EPM A, B, K2, 3 | 115V |
| 50 | L0100100-230 | EPM A, B, K2, 3 | 230V |

DRIVE END COMPONENTS

| Item No. | Part No. | Description | |
|----------|--------------|-------------------------------------|--------------|
| 50 | L0100200-115 | EPM D, E, LE33, 34, 44 | 115V |
| 50 | L0100200-230 | EPM D, E, LE33, 34, 44 | 230V |
| 50 | L0100300-115 | EPM F, G, K5 | 115V |
| 50 | L0100300-230 | EPM F, G, K5 | 230V |
| 50 | L0100400-115 | EPM H7, K7 | 115V |
| 50 | L0100400-230 | EPM H7, K7 | 230V |
| 50 | L0100500-115 | EPM LC, LD54 and LB64 | 115V |
| 50 | L0100500-230 | EPM LC, LD54 and LB64 | 230V |
| 50 | L0100600-115 | EPM LE 2, 3, 12, 13, 14 | 115V |
| 50 | L0100600-230 | EPM LE 2, 3, 12, 13, 14 | 230V |
| 50 | L0100200-012 | EPM LS44 | 12VDC |
| 50 | L0100600-012 | EPM LS 2, 13, 14 | 12VDC |
| 51 | L0500100-080 | HOUSING #3 | .080 STRK |
| 51 | L0501100-040 | HOUSING #2 | .040 STRK |
| 51 | L0501100-080 | HOUSING #2 | .080 STRK |
| 51 | L0500300-040 | HOUSING #1 | .040 STRK |
| 51 | L0500300-080 | HOUSING #1 | .080 STRK |
| 52 | L0700101-125 | CNTRL BD, A-B-D-E SIZE SLD | 115V |
| 52 | L0700102-125 | CNTRL BD, A-B-D-E SIZE SLD | 230V |
| 52 | L0700201-125 | CNTRL BD, EXT/STOP; A, B, D, E | 115V |
| 52 | L0700202-125 | CNTRL BD, EXT/STOP; A, B, D, E | 230V |
| 52 | L0700401-125 | CNTRL BD, 4-20MA/STOP; A, B, D, E | 115V |
| 52 | L0700402-125 | CNTRL BD, 4-20MA/STOP; A, B, D, E | 230V |
| 52 | L0700501-150 | CNTRL BD, F-G SIZE SLD | 115V |
| 52 | L0700502-150 | CNTRL BD, F-G SIZE SLD | 230V |
| 52 | L0700501-200 | CNTRL BD, H-K SIZE SLD | 115V |
| 52 | L0700502-200 | CNTRL BD, H-K SIZE SLD | 230V |
| 52 | L0709401-220 | CNTRL BD, LEH8 | 115V |
| 52 | L0709402-220 | CNTRL BD, LEH8 | 230V |
| 52 | L0709101-220 | CNTRL BD, LVH7, LP/LVH8 | 115V |
| 52 | L0709102-220 | CNTRL BD, LVH7, LP/LVH8 | 230V |
| 52 | L0700801-150 | CNTRL BD, EXT/STOP; F, G | 115V |
| 52 | L0700802-150 | CNTRL BD, EXT/STOP; F, G | 230V |
| 52 | L0700801-200 | CNTRL BD EXT/STOP H SIZE SLD | 115V |
| 52 | L0700802-200 | CNTRL BD EXT/STOP H SIZE SLD | 230V |
| 52 | L0709301-220 | CNTRL BD EXT/STOP LVH7, LP/LVH8 | 115V |
| 52 | L0709302-220 | CNTRL BD EXT/STOP LVH7, LP/LVH8 | 230V |
| 52 | L0700901-150 | CNTRL BD, 4-20 MA/STOP; F, G | 115V |
| 52 | L0700902-150 | CNTRL BD, 4-20 MA/STOP; F, G | 230V |
| 52 | L0700901-200 | CNTRL BD, 4-20 MA/STOP; H | 115V |
| 52 | L0700902-200 | CNTRL BD, 4-20MA/STOP; H | 230V |
| 52 | L0709201-220 | CNTRL BD, 4-20MA/STP, LVH7, LP/LVH8 | 115V |
| 52 | L0709202-220 | CNTRL BD, 4-20MA/STP, LVH7, LP/LVH8 | 230V |
| 52 | L0701900-150 | CNTRL BD, E - DC | |
| 52 | L9906500-000 | CNTRL BD, 0, 5 SIZE SING FUNC | 115V |
| 52 | L9906600-000 | CNTRL BD, 0, 5 SIZE SING FUNC | 230V |
| 52 | L9906201-000 | CNTRL BD, C+, A+ | 115V |
| 52 | L9906202-000 | CNTRL BD, C+, A+ | 230V |
| 52 | L0702701-125 | CNTRL BD, LM A, B, C, D, E/K2, 3 | SIGNAL RELAY |
| 52 | L0702702-125 | CNTRL BD, LM A, B, C, D, E/K2, 3 | SIGNAL RELAY |
| 52 | L0702901-125 | CNTRL BD, LM A, B, C, D, E/K2, 3 | POWER RELAY |
| 52 | L0702902-125 | CNTRL BD, LM A, B, C, D, E/K2, 3 | POWER RELAY |
| 52 | L0703801-150 | CNTRL BD, LM F, G, K5 | SIGNAL RELAY |
| 52 | L0703802-150 | CNTRL BD, LM F, G, K5 | SIGNAL RELAY |
| 52 | L0703701-150 | CNTRL BD, LM F, G, K5 | POWER RELAY |
| 52 | L0703702-150 | CNTRL BD, LM F, G, K5 | POWER RELAY |
| 52 | L0702801-190 | CNTRL BD, LM H, K7 Signal Relay | 115V |
| 52 | L0702802-190 | CNTRL BD, LM H, K7 Signal Relay | 230V |
| 52 | L0703001-190 | CNTRL BD, LM H, K7 | 115V |
| 52 | L0703002-190 | CNTRL BD, LM H, K7 | POWER RELAY |
| 52 | L0705006-120 | CNTRL BD, EXT, C+, A+ | 230V |
| 52 | L0705106-120 | CNTRL BD, EXT, SERIES C | 230V |
| 52 | L0705110-120 | CNTRL BD, EXT, C (LC54) | 230V |
| 53 | L0601200-000 | CNTRL PNL, SERIES MP SIGNAL, H & K7 | |
| 53 | L0601300-000 | CNTRL PNL, SERIES MP SIGNAL | |
| 53 | L0601400-000 | CNTRL PNL, SERIES MP POWER | |
| 53 | L0601500-000 | CNTRL PNL, SERIES MP POWER, H & K7 | |
| 53 | L0601600-000 | CNTRL PNL (ALL H & K7 PUMPS) | |
| 54 | L1600400-000 | DUST COVER, CONT PNL | HSG #3 |
| 54 | L1600500-000 | DUST COVER, CONT PNL | HSG #2 |
| 55 | L2000100-040 | SHAFT, ADJ FEMALE .040 | HSG #2,3 |
| 55 | L2000100-080 | SHAFT, ADJ FEMALE .080 | HSG #2,3 |
| 55 | L2000200-040 | SHAFT, ADJ FEMALE .040 | HSG #1 |

DRIVE END COMPONENTS

| Item No. | Part No. | Description | |
|----------|--------------|---|----------|
| 55 | L2000200-080 | SHAFT, ADJ FEMALE .080 | HSG #1 |
| 56 | L2000300-PBT | SHAFT, ADJ MALE | HSG #2,3 |
| 56 | L2000400-PBT | SHAFT, ADJ MALE | HSG #1 |
| 59 | L1500100-EPB | O-RING, HSG #1/CONT PNL | |
| 59 | L1500300-NTR | O-RING, HSG #2/CONT PNL | |
| 59 | L1500500-NTR | O-RING, HSG #3/CONT PNL | |
| 61 | L9900600-000 | CONNECTOR, LIQUID TIGHT | |
| 61 | L9900700-000 | CONNECTOR, STRAIN RELIEF | |
| 62 | L9700300-000 | CORD, POWER, SERIES C, E | 125V |
| 62 | L9700400-000 | CORD, POWER, SERIES C, E | 230V |
| 62 | L9701200-000 | CORD, POWER, SERIES E PLUS | 125V |
| 62 | L9701300-000 | CORD, POWER, SERIES E PLUS | 230V |
| 63 | L9700700-250 | CIRCUIT BREAKER, SERIES MP | |
| 63 | L9707300-000 | FUSE 2 AMP, SERIES E, E PLUS | |
| 63 | L9706900-000 | BOARD MNTD FUSE, SERIES A+, C+, C, E | |
| 64 | L9800200-188 | CNTRL PNL SCREW | |
| 65 | L1500800-NTR | GROMMET, STROKE LENGTH | |
| 66 | L1900800-000 | KNOB, STROKE RATE/SWITCH | |
| 70 | L9700500-000 | LOCKING TAB | |
| 71 | L1900100-FPP | KNOB, STROKE LENGTH | |
| 71 | L1900300-FPP | KNOB, STROKE LENGTH | |
| 72 | L9800200-188 | KNOB MOUNTING SCREW | |
| 76 | L1500900-NTR | GROMMET STROKE LENGTH | |
| 81 | L5000801-115 | CNTRL PANEL ASSY, A-B-D-E SIZE SLDS | 115V |
| 81 | L5000801-230 | CNTRL PANEL ASSY, A-B-D-E SIZE SLDS | 230V |
| 81 | L5000901-115 | CNTRL PANEL ASSY, EXT/STOP, A-B-D-E SIZE SLDS | 115V |
| 81 | L5000901-230 | CNTRL PANEL ASSY, EXT/STOP, A-B-D-E SIZE SLDS | 230V |
| 81 | L5001001-115 | CNTRL PANEL ASSY, 4-20MA/STOP, A-B-D-E SIZE SLDS | 115V |
| 81 | L5001001-230 | CNTRL PANEL ASSY, 4-20MA/STOP, A-B-D-E SIZE SLDS | 230V |
| 81 | L5000301-230 | CNTRL PANEL ASSY, F-G SIZE SLDS | 230V |
| 81 | L5001301-115 | CNTRL PANEL ASSY, H SIZE SLD | 115V |
| 81 | L5001301-230 | CNTRL PANEL ASSY, H SIZE SLD | 230V |
| 81 | L5028500-115 | CNTRL PANEL ASSY, LEH8 | 115V |
| 81 | L5028500-230 | CNTRL PANEL ASSY, LEH8 | 230V |
| 81 | L5028201-115 | CNTRL PANEL ASSY, LVH7, LP/LVH8 | 115V |
| 81 | L5028200-230 | CNTRL PANEL ASSY, LVH7, LP/LVH8 | 230V |
| 81 | L5001401-115 | CNTRL PANEL ASSY, EXT/STOP, H SIZE SLD | 115V |
| 81 | L5001401-230 | CNTRL PANEL ASSY, EXT/STOP, H SIZE SLD | 230V |
| 81 | L5028301-115 | CNTRL PANEL ASSY, EXT/STOP, LVH7, LP/LVH8 | 115V |
| 81 | L5028300-230 | CNTRL PANEL ASSY, EXT/STOP, LVH7, LP/LVH8 | 230V |
| 81 | L5001501-115 | CNTRL PANEL ASSY, 4-20MA/STOP, H SIZE SLD, 115V | 115V |
| 81 | L5001501-230 | CNTRL PANEL ASSY, 4-20MA/STOP, H SIZE SLD | 230V |
| 81 | L5028401-115 | CNTRL PANEL ASSY, 4-20MA/STOP, LVH7, LP/LVH8 | 115V |
| 81 | L5028401-230 | CNTRL PANEL ASSY, 4-20MA/STOP, LVH7, LP/LVH8 | 230V |
| 81 | L5000100-012 | CNTRL PANEL ASSY, E-DC SIZE 01, 13, 14 | |
| 81 | L5000200-012 | CNTRL PANEL ASSY, E-DC SIZE 44 | |
| 81 | L5000100-115 | CNTRL PANEL ASSY, SERIES E 0-1/SIZE SLD | 115V |
| 81 | L5000100-230 | CNTRL PANEL ASSY, SERIES E 0-1/SIZE SLD | 230V |
| 81 | L5000200-115 | CNTRL PANEL ASSY, 3-4 SIZE SLDS | 115V |
| 81 | L5000200-230 | CNTRL PANEL ASSY, 3-4 ZISE SLDS | 230V |
| 81 | L5002900-115 | CNTRL PANEL ASSY SIN-FUNC 0-SIZE SLD, 115V SERIES C | |
| 81 | L5002900-230 | CNTRL PANEL ASSY SIN-FUNC 0-SIZE SLD, 230V SERIES C | |
| 81 | L5003000-115 | CNTRL PANEL ASSY SIN-FUNC 5-SIZE SLD, 115V SERIES C | |
| 81 | L5003000-230 | CNTRL PANEL ASSY SIN-FUNC 5-SIZE SLD, 230V SERIES C | |
| 81 | L5011000-115 | CNTRL PANEL ASSY EXT PACE SIZE 54, SERIES C | 115V |
| 81 | L5013000-115 | CNTRL PANEL ASSY EXT PACE SIZE 54, SERIES C | 115V |
| 81 | L5003014-115 | CNTRL PANEL ASSY, EXT/STOP K5 | 115V |
| 81 | L5003015-115 | CNTRL PANEL ASSY, 4-20MA/STOP K2 | 115V |

DRIVE END COMPONENTS

| Item No. | Part No. | Description | |
|----------|--------------|--|------|
| 81 | L5003016-115 | CNTRL PANEL ASSY, 4-20MA/STOP LPK5 | 115V |
| 81 | L5003701-115 | CNTRL PANEL ASSY, STD K SIZE SLD | 115V |
| 81 | L5003701-230 | CNTRL PANEL ASSY, STD K SIZE SLD | 230V |
| 81 | L5003801-115 | CNTRL PANEL ASSY, EXT/STOP K SIZE SLD | 115V |
| 81 | L5003801-230 | CNTRL PANEL ASSY, EXT/STOP K SIZE SLD | 230V |
| 81 | L5003903-115 | CNTRL PANEL ASSY, 4-20MA/STOP K7 | 115V |
| 81 | L5003903-230 | CNTRL PANEL ASSY, 4-20MA/STOP K7 | 230V |
| 81 | L5004100-115 | CNTRL PANEL ASSY, SIN-FUNC SIZE 54, 115V SERIES C PLUS | |
| 81 | L5004100-230 | CNTRL PANEL ASSY, SIN-FUNC SIZE 54, 230V SERIES C PLUS | |
| 81 | L5010800-230 | CNTRL PANEL ASSY EXT PACE SIZE 02, 03, 04, C3, C4 SERIES A+/C+ | 230V |
| 81 | L5010900-230 | CNTRL PANEL ASSY EXT PACE SIZE 54, 64 SERIES A+/C+ | 230V |
| 81 | L5005200-115 | CNTRL PANEL ASSY, SIZE 02, 03, 04, C3, C4 SERIES A+/C+ | 115V |
| 81 | L5005300-230 | CNTRL PANEL ASSY, SIZE 02, 03, 04, C3, C4 SERIES A+/C+ | 230V |
| 81 | L5004800-115 | CNTRL PANEL ASSY, SIZE 54, 64 SERIES A+/C+ | 115V |
| 81 | L5004900-230 | CNTRL PANEL ASSY, SIZE 54, 64 SERIES A+/C+ | 230V |
| 81 | L5007501-115 | CNTRL PNL ASSY LMK2 SIGNAL RELAY | 115V |
| 81 | L5007301-115 | CNTRL PNL ASSY LMA,B,C,D,E,K3 SIGNAL RELAY | 115V |
| 81 | L5007501-230 | CNTRL PNL ASSY LMK2 SIGNAL RELAY | 230V |
| 81 | L5007301-230 | CNTRL PNL ASSY LMA,B,C,D,E,K3 SIGNAL RELAY | 230V |
| 81 | L5007601-115 | CNTRL PNL ASSY LMK2 POWER RELAY | 115V |
| 81 | L5007401-115 | CNTRL PNL ASSY LMA,B,C,D,E,K3 POWER RELAY | 115V |
| 81 | L5007601-230 | CNTRL PNL ASSY LMK2 POWER RELAY | 230V |
| 81 | L5007401-230 | CNTRL PNL ASSY LMA,B,C,D,E,K3 POWER RELAY | 230V |
| 81 | L5007701-115 | CNTRL PNL ASSY LMK5 SIGNAL RELAY | 115V |
| 81 | L5007101-115 | CNTRL PNL ASSY LMF, G SIGNAL RELAY | 115V |
| 81 | L5007701-230 | CNTRL PNL ASSY LMK5 SIGNAL RELAY | 230V |
| 81 | L5007101-230 | CNTRL PNL ASSY LMF, G SIGNAL RELAY | 230V |
| 81 | L5007801-115 | CNTRL PNL ASSY LMK5 POWER RELAY | 115V |
| 81 | L5007201-115 | CNTRL PNL ASSY LMF, G POWER RELAY | 115V |
| 81 | L5007801-230 | CNTRL PNL ASSY LMK5 POWER RELAY | 230V |
| 81 | L5007201-230 | CNTRL PNL ASSY LMF, G POWER RELAY | 230V |
| 81 | L5007901-115 | CNTRL PNL ASSY LMK7 SIGNAL RELAY | 115V |
| 81 | L5006901-115 | CNTRL PNL ASSY LMH SIGNAL RELAY | 115V |
| 81 | L5007901-230 | CNTRL PNL ASSY LMK7 SIGNAL RELAY | 230V |
| 81 | L5006901-230 | CNTRL PNL ASSY LMH SIGNAL RELAY | 230V |
| 81 | L5008001-115 | CNTRL PNL ASSY LMK7 POWER RELAY | 115V |
| 81 | L5007001-115 | CNTRL PNL ASSY H POWER RELAY | 115V |
| 81 | L5008001-230 | CNTRL PNL ASSY LMK7 POWER RELAY | 230V |
| 81 | L5007001-230 | CNTRL PNL ASSY H POWER RELAY | 230V |
| 88 | L9804000-000 | GROUND LUG NUT | |
| 89 | L9800500-STL | GROUND LUG BOLT | |
| 92 | L9700800-000 | BREAKER COVER | |
| | L9700200-000 | CORD, SIGNAL, 10 FT | |
| | L9700201-000 | CORD, SIGNAL, 20 FT | |
| | L9700800-000 | PROTECTIVE BOOT, CKT BRKER | |

BLEED VALVE ASSEMBLIES

| Item No. | Part No. | Description | OD |
|----------|--------------|-------------|------|
| 11 | L3300H01-FPP | FPP/CSPE | 3/8" |
| 11 | L3300H01-PVC | PVC/CSPE | 3/8" |
| 11 | L3300H03-FPP | FPP/CSPE | 1/2" |
| 11 | L3300H03-PVC | PVC/CSPE | 1/2" |
| 11 | L3300T01-FPP | FPP/TFE | 3/8" |
| 11 | L3300T01-PVC | PVC/TFE | 3/8" |
| 11 | L3300T01-PVD | PVD/TFE | 3/8" |
| 11 | L3300T03-FPP | FPP/TFE | 1/2" |
| 11 | L3300T03-PVC | PVC/TFE | 1/2" |
| 11 | L3300T03-PVD | PVD/TFE | 1/2" |
| 11 | L3300V01-FPP | FPP/VTN | 3/8" |
| 11 | L3300V01-PVC | PVC/VTN | 3/8" |
| 11 | L3300V01-PVD | PVD/VTN | 3/8" |
| 11 | L3300V03-FPP | FPP/VTN | 1/2" |
| 11 | L3300V03-PVC | PVC/VTN | 1/2" |
| 11 | L3300V03-PVD | PVD/VTN | 1/2" |

FOOT VALVE / STRAINER ASSEMBLIES

| Item No. | Part No. | Description | ID X OD |
|----------|----------|--------------|--------------|
| 12 | J40117 | FPP/CSPE/C | 3/8" X 1/2" |
| 12 | J40203 | FPP/CSPE/316 | 3/8" X 1/2" |
| 12 | J40123 | FPP/CSPE/TFE | 3/8" X 1/2" |
| 12 | J60509 | FPP/VTN/C | 3/8" X 1/2" |
| 12 | J40141 | FPP/VTN/316 | 3/8" X 1/2" |
| 12 | J40125 | FPP/VTN/TFE | 3/8" X 1/2" |
| 12 | J40212 | FPP/FTF/C | 3/8" X 1/2" |
| 12 | J40175 | FPP/FTF/316 | 3/8" X 1/2" |
| 12 | J40171 | FPP/FTF/TFE | 3/8" X 1/2" |
| 12 | J60728 | PVD/FTF/C | 3/8" X 1/2" |
| 12 | J60729 | PVD/CSPE/C | 3/8" X 1/2" |
| 12 | J60730 | PVD/VTN/C | 3/8" X 1/2" |
| 12 | J40116 | FPP/CSPE/C | 1/4" X 3/8" |
| 12 | J40156 | FPP/CSPE/316 | 1/4" X 3/8" |
| 12 | J40122 | FPP/CSPE/TFE | 1/4" X 3/8" |
| 12 | J60524 | FPP/VTN/C | 1/4" X 3/8" |
| 12 | J40158 | FPP/VTN/316 | 1/4" X 3/8" |
| 12 | J40124 | FPP/VTN/TFE | 1/4" X 3/8" |
| 12 | J40211 | FPP/FTF/C | 1/4" X 3/8" |
| 12 | J40170 | FPP/FTF/316 | 1/4" X 3/8" |
| 12 | J40169 | FPP/FTF/TFE | 1/4" X 3/8" |
| 12 | J60716 | PVD/FTF/C | 1/4" X 3/8" |
| 12 | J60717 | PVD/CSPE/C | 1/4" X 3/8" |
| 12 | J60718 | PVD/VTN/C | 1/4" X 3/8" |
| 12 | J40095 | 316 | .25 NPT |
| 12 | J40195 | FPP/CSPE/C | .25 NPT |
| 12 | J40187 | FPP/VTN/C | .25 NPT |
| 12 | J40179 | FPP/FTF/C | .25 NPT |
| 12 | J60503 | FPP | .50 NPT |
| 12 | J60561 | FPP | 1/2 X 3/4" |
| 12 | J60564 | FPP/FTF/C | 3/16 X 5/16" |
| 12 | J60712 | PVD/FTF/C | 3/16 X 5/16" |

STAINLESS STEEL VALVE REPAIR KITS

| Part No. | Description |
|--------------|-------------------------|
| L9904200-316 | VALVE REPAIR KIT - ATS2 |
| L9904600-316 | VALVE REPAIR KIT - ATS4 |
| L9904700-316 | VALVE REPAIR KIT - ATS6 |
| L9904800-316 | VALVE REPAIR KIT - ATS8 |
| L9904900-316 | VALVE REPAIR KIT - ATSG |

TUBING

| Part No. | Description |
|--------------|----------------------------------|
| 00007 | SUCT, 3/8 OD, CLEAR PVC FT |
| 00008 | DISCH, 1/2 OD, WHITE PE FT |
| 00009 | DISCH, 1/2 OD, BLACK PE FT |
| 00010 | DISCH, 3/8 OD, WHITE PE FT |
| 00011 | DISCH, 3/8 OD, BLACK PE FT |
| J00012 | DISCH, 1/2 OD, HI PRES, WHITE FT |
| 00013 | DISCH, 1/2 OD, HI PRES, BLACK FT |
| J00022 | DISCH, 3/8 OD, HI PRES, WHITE FT |
| J00023 | SUCT, 1/2 OD, CLEAR PVC FT |
| J00024 | DISCH, 3/8 OD, HI PRES, BLACK FT |
| J00032 | SUCT/DISCH, 3/4 OD, CLEAR PVC FT |
| L9902900-000 | PVDF TUBING, 3/8 OD FT |
| L9903000-000 | PVDF TUBING, 1/2 OD FT |
| L9904300-PEB | SUCT, 5/16 OD, PE BLACK FT |
| L9904300-PEW | SUCT, 5/16 OD, PE WHITE FT |
| L9904300-PVC | SUCT, 5/16 OD, CLEAR PVC FT |
| L9904300-PVD | SUCT, 5/16 OD, PVDF WHITE FT |
| L9904500-PEW | DISCH, 1/2 X 5/8, PE WHITE FT |
| L9913200-BRD | PVC CLEAR BRAIDED, 3/4 OD FT |

INJECTION BACK PRESS VALVE ASSEMBLIES

| Item No. | Part No. | Description | ID X OD |
|----------|------------|---------------|-------------|
| 13 | J41767 | FPP/CSPE/C | 3/8" X 1/2" |
| 13 | J41863 | FPP/CSPE/316 | 3/8" X 1/2" |
| 13 | J41773 | FPP/CSPE/TFE | 3/8" X 1/2" |
| 13 | 41716 | FPP/VTN/C | 3/8" X 1/2" |
| 13 | J41882 | FPP/VTN/316 | 3/8" X 1/2" |
| 13 | J41775 | FPP/VTN/TFE | 3/8" X 1/2" |
| 13 | J41872 | FPP/FTF/C | 3/8" X 1/2" |
| 13 | J41879 | FPP/FTF/316 | 3/8" X 1/2" |
| 13 | J41875 | FPP/FTF/TFE | 3/8" X 1/2" |
| 13 | J41694 | PVC/CSPE/C | 3/8" X 1/2" |
| 13 | 41698 | PVC/CSPE/C 6" | 3/8" X 1/2" |
| 13 | 41702 | PP/VTN/C 6" | 3/8" X 1/2" |
| 13 | J41865 | PVC/CSPE/316 | 3/8" X 1/2" |
| 13 | J41759 | PVC/CSPE/TFE | 3/8" X 1/2" |
| 13 | J41714 | PVC/VTN/C | 3/8" X 1/2" |
| 13 | J41095 | PVC/VTN/316 | 3/8" X 1/2" |
| 13 | J41761 | PVC/VTN/TFE | 3/8" X 1/2" |
| 13 | J41873 | PVC/FTF/C | 3/8" X 1/2" |
| 13 | J41881 | PVC/FTF/316 | 3/8" X 1/2" |
| 13 | J41877 | PVC/FTF/TFE | 3/8" X 1/2" |
| 13 | J61073 | PVD/FTF/TFE | 3/8" X 1/2" |
| 13 | J61021 | PVD/FTF/C | 3/8" X 1/2" |
| 13 | J41766 | FPP/CSPE/C | 1/4" X 3/8" |
| 13 | J41862 | FPP/CSPE/316 | 1/4" X 3/8" |
| 13 | J41772 | FPP/CSPE/TFE | 1/4" X 3/8" |
| 13 | 41715 | FPP/VTN/C | 1/4" X 3/8" |
| 13 | 41701 | FPP/VTN/C 6" | 1/4" X 3/8" |
| 13 | J41866 | FPP/VTN/316 | 1/4" X 3/8" |
| 13 | J41774 | FPP/VTN/TFE | 1/4" X 3/8" |
| 13 | J61098 | FPP/FTF/C | 1/4" X 3/8" |
| 13 | J41878 | FPP/FTF/316 | 1/4" X 3/8" |
| 13 | J41874 | FPP/FTF/TFE | 1/4" X 3/8" |
| 13 | 41693 | PVC/CSPE/C | 1/4" X 3/8" |
| 13 | 41705 | PVC/CSPE/C 6" | 1/4" X 3/8" |
| 13 | J41864 | PVC/CSPE/316 | 1/4" X 3/8" |
| 13 | J41758 | PVC/CSPE/TFE | 1/4" X 3/8" |
| 13 | J61237 | PVC/VTN/C | 1/4" X 3/8" |
| 13 | J41867 | PVC/VTN/316 | 1/4" X 3/8" |
| 13 | 41760 | PVC/VTN/TFE | 1/4" X 3/8" |
| 13 | J41996 | PVC/FTF/C | 1/4" X 3/8" |
| 13 | J41880 | PVC/FTF/316 | 1/4" X 3/8" |
| 13 | J41876 | PVC/FTF/TFE | 1/4" X 3/8" |
| 13 | J61020 | PVD/FTF/C | 1/4" X 3/8" |
| 13 | J61026 | PVD/FTF/TFE | 1/4" X 3/8" |
| 13 | J41911 | FPP/CSPE/C | .25 NPT |
| 13 | J41901 | FPP/VTN/C | .25 NPT |
| 13 | J41944 | FPP/FTF/C | .25 NPT |
| 13 | J41904 | PVC/CSPE/C | .25 NPT |
| 13 | J41858 | PVC/VTN/C | .25 NPT |
| 13 | J41908 | PVC/FTF/C | .25 NPT |
| 13 | J61015 | PVD/FTF/C | .25 NPT |
| 13 | J61025 | 316/FTF/316 | .25 NPT |
| 13 | J41969 | PVC/CSPE/C | 1/2 X 3/4" |
| 13 | J61149-10P | FPP/FTF/C | 1/2 X 3/4" |
| 13 | J61152-10P | FPP/CSPE/C | 1/2 X 3/4" |
| 13 | J61160-10P | FPP/FTF/C | .50 NPT |
| 13 | J61157-10P | PVC/FTF/C | .50 NPT |
| 13 | J61156-10P | PVC/TFE/S | .50 NPT |

OTHER

| Part No. | Description |
|--------------|-----------------------------------|
| 26858 | BULKHEAD FITTING - PP 1/2" |
| 26859 | BULKHEAD FITTING - PVC 1/2" |
| 26860 | BULKHEAD FITTING - PVC 3/8" |
| 26867 | BULKHEAD FITTING - PP 3/8" |
| L9905000-FPP | J CONVERSION KIT (FPP/TFE/C) |
| L9905000-PVC | J CONVERSION KIT (PVC/TFE/C) |
| L9905100-FPP | J CONVERSION KIT (FPP/TFE/C) |
| L9905100-PVC | J CONVERSION KIT (PVC/TFE/C) |
| L9905100-PVD | J CONVERSION KIT (PVD/TFE/C) |
| L9906901-000 | CONV. KIT (.75" VVC9) DEGAS HEAD |
| L9907001-000 | CONV. KIT (1.00" VVC9) DEGAS HEAD |
| L9907101-000 | CONV. KIT (1.25" VVC9) DEGAS HEAD |

OMNI Mechanical Diaphragm Pumps

OMNI mechanical metering pumps and controllers are the economical standard for a reliable chemical feed pump with virtually no maintenance. For high technology in a simple to understand package at an economical price, add an MPC (metering pump controller) to the OMNI pump to take advantage of complete system integration between metering pump and process. The OMNI offers the following user friendly benefits

- **Long Life** - DC2—DC6 are greased for life, DC7 is oil lubricated.
- **Compact and Lightweight** - Saves space and easy handling.
- **Controller Ready** - Add an MPC when automatic pump control is required.
- **Simple Design** - Easy to install and operate.
- **Highly Efficient** - Quiet and cool, standard fan cooled motor design.
- **Guided Ball Check Valve Systems**, to reduce back flow and enhance outstanding priming characteristics.
- **Premium Standard Wetted Component Materials**.
- **Few Moving Parts** and **Wall Mountable**.
- **Liquid End Materials**— PP, PVDF & 316 SS



MPC NO MOTOR OPTION

| Minimal MPC Motor Requirements: | |
|---------------------------------|---|
| HP/KW | Defined on order (Pump Dependent) |
| Voltage | 230V nominal |
| Base Freq | 50 or 60Hz (by Mfg's Motor design) |
| Type | TEFC |
| Phases | 3 phase |
| Poles | 4 poles, 1500 rpm (50 hz) or 1,800 rpm (60hz) synchronous speed |
| SF | >=1.05 |
| Turn Down | Minimum 3:1 constant torque |
| Insulation | Class F or better |
| Inverter Duty | Not Required |

Performance & Selection Table

| MODEL | DC2A | DC2B | DC2C | DC3B | DC3C | DC4B | DC4C | DC4D | DC5C | DC5D | DC6C | DC6D | |
|----------------------|-------------|------|------|------------------------|------|------|-------------|----------------------|------|------------------|-------|--------------------|--|
| Capacity GPH | 7 | 13.9 | 24 | 32.3 | 55.5 | 40.6 | 61.8 | 78.9 ¹ | 105 | 138 | 218.7 | 272.6 ¹ | |
| 60 hz & MPC LPH | 26.4 | 52.8 | 90.8 | 122 | 210 | 154 | 234 | 298.8 ¹ | 396 | 522 ¹ | 828 | 1032 ¹ | |
| Capacity GPH | 5.8 | 11.6 | 20 | 26.9 | 46.2 | 33.8 | 51.5 | 65.8 | 87.2 | 115 | 182.3 | 227.2 | |
| 50 hz LPH | 22 | 44 | 75.7 | 102 | 175 | 128 | 195 | 249 | 330 | 435 | 690 | 860 | |
| Pressure PSIG (max.) | 150 | | | 75 | | | 150 | | | 90 | | 45 | |
| BAR | 10.3 | | | 5.1 | | | 10.3 | | | 6.2 | | 3.1 | |
| SPM @ 1725 | 44 | 88 | 150 | 88 | 150 | 117 | 175 | 223 ¹ | 175 | 223 ¹ | 175 | 223 ¹ | |
| 1425 | 37 | 73 | 125 | 73 | 125 | 97 | 145 | 186 | 146 | 186 | 146 | 186 | |
| HP/kW Required | 0.25 / 0.18 | | | | | | 0.50 / 0.37 | | | | | | |
| Connection Size | 1/4" (F)NPT | | | 1/2" (F)NPT OR (F)BSPT | | | | 1" (F)NPT OR (F)BSPT | | | | | |

¹This selection uses a high stroking rate, use with caution. Must have at least 25 psig discharge pressure and water-like viscosity.



Mechanical Diaphragm Pumps

OMNI DC7 Series Selection Guide

| | | | | | |
|---|--|-----|---|---|---|
| MODELS | 7C = PP - 412 GPH (1560 LPH) @60Hz & MPC or 343.4 GPH (1300 LPH) @50Hz 7C = PVDF ² - 412 GPH (1560 LPH) @60Hz & MPC or 343.4 GPH (1300 LPH) @50Hz 7D = PP - 507 ¹ GPH (1920 ¹ LPH) @60Hz & MPC or 423 GPH (1600 LPH) @50Hz 7D = PVDF ² - 507 ¹ GPH (1920 ¹ LPH) @60Hz & MPC or 423 GPH (1600 LPH) @50Hz Duplex Models 7J = PP - 824 GPH (3120 LPH) @60Hz & MPC or 687 GPH (2600 LPH) @50Hz 7J = PVDF ² - 824 GPH (3120 LPH) @60Hz & MPC or 687 GPH (2600 LPH) @50Hz 7K = PP - 1014 ¹ GPH (3840 ¹ LPH) @60Hz & MPC or 845 GPH (3200 LPH) @50Hz 7K = PVDF ² - 1014 ¹ GPH (3840 ¹ LPH) @60Hz & MPC or 845 GPH (3200 LPH) @50Hz | DC7 | - | - | - |
| ¹ Caution: This pump has a high stroke rate & needs at least 25 psig back pressure and water-like viscosity. | | | | | |
| ² These pumps are subject to export restrictions. | | | | | |
| MOTORS | 1 = 90 IEC FRAME 2 = 100 IEC FRAME 3 = 56C FRAME 4 = 145TC FRAME | | | | |
| WET END MATERIALS: | P = PP Liquid End - PTFE Diaphragm and PTFE O-rings - Ceramic Ball Valves F = PVDF Liquid End - PTFE Diaphragm and PTFE O-rings - Ceramic Ball Valve | | | | |
| | X = No Motor Purchased (Pump will come with Main Assy and Motor Frame Kit) M = Motor Purchased (as line item) (Pump will come completely assembled) | | | | |

OMNI DC7 Series Selection Guide

| | | | | | |
|---|--|----|---|---|---|
| MODELS | EP = MPC VECTOR | EP | C | B | - |
| ENCLOSURE | C = NEMA 4X (IP56) | | | | |
| RATINGS | B = 2 HP (1.5kW) 208-240 VAC, 1 Phase, 50/60 Hz | | | | |
| LANGUAGE | X = English A = German B = French C = Spanish | | | | |
| A completed model number should look like "EPCBX" | | | | | |

Motor Selection

| Part Number | Power (hp / kW) | Volts | Phase | Hz | RPM | Frame | Enclosur |
|-----------------|----------------------|---------------|-------|-------|-------------|------------|----------|
| MD496 | 1.5 / 1.1 | 208-230 / 460 | 3 | 60 | 1725 | NEMA 56C | TEFC |
| W773127-001 ** | 2 / 1.5 (DC7 Duplex) | | | 60 | | NEMA 145TC | |
| NP500622-000 | 1.5 / 1.1 | | | 60 | 1140 | NEMA 56C | |
| NP500619-000 | 1.5 / 1.1 | 220 / 380 | 3 | 50/60 | 1425 / 1725 | IEC 90 | TEFC |
| NP500624-000 ** | 2 / 1.5 (DC7 Duplex) | | | | | | |
| NP500621-000 | 1.5 / 1.1 | | | | | | |

Performance & Selection Table

| MODEL | DC7C | DC7D | DC7J | DC7K |
|-----------------|--|-------------------|---------|-------------------|
| Capacity GPH | 412 | 507 ¹ | 824 | 1014 ¹ |
| 60 hz & MPC LPH | 1560 | 1920 ¹ | 3120 | 3840 ¹ |
| Capacity GPH | 343 | 423 | 687 | 845 |
| 50 hz LPH | 1300 | 1600 | 2600 | 3200 |
| Pressure PSIG | 60 | | | |
| (max.) BAR | 4.1 | | | |
| SPM @ 1725 | 175 | 223 ¹ | 175 | 223 ¹ |
| 1425 | 146 | 186 | 146 | 186 |
| HP/kW Required | 1.5 / 1.1 | | 2 / 1.5 | |
| Connection Size | 1 1/2" (F)NPT, ANSI 1 1/2" & DIN 40 FLANGE | | | |

¹This selection uses a high stroking rate, use with caution.
Must have at least 25 psig discharge pressure and water-like viscosity.



Mechanical Diaphragm Pumps

Common Pump Accessories - Omni & Others

| Component | Size | Material | Part No. |
|--------------------------------|-----------------|------------------|---------------|
| Drip Cover, Motor | 56C | Steel, Baldor | NP999119 |
| Pressure Relief Valves | 1/2" | PVC/TFE | NA100001-PVC |
| | 1/2" | PVDF/TFE | NA100001-PVD |
| | 1/2" | SS/TFE | NA100001-316 |
| | 1" | PVC/TFE | NA100002-PVC |
| | 1" | PVDF/TFE | NA100002-PVD |
| | 1" | SS/TFE | NA100002-316 |
| | 1.5" | PVC/TFE | NA100003-PVC |
| Back Pressure Valves | 1/2" | PVC/TFE | NA200001-PVC |
| | 1/2" | PVDF/TFE | NA200001-PVD |
| | 1/2" | SS/TFE | NA200001-316 |
| | 1" | PVC/TFE | NA200002-PVC |
| | 1" | PVDF/TFE | NA200002-PVD |
| | 1" | SS/TFE | NA200002-316 |
| | 1.5" | PVC/TFE | NA200003-PVC |
| Gauge Isolator w/ 200PSI Gauge | 1/4" | CPVC/TFE | NA500001-CPVC |
| | 1/4" | PVDF/TFE | NA500001-PVD |
| | 1/4" | 316SS/TFE | NA500001-316 |
| Calibration Column | 1/2" | PVC 100mL | NA300001-PVC |
| | 1/2" | PVC 200mL | NA300002-PVC |
| | 3/4" | PVC 500mL | NA300003-PVC |
| | 3/4" | PVC 1000mL | NA300004-PVC |
| | 1" | PVC 2000mL | NA300005-PVC |
| | 1" | PVC 4000mL | NA300006-PVC |
| | 2" | PVC 10,000mL | NA300007-PVC |
| | 2" | PVC 20,000mL | NA300008-PVC |
| | 1/2" | Glass/PVD 100mL | NA300009-PVD |
| | 1/2" | Glass/PVD 200mL | NA300010-PVD |
| | 3/4" | Glass/PVD 500mL | NA300011-PVD |
| | 3/4" | Glass/PVD 1000mL | NA300012-PVD |
| | 1" | Glass/PVD 2000mL | NA300013-PVD |
| | 1" | Glass/PVD 4000mL | NA300014-PVD |
| | 1/2" | Glass/SS 100mL | NA300015-316 |
| | 1/2" | Glass/SS 200mL | NA300016-316 |
| | 3/4" | Glass/SS 500mL | NA300017-316 |
| 3/4" | Glass/SS 1000mL | NA300018-316 | |
| 1" | Glass/SS 2000mL | NA300019-316 | |
| 1" | Glass/SS 4000mL | NA300020-316 | |
| Y Strainer | 1/2" | PVC | 40085 |
| | 1/2" | CPVC | NA400001-CPVC |
| | 1/2" | PVD | NA400001-PVD |
| | 1" | PVC | NA400002-PVC |
| | 1" | CPVC | NA400002-CPVC |
| 1" | PVD | NA400002-PVD | |

OMNI KOPkit Selection Guide

| Type Connectio | Wetted Material | Pump | KOPkit Number | List Adder |
|----------------|-----------------|------------|---------------|------------|
| NPT | PVDF | DC2 | NL K020FP | \$ 300.80 |
| NPT | PVDF | DC3 or DC4 | NL K040FP | \$ 451.20 |
| BSPT | PVDF | DC3 or DC4 | NL K040FB | \$ 451.20 |
| NPT | PVDF | DC5 | NL K050FP | \$ 630.40 |
| BSPT | PVDF | DC5 | NL K050FB | \$ 630.40 |
| NPT | PVDF | DC6 | NL K060FP | \$ 804.50 |
| BSPT | PVDF | DC6 | NL K060FB | \$ 804.50 |
| NPT | PP | DC5 | NL K050PP | \$ 516.10 |
| BSPT | PP | DC5 | NL K050PB | \$ 516.10 |
| NPT | PP | DC6 | NL K060PP | \$ 679.80 |
| BSPT | PP | DC6 | NL K060PB | \$ 679.80 |
| N/A | PVDF & PP | DC7 | NL K070XX | \$ 578.90 |
| NPT | 316SS | DC2 | NL K020AP | \$ 510.90 |
| NPT | 316SS | DC3 or DC4 | NL K040AP | \$ 750.90 |
| BSPT | 316SS | DC3 or DC4 | NL K040AB | \$ 750.90 |
| NPT | 316SS | DC5 | NL K050AP | \$ 904.40 |
| BSPT | 316SS | DC5 | NL K050AB | \$ 810.70 |
| NPT | 316SS | DC6 | NL K060AP | \$ 891.00 |
| BSPT | 316SS | DC6 | NL K060AB | \$ 891.00 |

150 PSI Pulsation Dampeners - Chargeable

| Volume | Body | Bladder | Connection | Part Number |
|------------------|--------|---------|-------------|--------------|
| 10 cubic inches | POLY | EPDM | 3/8" FNPT | W777614-PPN |
| | | CSPE | 3/8" FNPT | W777614-PPH |
| | | TFE | 3/8" FNPT | W777614-PPT |
| | | Viton | 3/8" FNPT | W777614-PPV |
| | | CSPE | 1/2" FNPT | L9908300-HYP |
| | | TFE | 1/2" FNPT | L9908300-TFE |
| | PVC | Viton | 1/2" FNPT | L9908300-VIT |
| | | CSPE | 1/2" FNPT | L9908400-HYP |
| | | TFE | 1/2" FNPT | L9908400-TFE |
| | | Viton | 1/2" FNPT | L9908400-VIT |
| | | EPDM | 3/8" FNPT | W777614-PVN |
| | | CSPE | 3/8" FNPT | W777614-PVH |
| | PVDF | TFE | 3/8" FNPT | W777614-PVT |
| | | Viton | 3/8" FNPT | W777614-PVV |
| | | EPDM | 3/8" FNPT | W777611-16N |
| | | CSPE | 3/8" FNPT | W777611-16H |
| | | TFE | 3/8" FNPT | W777611-16T |
| | | Viton | 3/8" FNPT | W777611-16V |
| 85 cubic inches | POLY | EPDM | 3/4" FNPT | W777616-PPN |
| | | CSPE | 3/4" FNPT | W777616-PPH |
| | | TFE | 3/4" FNPT | W777616-PPT |
| | | Viton | 3/4" FNPT | W777616-PPV |
| | | EPDM | 3/4" FNPT | W777616-PVN |
| | | CSPE | 3/4" FNPT | W777616-PVH |
| | PVDF | TFE | 3/4" FNPT | W777616-PVT |
| | | Viton | 3/4" FNPT | W777616-PVV |
| | | EPDM | 3/4" FNPT | W777613-16N |
| | | CSPE | 3/4" FNPT | W777613-16H |
| | | TFE | 3/4" FNPT | W777613-16T |
| | | Viton | 3/4" FNPT | W777613-16V |
| | 316 SS | EPDM | 2" FNPT | W777618-PPN |
| | | CSPE | 2" FNPT | W777618-PPH |
| | | TFE | 2" FNPT | W777618-PPT |
| | | Viton | 2" FNPT | W777618-PPV |
| | | EPDM | 2" FNPT | W777618-PVN |
| | | CSPE | 2" FNPT | W777618-PVH |
| PVDF | TFE | 2" FNPT | W777618-PVT | |
| | Viton | 2" FNPT | W777618-PVV | |
| | EPDM | 2" FNPT | W777631-16N | |
| | CSPE | 2" FNPT | W777631-16H | |
| | TFE | 2" FNPT | W777631-16T | |
| | Viton | 2" FNPT | W777631-16V | |
| 370 cubic inches | POLY | EPDM | 3/4" FNPT | W777615-PPN |
| | | CSPE | 3/4" FNPT | W777615-PPH |
| | | TFE | 3/4" FNPT | W777615-PPT |
| | | Viton | 3/4" FNPT | W777615-PPV |
| | | EPDM | 3/4" FNPT | W777615-PVN |
| | | CSPE | 3/4" FNPT | W777615-PVH |
| | PVDF | TFE | 3/4" FNPT | W777615-PVT |
| | | Viton | 3/4" FNPT | W777615-PVV |
| | | EPDM | 3/4" FNPT | W777612-16N |
| | | CSPE | 3/4" FNPT | W777612-16H |
| | | TFE | 3/4" FNPT | W777612-16T |
| | | Viton | 3/4" FNPT | W777612-16V |
| | 316 SS | EPDM | 2" FNPT | W777617-PPN |
| | | CSPE | 2" FNPT | W777617-PPH |
| | | TFE | 2" FNPT | W777617-PPT |
| | | Viton | 2" FNPT | W777617-PPV |
| | | EPDM | 2" FNPT | W777617-PVN |
| | | CSPE | 2" FNPT | W777617-PVH |
| PVDF | TFE | 2" FNPT | W777617-PVT | |
| | Viton | 2" FNPT | W777617-PVV | |
| | EPDM | 2" FNPT | W777630-16N | |
| | CSPE | 2" FNPT | W777630-16H | |
| | TFE | 2" FNPT | W777630-16T | |
| | Viton | 2" FNPT | W777630-16V | |

Specifica 150 PSI Maximum Pressure

CHEM-TECH Peristaltic Pumps

Series XP

The Chem-Tech XP Series with peristaltic technology delivers worry-free dosing in a modern design. Each and every component of the XP Series is designed and manufactured for optimum reliability and durability for **REAL** Performance.

The electronic timing circuit in the adjustable 'A' Models provides **reliable** pump control, without relying on mechanical adjustment components that wear out over time. The intuitive interface and controls provide **easy** operation and the peristaltic design is virtually maintenance-free.

Tailor-made for the water conditioning market, the XP Series offer **affordable** solutions in both initial cost and operation. A rugged gear train and computer-aided peristaltic design ensure **long-lasting** performance.



Tested and Certified by WQA
against NSF/ANSI 61-Section 8.
and CSA B483.1



Chem-Tech XP Series Selection Guide

| MODELS: | Pump Size | Flow | Pressure Rating - PSI (Bar) | | | | Tube Size | Speed (RPM) | XP |
|---------|-------------------|-----------|-----------------------------|----------|----------|----------|-----------|-------------|----|
| | | | Single Head Options | | | Duplex | | | |
| | | | 'H' Tube | 'L' Tube | 'F' Tube | 'L' Tube | | | |
| XP004 | 4 GPD (0.6 LPH) | | | | 80 (5.5) | 2 | 30 | | |
| XP007 | 7 GPD (1.1 LPH) | 125 (8.6) | 80 (5.5) | 60 (4.1) | | | 50 | | |
| XP009 | 9 GPD (1.4 LPH) | | | | 70 (4.8) | 3 | 30 | | |
| XP015 | 15 GPD (2.4 LPH) | 110 (7.6) | 70 (4.8) | 50 (3.4) | | | 50 | | |
| XP014 | 14 GPD (2.3 LPH) | | | | 50 (3.4) | 4 | 30 | | |
| XP023 | 23 GPD (3.6 LPH) | 100 (5.9) | 50 (3.4) | 40 (2.8) | | | 50 | | |
| XP030 | 30 GPD (4.7 LPH) | 80 (5.5) | | | 40 (2.8) | 6 | 30 | | |
| XP050 | 50 GPD (7.9 LPH) | | 40 (2.8) | | | | 50 | | |
| XP048 | 48 GPD (7.5 LPH) | | | | 25 (1.7) | 8 | 30 | | |
| XP080 | 80 GPD (12.6 LPH) | | 25 (1.7) | | | | 50 | | |

| ELECTRICAL: | L | 115V, 60Hz |
|---|---|--|
| | H | 230V, 50/60Hz |
| | R | 230V, 50Hz with Grounded Right Angle European Plug |
| Note: 50Hz pumps will produce 5/6 of the rated flow | | |

| DRIVE: | F | Fixed Rate, On / Off Only |
|--------|---|---|
| | A | Adjustable 20:1 Turndown, On / Off with Current Interrupter Timer |
| | B | Duplex Head - Fixed Rate, On / Off Only, 'L' Tube |
| | G | Duplex Head - Adjustable, On / Off with Current Interrupter Timer, 'L' Tube |
| | 1 | Pulse Input, .1 to 1 Second Timer |
| | 2 | Pulse Input, .2 to 10 Second Timer |
| | 3 | Pulse Input, 1 to 60 Second Timer |
| | 4 | Dry Contact Input - Fixed Rate Pump |
| | 5 | Dry Contact Input - Adjustable Pump |
| | 6 | Flow Switch Activated with 3/4" NPT Flow Switch - Fixed Rate Pump |
| | 7 | Flow Switch Activated with 3/4" NPT Flow Switch - Adjustable Rate Pump |
| | 8 | 7 Day - 8 Event Electronic Timer - Fixed Rate Pump |

| TUBING: | L | Low Pressure Noreprene with 1/4" Tube Fittings |
|---------|---|---|
| | H | High Pressure Noreprene with 1/4" Tube Fittings |
| | 3 | Low Pressure Noreprene with 3/8" Tube Fittings |
| | 4 | High Pressure Noreprene with 3/8" Tube Fittings |
| | F | Fluran, Acid resistant tubing with 1/4" Tube Fittings (Doesnot include strainer & injector accessories) |
| | G | Fluran, Acid resistant tubing with 3/8" Tube Fittings (Doesnot include strainer & injector accessories) |

| SYSTEM: | X | Pump Only |
|---------|---|-----------------------|
| | 1 | 15 Gallon Tank System |
| | 3 | 35 Gallon Tank System |
| | T | 15 Gallon ITS System |

A completed model should look like "XP030LFLX"

CHEM-TECH Peristaltic Pumps

Series XPV

The Chem-Tech XPV Series pump combines the best in variable speed peristaltic pump technology with state of the art control electronics, providing you with unparalleled performance, control and value. The XPV represents the leading edge of microprocessor performance management, giving you many choices of input signal types, and onboard timer programs to customize this pump to any application. Of course, this pump is as rugged and reliable as it's fixed speed siblings, the XPF and the XPA.



Key Features

- Variable Speed
- Fully Scalable 4-20mA Input
- Hall Effect Input
- Contacting Head Water Meter
- Flow Totalization
- Cycle Timer
- Daily Timer
- LCD Display

Tested and Certified by WQA
against NSF/ANSI 61-Section 8.
and CSA B483.1



Chem-Tech Series XPV uses Chem-Tech Large Pump Discount Structure

Chem-Tech XPV Series Selection Guide

| MODELS: | Pump Size | Flow | Pressure Rating - PSI (Bar) | | | | Tube Size | Speed (RPM) | XP_ _ _ |
|-------------|--------------------|---|-----------------------------|----------|-----------------------|----------|-----------|-------------|---------|
| | | | Single Head Options | | Duplex | | | | |
| | | | 'H' Tube | 'L' Tube | 'F' Tube | 'L' Tube | | | |
| XP008 | 8 GPD (1.3 LPH) | 125 (8.6) | 80 (5.5) | 60 (4.1) | 80 (5.5) | 2 | 65 | | |
| XP017 | 17 GPD (2.7 LPH) | 110 (7.6) | 70 (4.8) | 50 (3.4) | 70 (4.8) | 3 | Max. | | |
| XP033 | 33 GPD (5.2 LPH) | 100 (5.9) | 50 (3.4) | 40 (2.8) | 50 (3.4) ¹ | 4 | Max. | | |
| XP055 | 55 GPD (8.7 LPH) | 80 (5.5) | 40 (2.8) | | 40 (2.8) ² | 6 | 60 | | |
| XP100 | 100 GPD (15.8 LPH) | | 25 (1.7) | | 25 (1.7) | 8 | Max. | | |
| ELECTRICAL: | L | 115V, 60Hz | | | | | | | |
| | H | 230V, 60/50Hz | | | | | | | |
| | R | 230V, 60/50Hz with Grounded Right Angle European Plug | | | | | | | |
| DRIVE: | V | Variable Input Control with I/O Cable | | | | | | | |
| | G | Duplex Head - Low Pressure Norprene with 1/4" Tube Fitting | | | | | | | |
| TUBING: | L | Low Pressure Norprene with 1/4" Tube Fittings | | | | | | | |
| | H | High Pressure Norprene with 1/4" Tube Fittings | | | | | | | |
| | 3 | Low Pressure Norprene with 3/8" Tube Fittings | | | | | | | |
| | 4 | High Pressure Norprene with 3/8" Tube Fittings | | | | | | | |
| | F | Fluran, Acid resistant tubing with 1/4" Tube Fittings (Doesnot include strainer & injector accessories) | | | | | | | |
| | G | Fluran, Acid resistant tubing with 3/8" Tube Fittings (Doesnot include strainer & injector accessories) | | | | | | | |
| SYSTEM: | X | Pump Only | | | | | | | |
| | 1 | 15 Gallon Tank System | | | | | | | |
| | 3 | 35 Gallon Tank System | | | | | | | |
| | T | 15 Gallon ITS System | | | | | | | |

A completed model should look like "XP033LVLX"

¹Max flow rate is 15 GPD (2.4 LPH) with Fluran tube.

²Max flow rate is 28 GPD (4.4 LPH) with Fluran tube.

XP & XPV SERIES PARTS PRICE SCHEDULE

Part Number Description

KOPkits - Low Pressure

| | |
|------------|-----------------------------|
| NCKA2LPAP1 | KOPkit XP - 004 / 007 / 008 |
| NCKA3LPAP1 | KOPkit XP - 009 / 015 / 017 |
| NCKA4LPAP1 | KOPkit XP - 023 / 033 / 014 |
| NCKA6LPAP1 | KOPkit XP - 030 / 050 / 055 |
| NCKA8LPAP1 | KOPkit XP - 048 / 080 / 100 |

KOPkits - High Pressure

| | |
|-------------|------------------------------|
| NCKA2HPAP1 | KOPkit XP - 004 / 007 / 008 |
| NCKA3HPAP1 | KOPkit XP - 009 / 015 / 017 |
| NCKA4HPAP1 | KOPkit XP - 023 / 033 / 014 |
| NCKA6HPAP1 | KOPkit XP - 030 / 055 |
| NCKA24PA P1 | KOPkit XP - 004 / 008 - 3/8" |
| NCKA44PA P2 | KOPkit XP - 033 / 014 - 3/8" |

KOPkits - Duplex Low Pressure

| | |
|------------|-----------------------|
| NCKD2LPAP1 | KOPkit XP - 004 / 008 |
| NCKD3LPAP1 | KOPkit XP - 009 / 017 |
| NCKD4LPAP1 | KOPkit XP - 033 / 014 |
| NCKD6LPAP1 | KOPkit XP - 030 / 055 |
| NCKD8LPAP1 | KOPkit XP - 048 / 100 |

TUBE KITS

Low Pressure 1/4" Tube Fittings

| | |
|------------------|----------------------------------|
| NC90XX2LPA-XXXXX | Kit, Tube Assy - 004 / 007 / 008 |
| NC90XX3LPA-XXXXX | Kit, Tube Assy - 009 / 015 / 017 |
| NC90XX4LPA-XXXXX | Kit, Tube Assy - 023/ 033 / 014 |
| NC90XX6LPA-XXXXX | Kit, Tube Assy - 030 / 050 / 055 |
| NC90XX8LPA-XXXXX | Kit, Tube Assy - 080 / 100 |

High Pressure 1/4" Tube Fittings

| | |
|------------------|----------------------------------|
| NC90XX2HPA-XXXXX | Kit, Tube Assy - 004 / 007 / 008 |
| NC90XX3HPA-XXXXX | Kit, Tube Assy - 009 / 015 / 017 |
| NC90XX4HPA-XXXXX | Kit, Tube Assy - 023/ 033 / 014 |

| | |
|------------------|----------------------------|
| NC90XX6HPA-XXXXX | Kit, Tube Assy - 030 / 055 |
|------------------|----------------------------|

Low Pressure 3/8" Tube Fittings

| | |
|------------------|----------------------------------|
| NC90XX23PA-XXXXX | Kit, Tube Assy - 004 / 007 / 008 |
| NC90XX33PA-XXXXX | Kit, Tube Assy - 009 / 015 / 017 |
| NC90XX43PA-XXXXX | Kit, Tube Assy - 023/ 033 / 014 |
| NC90XX63PA-XXXXX | Kit, Tube Assy - 030 / 050 / 055 |
| NC90XX83PA-XXXXX | Kit, Tube Assy - 080 / 100 |

High Pressure 3/8" Tube Fittings

| | |
|------------------|----------------------------------|
| NC90XX24PA-XXXXX | Kit, Tube Assy - 004 / 007 / 008 |
| NC90XX34PA-XXXXX | Kit, Tube Assy - 009 / 015 / 017 |
| NC90XX44PA-XXXXX | Kit, Tube Assy - 023/ 033 / 014 |
| NC90XX64PA-XXXXX | Kit, Tube Assy - 030 / 055 |

Fluran 1/4" Tubing Fittings

| | |
|------------------|----------------------------------|
| NC90XX2FPA-XXXXX | Kit, Tube Assy - 004 / 007 / 008 |
| NC90XX3FPA-XXXXX | Kit, Tube Assy - 009 / 015 / 017 |
| NC90XX4FPA-XXXXX | Kit, Tube Assy - 023/ 033 / 014 |

Fluran 3/8" Tubing Fittings

| | |
|------------------|----------------------------------|
| NC90XX2GPA-XXXXX | Kit, Tube Assy - 004 / 007 / 008 |
| NC90XX3GPA-XXXXX | Kit, Tube Assy - 009 / 015 / 017 |
| NC90XX4GPA-XXXXX | Kit, Tube Assy - 023/ 033 / 014 |

Part Number Description

ACCESSORIES ASSEMBLY

| | |
|--------|-----------------------------|
| J63051 | Access. Kit, PVC/V/TN, .25N |
| J30257 | Grease Kit |

PARTS

| | |
|------------------|------------------------------------|
| J60609 | Strainer Assembly w/o Valve |
| J63002 | Control Panel Cover (Clear) |
| J63004 | Rain Hood |
| J63007 | Sw itch, On-Off |
| J63013 | Timer Assy |
| J63016 | Gear Motor, 30RPM / 120V / 50-60Hz |
| J63017 | Gear Motor, 30RPM / 240V / 50-60Hz |
| J63018 | Gear Motor, 50RPM / 120V / 50-60Hz |
| J63019 | Gear Motor, 50RPM / 240V / 50-60Hz |
| J63023 | Housing Assy, 100% Fixed Rate |
| J63024 | Housing Assy, 100% Timer |
| L1900500-000 | Thumb Screw #6 (Control Pnl Cover) |
| NC110002-PVC | Coupling Nut, .25 NPT |
| NC110016-000 | Sleeve, .25 OD Tube |
| NC170004-000 | Label, Earth Ground |
| NC190000-000 | Knob, #10 Thumb Screw (Head Mtg) |
| U8800712 | Injection Valve Assembly |
| NC82XX3LP1-XXXXX | Roller Assembly For Size 2-6 Tubes |
| NC82XX8LP1-XXXXX | Roller Assembly For Size 8 Tube |

TANK / WALL MOUNT KITS

| | |
|--------|-------------------------------|
| J63047 | 15 Gal Tank Bracket |
| J63048 | ITS Tank Adaptor Plate |
| J63049 | Tank / Wall Mount with Shield |

WATER METER PULSE TIMER

| | |
|----------|------------------------------------|
| U8800655 | Control Mate, 115V |
| U8800715 | Control Mate LT, 0.1 to 10 seconds |
| U0818343 | Bracket, Mount |

XPV Series Parts

| | |
|--------|---------------------------------------|
| J63006 | Drive Motor, Variable Speed |
| J63053 | Digital Control Board, Variable Speed |
| J63054 | Power Supply, Variable Speed |
| J63071 | Motor Control Board, Variable Speed |
| J63115 | Fuse Kit, Variable Speed |

CHEM-TECH Mechanical Diaphragm Pumps

Prime Performance

The Chem-Tech Prime Performance Series pumps have a specially designed degassing valve system for applications using off-gassing chemicals like sodium hypochlorite. Built upon motorized-diaphragm technology, the Prime Performance Series delivers dependable performance, extended longevity and consistent metering over long periods of time in a compact form.

A top-mounted, one-way vent valve assembly evacuates gas bubbles from the pump head, providing for reliable operation.



| Standard Agency Listings | | | |
|--|-----|--------|----|
| Model | ETL | ETLsan | CE |
| All 60Hz | X | X | |
| All 50Hz | | | X |
| Contact factory for alternate listings | | | |

| PRIME PERFORMANCE Selection Guide | | X | - | - | A | - | - |
|---|--|---|---|---|---|---|---|
| MODELS: | 015 = 15 gpd (2.34 lph) max pres.: 100 PSI (7 BAR) 024 = 24 gpd (3.78 lph) max pres.: 100 PSI (7 BAR) 030 = 30 gpd (4.72 lph) max pres.: 100 PSI (7 BAR) 068 = 68 gpd (10.72 lph) max pres.: 60 PSI (4 BAR) 100 = 100 gpd (15.76 lph) max pres.: 60 PSI (4 BAR) | | | | | | |
| ELECTRICAL: | XA = 115V, 60 Hz XB = 230V, 50 Hz XC = 230V, 60 Hz | | | | | | |
| LIQUID END MATERIALS: Head, Fittings/ Diaph., Seats/ Balls | BAA = PVC / CSPE / Ceramic BBA = PVC / Viton / Ceramic | | | | | | |
| CONNECTION SIZES: | 6 = Tubing .38" PE BLK Suction / .38" PE BLK Discharge / .38" PE BLK Return 8 = Tubing .38" PVC Suction / .38" PE Discharge / .38" PVC Return 7 = Tubing .50" PE BLK Suction / .50" PE BLK Discharge / .50" PE BLK Return 9 = Tubing .50" PVC Suction / .50" PE Discharge / .50" PVC Return | | | | | | |
| SUFFIX CODES: | XXX = Standard CZXXX = CE Approval 001 = Current Interrupter 15T = 15 gal tank w / bulkhead for vent, level w and, safety cap & fasteners 35T = 35 gal tank w / bulkhead for vent and fasteners | | | | | | |
| A complete model should look like "X024-XA-BBA9XXX" | | | | | | | |

Pumps come with foot valve/strainer/weight, 4' of suction tubing, 4' of return tubing, 8' of discharge tubing, and injection/back pressure valve assembly.

CHEM-TECH KOPkits

| PRIME PERFORMANCE KOPkit Selection Guide | | KX100 | - | - | A | - |
|---|--|-------|---|---|---|---|
| PRODUCT DESIGNATOR: | KX100 = Chem-Tech Kopkit | | | | | |
| LIQUID END MATERIALS: Head, Diaph., Seats & Balls | BAA = PVC / CSPE / Ceramic BBA = PVC / Viton / Ceramic | | | | | |
| CONNECTION : | 6 = Tubing .38" Suction / Discharge / Return 8 = Tubing .38" Suction / Discharge / Return 7 = Tubing .50" Suction / Discharge / Return 9 = Tubing .50" Suction / Discharge / Return | | | | | |

CHEM-TECH Mechanical Diaphragm Pumps

Series 100, 150, 200

Series 100 Models - The preferred metering pump for water conditioning professionals around the world. Perfect for applications where economical, consistent performance is required. Capable of a wide range of flows, from less than 3 USgpd up to 30 USgpd and pressures up to 100 psig.

Series 150 Models - Built upon the same solid platform as the 100 Models, these units are capable of higher flowrates. With a range offering up to 100 USgpd, the Series 150 can meet the demands of larger applications. Maximum pressure is 60 psig.

Series 200 Models - The pump popular for their rugged design for continuous duty operation offers feed rates from 10 to 120 gpd and pressures up to 150 psi.



| Standard Agency Listings | | | |
|--|-----|--------|----|
| Model | ETL | ETLsan | CE |
| All 60Hz | X | X | |
| 100-150 50Hz | | | X |
| 200 50Hz | | | |
| Contact factory for alternate listings | | | |



Note: Standard Features do not add to the pump price.

Chem-Tech Series 100, 150, 200 Selection Guide

| | | |
|----------------|---|--|
| MODELS: | Series 100 | |
| | X003 | = 3 gpd (0.47 lph) max pres.: 100 PSI (7 BAR) |
| | X007 | = 7 gpd (1.00 lph) max pres.: 100 PSI (7 BAR) |
| | X015 | = 15 gpd (2.34 lph) max pres.: 100 PSI (7 BAR) |
| | X024 | = 24 gpd (3.78 lph) max pres.: 100 PSI (7 BAR) |
| | X030 | = 30 gpd (4.72 lph) max pres.: 100 PSI (7 BAR) |
| | Series 150 | |
| | X068 | = 68 gpd (10.72 lph) max pres.: 60 PSI (4 BAR) |
| | X100 | = 100 gpd (15.76 lph) max pres.: 60 PSI (4 BAR) |
| | Series 200 | |
| | X210 | = 10 gpd (1.5 lph) max pres.: 150 PSI (10 BAR) |
| | X215 | = 15 gpd (2.34 lph) max pres.: 150 PSI (10 BAR) |
| | X220 | = 20 gpd (3.15 lph) max pres.: 150 PSI (10 BAR) |
| | X230 | = 30 gpd (4.72 lph) max pres.: 125 PSI (9 BAR) |
| | X240 | = 40 gpd (6.31 lph) max pres.: 125 PSI (9 BAR) |
| | X260 | = 60 gpd (9.46 lph) max pres.: 125 PSI (9 BAR) |
| | X280 | = 80 gpd (12.6 lph) max pres.: 100 PSI (7 BAR) |
| | 2100 | = 100 gpd (15.76 lph) max pres.: 100 PSI (7 BAR) |
| 2120 | = 120 gpd (18.91 lph) max pres.: 80 PSI (6 BAR) | |

| | | |
|--------------------|----|--|
| ELECTRICAL: | XA | = 115V, 60 Hz |
| | XB | = 230V, 50 Hz (not available in 2120) |
| | XC | = 230V, 60 Hz |
| | XD | = 115V, 50/60 Hz, T.E.F.C. (X200's only) |
| | XL | = 230V, 50/60 Hz, T.E.F.C. (X200's only) |

| | | |
|--|-----------------------------------|-----------------------------------|
| LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls | AAA | = Clear PVC / CSPE / Ceramic |
| | AAB | = Clear PVC / CSPE / TFE |
| | ABA | = Clear PVC / Viton / Ceramic |
| | ABB | = Clear PVC / Viton / TFE |
| | ACA | = Clear PVC / TFE/Viton / Ceramic |
| | AHA | = Clear PVC / TFE/CSPE / Ceramic |
| | BAA | = PVC / CSPE / Ceramic |
| | BAB | = PVC / CSPE / TFE |
| | BBA | = PVC / Viton / Ceramic |
| | BBB | = PVC / Viton / TFE |
| | BHA | = PVC / TFE/CSPE / Ceramic |
| | DAA | = PP / CSPE / Ceramic |
| | DAB | = PP / CSPE / TFE |
| | DBA | = PP / Viton / Ceramic |
| | DBB | = PP / Viton / TFE |
| GFA | = Clear PVC / TFE / Ceramic (dbl) | |
| GFB | = Clear PVC / TFE / TFE (dbl) | |
| EFC | = 316SS / TFE / 316SS (dbl) | |

| | | |
|--------------------------|----------|---|
| CONNECTION SIZES: | A | = Tubing .44" PVC Suction / .50" PE Discharge |
| | C | = Tubing .38" PVC Suction / .38" PE Discharge |
| | F | = Tubing .44" PVC Suction / .50" PE BLK Discharge |
| | S | = Tubing .38" PVC Suction / .38" PE BLK Discharge |
| | X w/ 316 | = .25" FNPT Suction / .25" FNPT Discharge |

| | | |
|----------------------|-------|-----------------------------|
| SUFFIX CODES: | XXX | = Standard |
| | CZXXX | = CE Approval |
| | 001 | = Current Interrupter |
| | 500* | = Five Function Valve |
| | 520* | = Five Function Degas Valve |
| | ITS | = 15 gal ITS Tank System |

* Not available in SS. Adder price is per head.

A completed model number should look like "X015-XA-BAAAXX"

CHEM-TECH Mechanical Diaphragm Pumps

Series 100D and 150D

Offering the same features as the Series 100 and 150 Models but configured as duplex units capable of dosing 2 chemicals at different rates.

Note: Standard Features do not add to the pump price.

Remember that liquid end adders must be doubled for duplex pump models.



| Standard Agency Listings | | | |
|--|-----|--------|----|
| Model | ETL | ETLsan | CE |
| All 60Hz | X | X | |
| 100-150 50Hz | | | X |
| 200 50Hz | | | |
| Contact factory for alternate listings | | | |



Chem-Tech Series 100D and 150D Duplex Selection Guide

| MODELS: | Series 100D Duplex Pump |
|---------|---|
| 144 | = 4.0 gpd (0.63 lph) / 4.0 gpd (0.63 lph) max pres.: 50 PSI (3.5 BAR) |
| 145 | = 5.0 gpd (0.79 lph) / 4.0 gpd (0.63 lph) max pres.: 50 PSI (3.5 BAR) |
| 155 | = 5.0 gpd (0.79 lph) / 5.0 gpd (0.79 lph) max pres.: 50 PSI (3.5 BAR) |
| 244 | = 6.5 gpd (1.03 lph) / 6.5 gpd (1.03 lph) max pres.: 75 PSI (5.25 BAR) |
| 245 | = 7.5 gpd (1.18 lph) / 6.5 gpd (1.03 lph) max pres.: 75 PSI (5.25 BAR) |
| 255 | = 7.5 gpd (1.18 lph) / 7.5 gpd (1.18 lph) max pres.: 75 PSI (5.25 BAR) |
| 264 | = 12.0 gpd (1.89 lph) / 8.0 gpd (1.26 lph) max pres.: 60 PSI (4.2 BAR) |
| 265 | = 12.0 gpd (1.89 lph) / 9.0 gpd (1.43 lph) max pres.: 60 PSI (4.2 BAR) |
| 344 | = 14.0 gpd (2.21 lph) / 14.0 gpd (2.21 lph) max pres.: 75 PSI (5.25 BAR) |
| 345 | = 18.0 gpd (2.84 lph) / 14.0 gpd (2.21 lph) max pres.: 75 PSI (5.25 BAR) |
| 355 | = 18.0 gpd (2.84 lph) / 18.0 gpd (2.84 lph) max pres.: 75 PSI (5.25 BAR) |
| 364 | = 25.0 gpd (3.94 lph) / 15.0 gpd (2.37 lph) max pres.: 60 PSI (4.2 BAR) |
| 365 | = 25.0 gpd (3.94 lph) / 19.0 gpd (3.0 lph) max pres.: 60 PSI (4.2 BAR) |
| 444 | = 30.0 gpd (4.72 lph) / 30.0 gpd (4.72 lph) max pres.: 75 PSI (5.25 BAR) |
| 445 | = 30.0 gpd (4.72 lph) / 33.0 gpd (5.20 lph) max pres.: 75 PSI (5.25 BAR) |
| | Series 150D |
| 455 | = 33.0 gpd (5.20 lph) / 33.0 gpd (5.20 lph) max pres.: 75 PSI (5.25 BAR) |
| 464 | = 69.0 gpd (10.88 lph) / 32.0 gpd (5.05 lph) max pres.: 60 PSI (4.2 BAR) |
| 465 | = 69.0 gpd (10.88 lph) / 24.0 gpd (3.79 lph) max pres.: 60 PSI (4.2 BAR) |
| 466 | = 69.0 gpd (10.88 lph) / 69.0 gpd (10.88 lph) max pres.: 60 PSI (4.2 BAR) |

| ELECTRICAL: | XA | XB | XC |
|-------------|---------------|---------------|---------------|
| | = 115V, 60 Hz | = 230V, 50 Hz | = 230V, 60 Hz |

| LIQUID END MATERIALS: | AAA | AAB | ABA | ABB | ACA | AHA | BAA | BAB | BBA | BBB | BHA | DAA | DAB | DBA | DBB | GFA | GFB | EFC |
|--|------------------------------|--------------------------|-------------------------------|---------------------------|-----------------------------------|----------------------------------|------------------------|--------------------|-------------------------|---------------------|----------------------------|-----------------------|-------------------|------------------------|--------------------|-----------------------------------|-------------------------------|-----------------------------|
| Pump Head & Fittings/Seats & O-rings/Balls | = Clear PVC / CSPE / Ceramic | = Clear PVC / CSPE / TFE | = Clear PVC / Viton / Ceramic | = Clear PVC / Viton / TFE | = Clear PVC / TFE/Viton / Ceramic | = Clear PVC / TFE/CSPE / Ceramic | = PVC / CSPE / Ceramic | = PVC / CSPE / TFE | = PVC / Viton / Ceramic | = PVC / Viton / TFE | = PVC / TFE/CSPE / Ceramic | = PP / CSPE / Ceramic | = PP / CSPE / TFE | = PP / Viton / Ceramic | = PP / Viton / TFE | = Clear PVC / TFE / Ceramic (dbl) | = Clear PVC / TFE / TFE (dbl) | = 316SS / TFE / 316SS (dbl) |

| CONNECTION SIZES: | A | C | F | S | X w/ 316 |
|-------------------|---|---|---|---|---|
| | = Tubing .44" PVC Suction / .50" PE Discharge | = Tubing .38" PVC Suction / .38" PE Discharge | = Tubing .44" PVC Suction / .50" PE BLK Discharge | = Tubing .38" PVC Suction / .38" PE BLK Discharge | = .25" FNPT Suction / .25" FNPT Discharge |

| SUFFIX CODES: | XXX | CZXXX | 001 | 500* | 520* | ITS |
|---------------|------------|---------------|-----------------------|-----------------------|-----------------------------|--------------------------|
| | = Standard | = CE Approval | = Current Interrupter | = Five Function Valve | = Five Function Degas Valve | = 15 gal ITS Tank System |

* Not available in SS. Adder price is per head.

A completed model number should look like "1445-XA-BAAAXX"

STANDARD ACCESSORIES

Series 100/150/100D/150D/200: Pumps with tubing connections come with foot valve/strainer/weight, 4' of suction tubing, bleed valve, 4' of return tubing, 8' of discharge tubing, and injection/back pressure valve assembly.



Chem-Tech KOPkit Selection Guide

| | | | | |
|------------------------------|--|----------------|-----|-----|
| PRODUCT DESIGNATOR: | KX100 = Chem-Tech Kopkit | KX100 - | --- | --- |
| LIQUID END MATERIALS: | AAA = Clear PVC / CSPE / Ceramic | | | |
| Head, Diaph., Seats & Balls | AAB = Clear PVC / CSPE / TFE | | | |
| | ABA = Clear PVC / Viton / Ceramic | | | |
| | ABB = Clear PVC / Viton / TFE | | | |
| | ACA = Clear PVC / TFE/Viton / Ceramic | | | |
| | AHA = Clear PVC / TFE/CSPE / Ceramic | | | |
| | BAA = PVC / CSPE / Ceramic | | | |
| | BAB = PVC / CSPE / TFE | | | |
| | BBA = PVC / Viton / Ceramic | | | |
| | BBB = PVC / Viton / TFE | | | |
| | BHA = PVC / TFE/CSPE / Ceramic | | | |
| | DAA = PP / CSPE / Ceramic | | | |
| | DAB = PP / CSPE / TFE | | | |
| | DBA = PP / Viton / Ceramic | | | |
| | DBB = PP / Viton / TFE | | | |
| | GFA = Clear PVC / TFE / Ceramic (dbl) | | | |
| | GFB = Clear PVC / TFE / TFE (dbl) | | | |
| | EFC = 316SS / TFE / 316SS (dbl) | | | |
| CONNECTION : | A = Tubing .44" PVC Suction / .50" PE Discharge | | | |
| | C = Tubing .38" PVC Suction / .38" PE Discharge | | | |
| | F = Tubing .44" PVC Suction / .50" PE BLK Discharge | | | |
| | S = Tubing .38" PVC Suction / .38" PE BLK Discharge | | | |
| | X w/ 316 = .25" FNPT Suction / .25" FNPT Discharge | | | |

SERIES 100, 150, 100D, 150D AND 200 PARTS PRICE SCHEDULE

| Part No. | Description | Part No. | Description |
|----------|---|----------|--|
| 00006 | Suction Tubing - per foot 7/16" OD | J26909 | Bulkhead Fitting (PVC-5/16") |
| 00007 | Suction Tubing - per foot 3/8" | J26910 | Bulkhead Fitting without strainer (PVC-3/8") |
| 00008 | Discharge Tubing - per foot 1/2" OD | J26905 | Bulkhead Fitting for IIS (PVC-1/4") |
| 00009 | Discharge Tubing - per foot 1/2" Black | J27903 | Gasket, IFE |
| 00010 | Discharge Tubing - per foot 3/8" | 27911 | Gasket |
| 00011 | Discharge Tubing - per foot 3/8" Black | 28210 | Gear Housing Assembly #210 |
| 20038 | 1/2" NPT Connection - PVC - fits Suction side of Pump Head and Back Ck. V.V. Assy. (per connection) | 28211 | Gear Housing Assembly #215 |
| 20039 | 1/2" NPT Connection - PVC - fits Discharge side of Pump Head and Strainer Assy. (per connection) | 28212 | Gear Housing Assembly #220 |
| J20560 | Ball Check (ceramic) | 28213 | Gear Housing Assembly #230 |
| 21829 | Drive Bracket Assy. S100 | 28214 | Gear Housing Assembly #240 |
| 21960 | Bronze Bushing (right) | 28215 | Gear Housing Assembly #260 |
| 21961 | Bronze Bushing (left) | 28216 | Gear Housing Assembly #280 |
| 21962 | Bronze Bushing (center) | 28217 | Gear Housing Assembly #2-100 |
| 21971 | Diaphragm Shaft Bushing | 28218 | Gear Housing Assembly #2-120 |
| 22255 | Cam Bearing Assy. S100 - 3, 7, 15, 30 GPD | 28521 | Grommet |
| 22256 | Cam Bearing Assy. S100 - 24 GPD | 28800 | Head, Clear PVC |
| 22257 | Cam Bearing Assy. S150 - 68, 100 GPD | 28803 | Head, Polypropylene |
| 23700 | Shaft Collar - .38 Small | 28896 | Head Assy, (SSI-IFE-SSI-1/4" S/D) |
| 23701 | Shaft Collar - .38 Large | 28897 | Head Assy, (PVC-V I-C-1/2" S/D) |
| J24269 | Oil (quart) | 28899 | Head Assy, (PP-V I-C-1/2" S/D) |
| 24450 | Current Interrupter - S100 - 115V | 28902 | Head Assy, (PVC-V I-C-3/8" S/D) |
| 24452 | Current Interrupter - S200 - 115V | 29036 | Head Assy, (PP-V I-C-3/8" D) |
| 24453 | Current Interrupter/Plug Receptacle S200 - 115V | 29230 | Motor Housing |
| 24454 | Current Interrupter/Plug Receptacle/Bottom Plate (Standard) 115V | 29232 | Pump Housing (Duplex) |
| 24481 | Current Interrupter - S100 - 230V | 29313 | Main Housing 10, 15, 20, 30, 40, 60, 100 GPD |
| 24482 | Current Interrupter - S200 - 230V | 29314 | Main Housing 120 GPD only |
| 24820 | Cord Assy. - 115V, 60 Hz | 30460 | Output Adjustment Knob |
| 24821 | Cord - 230V, 50 or 60 Hz | 30467 | Output Adj Knob Asm S150 |
| J24960 | Coupling Nut, PVC 1/2" (Standard) | 30468 | Output Adj Knob Asm S100 |
| 24961 | Coupling Nut, PP 1/2" | J30496 | Housing - S100 - 3, 7, 15, 30 GPD |
| 24963 | Coupling Nut, PVC 3/8" | J30497 | Housing - S100 - 24 GPD |
| 25180 | Motor Cover | J30498 | Housing - S150, 68, 100 GPD |
| 25704 | Diaphragm, CSPE | J30503 | Motor - 115V, 60 Hz, S200 |
| 25706 | Diaphragm, Viton | J30504 | Motor - 230V, 50 Hz, S200 |
| 25707 | Diaphragm, PTFE Coated | J30505 | Motor - 230V, 60 Hz, S200 |
| J26780 | Injection Fitting, PVC 3/8" | J30507 | Kit, Bleed, Valve, PVC/HPV/ 3/8 |
| 26781 | Injection Fitting, PVC 1/2" | J30509 | Kit, Bleed, Valve, PVC/VTN/ 3/8 |
| 26858 | Bulkhead Fitting (PP-1/2") | J30510 | Kit, Bleed, Valve, PVC/TFE/ 3/8 |
| 26867 | Bulkhead Fitting (PP-3/8") | J30511 | Kit, Bleed, Valve, FPP/CSPE/ 3/8 |
| J26907 | Bulkhead Fitting (PVC-1/2") | J30513 | Kit, Bleed, Valve, FPP/VTN/ 3/8 |
| J26908 | Bulkhead Fitting (PVC-3/8") | | |

SERIES 100, 150, 100D, 150D AND 200 PARTS PRICE SCHEDULE

| Part Number | Description | Part Number | Description |
|--------------|--|--------------|--|
| J30514 | Kit, Bleed, Valve, FPP/TFE/ 3/8 | 41588 | Anti-Siphon Valve (PVC-VT-1/2") |
| J30515 | Kit, Bleed, Valve, PVC/HPY/ 1/2 | 41624 | Anti-Siphon Valve (PVC-CSPE-1/2") (Standard) |
| J30517 | Kit, Bleed, Valve, PVC/VTN/ 1/2 | 41657 | Back Check Valve Assy (PVC-CSPE-C-3/8") |
| J30518 | Kit, Bleed, Valve, PVC/TFE/ 1/2 | J41658 | Back Check Valve Assy (PVC-CSPE-C-1/2") |
| J30519 | Kit, Bleed, Valve, FPP/CSPE/ 1/2 | 41659 | Back Check Valve Assy (PP-VT-C-1/2") |
| L3300V03-FPP | Kit, Bleed, Valve, FPP/VTN/ 1/2 | 41661 | Back Check Valve Assy (PVC-VT-C-1/2") |
| J30522 | Kit, Bleed, Valve, FPP/TFE/ 1/2 | 41665 | Anti-Scale Injector (PVC-CSPE-1/2") |
| 31081 | Locking Lever - S100, 215, 230, 260 | 41666 | Double Ball Ck Vlv Cart Assy (PVC-3/8") Suct |
| 31082 | Locking Lever 20, 40, GPD S200 | J41667 | Double Ball Ck Vlv Cart Assy (PVC-1/2") Suct |
| 31083 | Locking Lever - S150, 280, 2-100, 2-120 | 41668 | Double Ball Ck Vlv Cart Assy (PVC-3/8") Disch |
| 32520 | Motor - 7 SPM, 115V, 60 Hz, 003 | J41669 | Double Ball Ck Vlv Cart Assy (PVC-1/2") Disch |
| 32521 | Motor - 13 SPM, 115V, 60 Hz, 007 | J41694 | Back Check Valve Assy (PVC-CSPE-C-1/2") |
| 32522 | Motor - 25 SPM, 115V, 60 Hz, 015 | 41695 | Back Check Valve Assy (PVC-VT-C-3/8") |
| 32523 | Motor - 51 SPM, 115V, 60 Hz, 024/030/068 | 41696 | Back Check Valve Assy (PP-VT-C-3/8") |
| 32524 | Motor - 7 SPM, 230V, 60 Hz, 003 | 41705 | 6" Ck Vlv Inj Assy (PVC-CSPE-C-3/8") |
| 32525 | Motor - 13 SPM, 230V, 60 Hz, 007 | 41707 | 6" Ck Vlv Inj Assy (PVC-VT-C-3/8") |
| 32526 | Motor - 25 SPM, 230V, 60 Hz, 015 | 41708 | 6" Ck Vlv Inj Assy (PVC-VT-C-1/2") |
| 32527 | Motor - 51 SPM, 230V, 60 Hz, 024/030/068 | 41709 | 6" Ck Vlv Inj Assy (PP-VT-C-3/8") |
| 32528 | Motor - 7 SPM, 230V, 50 Hz, 003 | 41710 | 6" Ck Vlv Inj Assy (PP-VT-C-1/2") |
| 32529 | Motor - 13 SPM, 230V, 50 Hz, 007 | 41720 | Anti-Siphon Valve (PVC-CSPE-1/2" NPT) |
| 32530 | Motor - 25 SPM, 230V, 50 Hz, 015 | 41786 | Anti-Siphon Valve (PVC-VT-1/2" NPT) |
| 32531 | Motor - 51 SPM, 230V, 50 Hz, 024/030/068 | 41795 | Back Check Valve Assy (PVC-CSPE-C-1/2" x 1/2" NPT) |
| 32532 | Motor - 70 SPM, 115V, 60 Hz, 100 | J42020 | Head Bolt Washer SS .20 x .38 |
| 32533 | Motor - 70 SPM, 230V, 50 Hz, 100 | J42030 | Fiber Washer |
| 32535 | Motor - 70 SPM, 230V, 60 Hz, 100 | 42031 | Washer, Fiber |
| J34379 | Backing Plate | J60030 | Head Assy (SAN-CSPE-C-3/8" D) |
| 34405 | Plate, Motor Cover | J61222 | Kit, 5 Function Valve incl L380DT03-PVC for Series 100/200 |
| 34423 | Back Plate | J61271 | Kit, 5 Function Valve incl L380FT03-PVC for Series 200 |
| 34532 | Oil Filler Plug w /Cap | J61539 | Kit, 5 Function Valve incl L380DT02-PVC for Series 100/200 |
| J37073 | Screw Motor Cover | J61502 | Kit, Oil Drain Plug (includes J37002 & J42030) |
| 37080 | Output Adjust Screw 10, 20, 40 GPD | J61503 | Kit, S200 Back Plate Screws (5 - J37017, 5 - J42030) |
| 37081 | Output Adjust Screw 15, 30, 60 GPD | J61504 | Kit, S200 Motor Cover Hdwe (2 - J37002, 2 - J42030) |
| 37083 | Output Adjust Screw 80, 100, 120 GPD | J61505 | Kit, S100 Motor Cover Hdwe (4 - J37032, 2 - J37073) |
| 37088 | Output Adj Screw - S150 | J61506 | Kit, S100 Cam Bearing Set Screw (2 - 37047) |
| 37089 | Output Adj Screw - S100 | J61507 | Kit, S100 Motor Mount Hdwe (3 - 37049) |
| 37300 | Oil Seal | J61508 | Kit, S200 Main Housing Screw (2 - 37021, 2 - J42083, 2 - 42031) |
| J37440 | Valve Seat, CSPE | J61509 | Kit, S200 Shaft Coupling Motor (1 - 24966, 1 - 37060) |
| J37442 | Valve Seat, Viton | J61510 | Kit, S200 Shaft Coupling Gear (1 - 24967, 1 - 37061) |
| 37886 | Diaphragm Shaft | J61511 | Kit, Screw Motor Cover (2 - J37073) |
| 38080 | Locking Sleeve | J61512 | Kit, Valve Seats CSPE (4 - J37440) |
| 38980 | Diaphragm Return Spring | J61513 | Kit, Ball Checks (4 - J20560) |
| 38981 | Coupling Spring | J61515 | Kit, Valve Seats Viton (4 - J37442) |
| 38984 | Valve Spring - top - light | J61516 | Kit, Head Mounting Bolts (4 - J37005, 4 - J42020) |
| J38985 | Valve Spring | J61518 | Kit, Gasket TFE (4 - J27903) |
| J60717 | Foot Valve & Strainer Assy (PVD-CSPE-C-3/8") | L9906700-000 | Sinker |
| J60729 | Foot Valve & Strainer Assy (PVD-CSPE-C-1/2") | | |
| J60718 | Foot Valve & Strainer Assy (PVD-VT-C-3/8") | | |
| J60730 | Foot Valve & Strainer Assy (PVD-VT-C-1/2") | | |
| J41540 | Valve Housing Discharge, PVC 1/2" | | |
| 41541 | Valve Housing Discharge, PP 1/2" | | |
| 41543 | Valve Housing Discharge, PVC 3/8" | | |
| 41544 | Valve Housing Discharge, PP 3/8" | | |
| J41548 | Valve Housing Suction, PVC 1/2" | | |
| J41834 | Valve Housing Suction, PP 1/2" | | |
| 41551 | Valve Housing Suction, PVC 3/8" | | |
| J41835 | Valve Housing Suction, PP 3/8" | | |
| | | | SPECIAL ADAPTERS |
| | | 20013 | Pressure Relief Valve Adapter |
| | | | STAINLESS STEEL PUMP ACCESSORIES |
| | | 28896 | 316 SS Head Assy - Double Check Vlv (TFE, SS) 1/4" FPT Conn |
| | | J41656 | 316 SS Double Back Ck Vlv Assembly (TFE, SS) 1/4" FPT Conn |
| | | J40095 | 316 SS Strainer Assy 1/4" FPT Conn |
| | | J41640 | 316 SS Suction Valve 1/4" FPT |
| | | J41641 | 316 SS Discharge Valve 1/4" FPT |

CHEM-TECH Mechanical Diaphragm Pumps

Series 250

The Series 250 is a mechanically activated, heavy duty diaphragm feed pump that provide excellent efficiency under strenuous conditions. The Series 250 combines the power and repeatability of piston pumps with the chemical resistance of diaphragm pumps for high pressure applications.



Chem-Tech Series 250 Selection Guide

| | | | | | | | |
|------------------------------|---|-----|---|---|---|---|-----|
| MODELS: | 3 = 76.8 gpd (12.11 lph) max pres.: 225 PSI (15.52 BAR) | X25 | - | - | - | Q | XXX |
| | 4 = 108 gpd (17.03 lph) max pres.: 160 PSI (11.03 BAR) | | | | | | |
| ELECTRICAL: | XD = 115V, 50/60 Hz, T.E.F.C. | | | | | | |
| | XL = 230V, 50/60 Hz, T.E.F.C. | | | | | | |
| LIQUID END MATERIALS: | GFA = PVC / TFE (dbl) / Ceramic | | | | | | |
| CONNECTION SIZES: | Q = 44" PVC Suction / .50" PP Discharge | | | | | | |
| SUFFIX CODES: | XXX = Standard | | | | | | |

A complete model should look like "X253-XD-GFAQXXX"

IMPORTANT NOTES:

1. KOPkits are not available for this model.
2. Shipping weight is 21 lbs.

STANDARD ACCESSORIES:

Models with tubing connections come with a footvalve/strainer/weight, 4' of suction tubing, 8' of discharge tubing, and an injection valve.

Models with piping connections come with a strainer and an injection valve.

SERIES 250 PARTS PRICE SCHEDULE

| Part No. | Description | Part No. | Description |
|----------|--|----------|---|
| 00006 | Suction Tubing (per foot) 7/16" OD | 29230 | Motor Cover / 253 - 254 |
| J00012 | Polypropylene Tubing, 1/2" OD - Discharge (per foot) | 29313 | Pump Housing |
| 00013 | Polypropylene Tubing, 1/2" OD-Discharge (per ft) - Black | 30460 | Output Adjustment Knob |
| J20560 | Ball Check, Ceramic | 31084 | Locking Lever |
| 23705 | Collar - Model 253 | 32545 | Motor, 115/230V, 50/60 Hz, TEFC |
| 23706 | Collar - Model 254 | 34532 | Oil Filler Plug with Cap |
| J24269 | Oil (quart) | 37084 | Adjustment Screw |
| 24820 | Cord Assembly, 115V, 60Hz | 37886 | Diaphragm Shaft |
| 24821 | Cord, 230V, 50-60 Hz | J41658 | Back Check Valve Assy (PVC-CSPE-C-1/2") |
| J24960 | Coupling Nut - PVC 1/2" | J41667 | Double Ball Check Valve Cart Assy (PVC 1/2") Suction |
| 25681 | Diaphragm Assembly - Model 253 | 41668 | Double Ball Check Valve Cart Assy (PVC 3/8") Disch |
| 25682 | Diaphragm Assembly - Model 254 | J41669 | Double Ball Check Valve Cart Assy (PVC 1/2") Disch |
| J27903 | Gasket, IFE | J42020 | Bolt Washer (4 required) SS |
| 28220 | Gear Housing Assembly - Model 253/254 | J60729 | Foot Valve & Strainer Assy (PVD-CSPE-C-1/2") |
| J28815 | Pump Head, PVC - Model 253 | J61272 | Kit, 5 Function Valve incl L380KT03-PVC for Series X253 |
| 28816 | Pump Head, PVC - Model 254 | J61516 | Kit, Head Mounting Bolts (4 - J37005, 4 - J42020) |
| J28919 | Head Assembly, PVC - Model 253 - 1/2" | J61518 | Kit, Gasket IFE (4 - J27930) |
| 28920 | Head Assembly, PVC - Model 254 - 1/2" | | |



CHEM-TECH Mechanical Diaphragm Pumps

Series 300

- Output adjustable from zero to maximum capacity without shutdown
- Completely self-priming
- Corrosion resistant solution-handling components
- Pump assembly has lifetime lubricated mechanical components
- Heavy duty plastic housing for increased corrosion resistance
- Heavy duty speed reducer with oil sight gauge
- Metal and fabric reinforced diaphragm for extra long life
- Maximum operating pressure to 150 psi / 10 BAR

Note: Standard Features do not add to the pump price.

Remember that liquid end adders must be multiplied by the number of pump heads.

PLEASE ADD A CRATING FEE OF \$50.00 NET PER PUMP WHEN SHIPPING AIR OR OCEAN FREIGHT.

Chem-Tech Series 300 Selection Guide

| | | |
|----------------|-------------|---|
| MODELS: | X310 | = SIMPLEX 500 gpd (78.83 lph) max pres.: 150 PSI (10 BAR) |
| | X320 | = DUPLEX 1000 gpd (157.71 lph) max pres.: 150 PSI (10 BAR) |
| | X330 | = TRIPLEX 1500 gpd (236.54 lph) max pres.: 150 PSI (10 BAR) |
| | X340 | = QUADRAPLEX 2000 gpd (315.42 lph) max pres.: 150 PSI (10 BAR) |
| | 313D | = SIMPLEX 210 gpd (33.08 lph) max pres.: 150 PSI (10 BAR) |
| | 316D | = SIMPLEX 430 gpd (67.79 lph) max pres.: 150 PSI (10 BAR) |
| | 323D | = DUPLEX 420 gpd (66.21 lph) max pres.: 150 PSI (10 BAR) |
| | 326D | = DUPLEX 860 gpd (135.63 lph) max pres.: 150 PSI (10 BAR) |

| | | |
|--------------------|--|---|
| ELECTRICAL: | Series 300 Direct Drive Motor (models ending in D, i.e. 316D) | |
| | XT | = 115/230V, 50/60 Hz, T.E.F.C. |
| | Series 300 Motors (models beginning with an X, i.e. X320) | |
| | XA | = 115V, 60 Hz, single phase, open |
| | XB | = 230V, 50 Hz, single phase, open |
| | XC | = 230V, 60 Hz, single phase, open |
| | XD | = 115V, 60 Hz, single phase, T.E.F.C. |
| | XG | = 220/440V, 50/60 Hz, 3 phase, open |
| | XH | = 220/440V, 60 Hz, 3 phase, T.E.F.C. |
| | XI | = 220/440V, 50/60 Hz, 3 phase, Explosion Proof |
| | XJ | = 115V, 60 Hz, single phase, Explosion Proof |
| | XK | = 115V, 50/60 Hz, 1/3 HP, TENV DC motor & SCR Controller, 4-20 (X310 & X320 only) |
| | XN | = 220/440V, 50 Hz, 3 phase, T.E.F.C. |
| | XX | = No motor |

| | |
|--|------------------------------------|
| LIQUID END MATERIALS: | PER HEAD |
| Pump Head & Fittings/Seats & O-rings/Balls | BHA = PVC / CSPE / Ceramic |
| | BHB = PVC / CSPE / TFE |
| | BCA = PVC / Viton / Ceramic |
| | BCB = PVC / Viton / TFE |
| | DHA = PP / CSPE / Ceramic |
| | DHB = PP / CSPE / TFE |
| | DCA = PP / Viton / Ceramic |
| | DCB = PP / Viton / TFE |
| | EFC = 304 / 304 / 316 |

* Diaphragms are all PTFE faced.

| | | |
|--------------------------|-----------------|--|
| CONNECTION SIZES: | A | = Tubing .44" PVC Suction / .50" PE Discharge |
| | X w/ PVC | = Tubing .50" MNPT Suction / .50" MNPT Discharge |
| | X w/ 316 | = Tubing .50" MNPT Suction / .50" MNPT Discharge |

| | | |
|----------------------|------------|------------|
| SUFFIX CODES: | XXX | = Standard |
|----------------------|------------|------------|

A completed model number should look like "X330-XD-AHAAXXX"

IMPORTANT NOTE: KOPkits not available for this model.

STANDARD ACCESSORIES:

Models with tubing connections come with a foot valve/strainer/weight, 4' of suction tubing, 8' of discharge tubing, and an injection valve.

Models with piping connections come with a strainer and an injection valve.

SERIES 300 PARTS PRICE SCHEDULE

| Part Number | Description |
|--------------|--|
| 00006 | Suction Tubing (per foot) 7/16" OD - PVC |
| 00008 | Discharge Tubing Polyethylene (per foot) 1/2" OD |
| J20560 | Ball Check (Ceramic) |
| 20700 | Base-Simplex |
| 20843 | Drive Bearing |
| 20844 | Main Shaft Bearing |
| 20980 | V-Belt |
| 21407 | Head Bolt, 1/4" - 20 x 2,2, Stainless Steel |
| 21409 | Head Bolt, 1/4" - 20 x 10,5, Stainless Steel |
| 21821 | Bracket |
| 22253 | Cam |
| 23702 | Locking Collar |
| J23723 | Collar, Suction Swivel Assy |
| J24960 | Coupling Nut, PVC 1/2" (Standard) |
| 25712 | Diaphragm, PTFE Coated |
| J26780 | Injection Fitting |
| J27903 | Gasket, TFE |
| 27906 | Gasket, Viton |
| 28661 | Belt Guard |
| J28814 | Head, PVC |
| 28809 | SST Head 304 |
| 28813 | Polypropylene Head |
| 28939 | Head Assembly, Acrylic (SAN-CSPE-C) 1/2" |
| 28940 | Head Assembly, PVC (PVC-CSPE-C) |
| 29074 | Polypropylene Head Assy |
| 29107 | SST Head Assy 304 |
| 29237 | Housing Back Plate |
| 29238 | Pump, Housing Simplex |
| 29297 | Pump Housing, Assembly w /Fitting & Tubing (SAN-CSPE-C) |
| J30120 | Reducer Input Shaft Key |
| 30121 | Main Shaft Key |
| 30461 | Output Adjusting Knob |
| 32590 | Motor (Standard) 1/3 hp, 115V, 60Hz ODP |
| 32970 | Adjusting Screw Lock Nut |
| 33081 | O Ring Seal - CSPE |
| 33761 | Output Indicator Pin |
| 35220 | Pulley (4-step) - Motor |
| 35221 | Pulley (4-step) - Reducer |
| J35918 | Speed Reducer 60:1 |
| J36395 | Cam Bearing Locking ring |
| J37440 | Valve Seat, CSPE |
| J37442 | Valve Seat, Viton |
| 37447 | Valve Seat, Viton |
| 37887 | Main Shaft |
| 37888 | Output Adjusting Shaft |
| 37889 | Diaphragm Shaft |
| 38982 | Diaphragm Return Spring |
| 38983 | Valve Spring |
| 39180 | Sprocket - Motor |
| 39181 | Sprocket - Reducer |
| 40087 | Strainer Assembly - PP - CSPE - C - 1/2" |
| J41548 | Valve Housing PVC 1/2" |
| 41565 | Valve Housing Discharge PVC |
| 41566 | Valve Housing Suction PVC |
| 41568 | Valve Seat, Suction - PVC |
| 41637 | Back Check Valve Assembly (PVC - CSPE - C - 1/2") |
| 41638 | Back Check Valve Assy (PVC - CSPE - C - 1/2") |
| 41677 | Valve Seat Suction Assembly |
| J61519 | Kit, Gasket CSPE (2 - 27905) |
| J61520 | Kit, Valve Seat CSPE (2 - 37446) |
| J61521 | Kit, Acorn Nut Set (10 - 32960, 10 - 42022) |
| J61522 | Kit, Output Indicator (2 - 37030, 1 - 34381) |
| J61523 | Kit, Coupling Chain (1 - 24976, 1 - 33765, 1 - 36400) |
| J61526 | Kit, Valve Components (2 - 37446, 2 - 27905, 2 - L1000500-ALA) |
| J61527 | Kit, Suction Swivel Base (1 - 20705, 1 - 37040) |
| J61528 | Kit, Head Bolt 2,2" (2 - 21407, 2 - 32960, 2 - 42022) |
| L1000500-ALA | Ball Check - Ceramic |


CHEM-TECH *Piston Pumps*
Series 400

- Precise metering over entire pressure and output range
- Fully adjustable output capacities from 0 to 34 gph / 128.52 lph, depending on model*
- Rugged piston design, corrosion resistant metals and solution handling components for the most severe applications
- Heavy-duty plastic pump body for increase corrosion resistance
- Operating pressures up to 800 psi / 55.17 BAR
- Low maintenance design
- Available in Simplex, or Duplex for multi-chemical feed
- Metering adjustment accomplished without shutdown

*Actual feed rates will vary depending on solution viscosity and actual operating pressure

Note: Standard Features do not add to the pump price.

Remember that liquid end adders must be multiplied by the number of pump heads.

PLEASE ADD A CRATING FEE OF \$50.00 NET PER PUMP WHEN SHIPPING AIR OR OCEAN FREIGHT.

| Chem-Tech Series 400 Selection Guide | | | X | - | - | - | - | XXX |
|---|------------------------------------|---|---|--------------------------------|---|---|---|-----|
| MODELS: | Piston Diameter | | | | | | | |
| | 405 = Simplex | 1/4" | 0.5 gph (1.89 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 406 = Duplex | 1/4" | 1.0 gph (3.76 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 409 = Simplex | 3/8" | 0.81 gph (3.06 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 410 = Duplex | 3/8" | 1.72 gph (6.50 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 413 = Simplex | 1/4" | 1.0 gph (3.78 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 414 = Duplex | 1/4" | 2.00 gph (7.56 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 417 = Simplex | 3/8" | 1.62 gph (6.12 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 418 = Duplex | 3/8" | 3.24 gph (12.25 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 425 = Simplex | 1/2" | 1.65 gph (6.24 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 426 = Duplex | 1/2" | 3.3 gph (12.47 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 429 = Simplex | 5/8" | 3.10 gph (11.72 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 430 = Duplex | 5/8" | 6.2 gph (23.44 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 433 = Simplex | 1/2" | 3.3 gph (12.47 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 434 = Duplex | 1/2" | 6.6 gph (24.95 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 437 = Simplex | 5/8" | 6.2 gph (23.44 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 438 = Duplex | 5/8" | 12.4 gph (46.87 lph) | max pres.: 800 PSI (55.17 BAR) | | | | |
| | 441 = Simplex | 1" | 8.5 gph (32.13 lph) | max pres.: 300 PSI (20.69 BAR) | | | | |
| | 442 = Duplex | 1" | 17.0 gph (64.25 lph) | max pres.: 300 PSI (20.69 BAR) | | | | |
| | 445 = Simplex | 1" | 17.0 gph (64.25 lph) | max pres.: 300 PSI (20.69 BAR) | | | | |
| | 446 = Duplex | 1" | 34.0 gph (128.52 lph) | max pres.: 300 PSI (20.69 BAR) | | | | |
| ELECTRICAL: | XT = 115/230 V, 50/60 Hz, T.E.F.C. | | | | | | | |
| LIQUID END MATERIALS: | PER HEAD | Based on Piston Diameter | | | | | | |
| Pump Head & Fittings/ Packing & Balls | <1" | EFA = 303 SS / TFE / Ceramic EFC = 303 SS / TFE / 316 SS | | | | | | |
| | =1" | EFC = 304 SS / TFE / 316 SS EFB = 304 SS / TFE / TFE | | | | | | |
| CONNECTION SIZES: | X = | < 1" | 1/4" FNPT Suction / 1/4" FNPT Discharge | | | | | |
| | X = | ≥ 1" | 1/2" FNPT Suction / 1/2" FNPT Discharge | | | | | |
| SUFFIX CODES: | XXX = Standard | | | | | | | |
| A completed model should look like "X413-XT-EFAXXXX" | | | | | | | | |



Series 500

- Completely adjustable while running
- Easily field calibration
- Materials of construction for metering chemicals for industrial and agricultural uses
- Consistent repeatability of output
- Easy maintenance due to interchangeability of most wetted components
- Available in Simplex or Duplex configurations
- Wide range of output and pressure capability

Note: Standard Features do not add to the pump price.

Remember that liquid end adders must be multiplied by the number of pump heads.

PLEASE ADD A CRATING FEE OF \$50.00 NET PER PUMP WHEN SHIPPING AIR OR OCEAN FREIGHT.

Chem-Tech Series 500 Selection Guide

| MODELS: | | Piston Diameter | | X | | | X | XXX |
|---|---|---|--|---|--|--|---|-----|
| | 541 = Simplex | 1" | 6.97 gph (26.38 lph) max pres.: 500 PSI (34.48 BAR) | | | | | |
| | 542 = Duplex | 1" | 13.95 gph (52.76 lph) max pres.: 500 PSI (34.48 BAR) | | | | | |
| | 545 = Simplex | 1" | 13.7 gph (51.85 lph) max pres.: 500 PSI (34.48 BAR) | | | | | |
| | 546 = Duplex | 1" | 27.41 gph (103.71 lph) max pres.: 500 PSI (34.48 BAR) | | | | | |
| | 548 = Simplex | 1" | 27.65 gph (104.65 lph) max pres.: 500 PSI (34.48 BAR) | | | | | |
| | 572 = Duplex | 1" | 55.30 gph (209.31 lph) max pres.: 500 PSI (34.48 BAR) | | | | | |
| | 551 = Simplex | 1 1/4" | 10.89 gph (41.24 lph) max pres.: 300 PSI (20.69 BAR) | | | | | |
| | 552 = Duplex | 1 1/4" | 21.78 gph (82.48 lph) max pres.: 300 PSI (20.69 BAR) | | | | | |
| | 553 = Simplex | 1 1/4" | 21.41 gph (81.06 lph) max pres.: 300 PSI (20.69 BAR) | | | | | |
| | 554 = Duplex | 1 1/4" | 42.82 gph (162.12 lph) max pres.: 300 PSI (20.69 BAR) | | | | | |
| | 559 = Simplex | 1 1/4" | 43.20 gph (163.54 lph) max pres.: 300 PSI (20.69 BAR) | | | | | |
| | 560 = Duplex | 1 1/4" | 86.40 gph (327.08 lph) max pres.: 300 PSI (20.69 BAR) | | | | | |
| | 561 = Simplex | 1 1/2" | 15.69 gph (59.38 lph) max pres.: 200 PSI (13.79 BAR) | | | | | |
| | 562 = Duplex | 1 1/2" | 31.38 gph (118.77 lph) max pres.: 200 PSI (13.79 BAR) | | | | | |
| | 563 = Simplex | 1 1/2" | 30.83 gph (116.69 lph) max pres.: 200 PSI (13.79 BAR) | | | | | |
| | 564 = Duplex | 1 1/2" | 61.66 gph (233.38 lph) max pres.: 200 PSI (13.79 BAR) | | | | | |
| | 569 = Simplex | 1 1/2" | 62.21 gph (235.46 lph) max pres.: 200 PSI (13.79 BAR) | | | | | |
| | 570 = Duplex | 1 1/2" | 124.42 gph (470.93 lph) max pres.: 200 PSI (13.79 BAR) | | | | | |
| ELECTRICAL: | XA = 115V, 60 Hz, single phase, open | | | | | | | |
| | XB = 230V, 50 Hz, single phase, open | | | | | | | |
| | XC = 230V, 60 Hz, single phase, open | | | | | | | |
| | XD = 115V, 60 Hz, single phase, T.E.F.C. | | | | | | | |
| | XG = 220/440V, 50/60 Hz, 3 phase, open | | | | | | | |
| | XH = 220/440V, 60 Hz, 3 phase, T.E.F.C. | | | | | | | |
| | XI = 220/440V, 50/60 Hz, 3 phase, Explosion Proof | | | | | | | |
| | XJ = 115V, 60 Hz, single phase, Explosion Proof | | | | | | | |
| | XN = 220/440V, 50 Hz, 3 phase, T.E.F.C. | | | | | | | |
| LIQUID END MATERIALS: | PER HEAD | Based on Piston Diameter | | | | | | |
| Pump Head & Fittings/ Packing & Balls | =1" | | | | | | | |
| | EFC = 304 SS / TFE / 316 SS | | | | | | | |
| | EFB = 304 SS / TFE / TFE | | | | | | | |
| | =1 1/4" | | | | | | | |
| | EFC = 304 SS / TFE / 316 SS | | | | | | | |
| | EFB = 304 SS / TFE / TFE | | | | | | | |
| | =1 1/2" | | | | | | | |
| | EFC = 304 SS / TFE / 316 SS | | | | | | | |
| | EFB = 304 SS / TFE / TFE | | | | | | | |
| CONNECTION SIZES: | X = < 1" | 1/4" FNPT Suction / 1/4" FNPT Discharge | | | | | | |
| | X = ≥ 1" | 1/2" FNPT Suction / 1/2" FNPT Discharge | | | | | | |
| SUFFIX CODES: | XXX = Standard | | | | | | | |
| A completed model number should look like "X545-XJ-EFCXXXX" | | | | | | | | |

SERIES 400 and SERIES 500 PARTS

SERIES 400 PARTS

| Part Number | Description |
|-------------------------------|--|
| J20723 | Pump Base (Simplex) |
| 20703 | Pump Base (Duplex) |
| 20845 | Main bearing (closed) |
| 21965 | Main Shaft Motor Bushing |
| 21964 | Outboard Bearing |
| 26810 | Grease Relief Fitting |
| 26811 | Grease Fitting |
| 28200 | Gear/Shaft Assy - 30RPM, 115V OPD Simp |
| 28202 | Gear/Shaft Assy - 60 RPM, 115V OPD Simp |
| 29246 | Housing Set Assy S400 Simplex & Duplex |
| 29249 | Housing Set Assy S400 Duplex |
| 30125 | Main Shaft Key |
| 32632 | Motor Assy w/Shaft 60 RPM 115V ODP-Simp |
| 32634 | Motor Assy w/Shaft 30 RPM 115V ODP-Dup |
| 32645 | Motor Assy w/Shaft 60 RPM 115V ODP-Dup |
| 32646 | Motor Assy w/Shaft 30 RPM 115V ODP-Simp |
| 32648 | Shaft Assy, Coupled |
| J32749 | MTR, 30 RPM 115/230V TEFC |
| J32750 | MTR, 60 RPM 115/230V TEFC |
| J32943 | Mounting Nut (4 req) |
| 32971 | Adjustment Screw Lock Nut |
| 33764 | Slide Pin |
| 36396 | Main Shaft Locking Ring |
| J37054 | Set Screw 1/4" - 20 x 3/4" |
| 37090 | Adjustment Screw |
| 37305 | PVC Seal (2 req) |
| 37891 | Main Shaft (Duplex) |
| 38221 | Slide (Simplex / Duplex) |
| 38224 | Slide Arm Assembly (Simplex) |
| 38225 | Slide Arm Assembly (Duplex) |
| 38988 | Valve Spring (2 req) |
| 41672 | Discharge Check Valve Assy 1/4" FPT |
| 41674 | Suction Check Valve Assy 1/4" FPT |
| J61530 | Kit, Main Shaft (Simp, TEFC) (1 - 37899, 3 - D4844-31) |
| J61531 | Kit, Main Bearing Cam (1 - 22263, 1 - 33771) |
| J61532 | Kit, Housing Set Hdw e (2 - 21407, 2 - 21406, 2 - 42022, 2 - 42035, 4 - 32942) |
| L1000400-ALA | Ceramic Ball 1/4" (2 req) |
| L1000500-ALA | Ceramic Ball 3/8" (2 req) |
| A-PISTON HEAD ASSEMBLY | |
| 28925 | 5/8" Bore CRS |
| 28929 | 5/8" Bore Stainless Steel |
| 28930 | 1/2" Bore Stainless Steel |
| 28931 | 3/8" Bore Stainless Steel |
| 28932 | 1/4" Bore Stainless Steel |
| B-PISTON | |
| 34180 | 1/4" Diameter 303 SS |
| 34182 | 3/8" Diameter 303 SS |
| 34184 | 1/2" Diameter 303 SS |
| 34186 | 5/8" Diameter 303 SS |
| C-PACKING NUT | |
| 32972 | 1/4" Bore |
| 32973 | 3/8" Bore |
| 32974 | 1/2" Bore |
| 32975 | 5/8" Bore |
| D-PACKING SET | |
| 33420 | 1/4" Bore (Neoprene - Standard) |
| 33421 | 3/8" Bore (Neoprene - Standard) |
| 33422 | 1/2" Bore (Neoprene - Standard) |
| 33423 | 5/8" Bore (Neoprene - Standard) |
| 33427 | 1/4" Bore (TFE - Optional) |
| 33428 | 3/8" Bore (TFE - Optional) |
| 33429 | 1/2" Bore (TFE - Optional) |
| 33430 | 5/8" Bore (TFE - Optional) |
| E-GREASE GLAND | |
| 28380 | 1/4" Bore |
| 28380 | 3/8" Bore |
| 28381 | 1/2" Bore |
| 28381 | 5/8" Bore |

| Part No. | Description |
|--------------------|---|
| F-PUMP HEAD | |
| 28821 | 1/4" Bore Stainless Steel S-Series |
| 28823 | 3/8" Bore Stainless Steel S-Series |
| 28825 | 1/2" Bore Stainless Steel S-Series |
| 28826 | 5/8" Bore CRS |
| 28827 | 5/8" Bore Stainless Steel S-Series |
| J24960 | Coupling Nut (2 req) |
| J41667 | Double Ball Check Valve Cartridge (Suction) |
| J41669 | Double Ball Check Valve Cartridge (Discharge) |

SERIES 500 PARTS

| | |
|--|---|
| 20579 | SS Ball 7/16" (2 req) |
| 20580 | SS Ball 11/16" (2 req) |
| 20704 | S500 Base (Simplex or Duplex) |
| 21970 | Bronze Bushing |
| 25004 | Delrin Motor Coupling Assy |
| 29290 | Housing Set Assy 115 SPM Simplex-Duplex |
| 29291 | Housing Set Assy 115 SPM Duplex |
| 29247 | Housing Set Assy S500 Simplex-Duplex |
| 29248 | Housing Set Assy S500 Duplex |
| 32590 | Motor 1/3" HP 56 FR, 115V, Open |
| 33082 | O-Ring, Head Cap, VT-1,859 x ,139 |
| 33083 | O-Ring, Head Cap, VT-2,359 x ,139 |
| 33767 | Pin - Suction Check Valve |
| J35913 | Speed Reducer, 115 SPM |
| J35916 | Speed Reducer, 57 SPM |
| J35918 | Speed Reducer, 29 SPM |
| 37053 | Piston Set Screw |
| 37306 | PVC Seal (2 req) |
| 38710 | Spacer, packing 1" |
| 38711 | Spacer, packing 1-1/4" |
| 38712 | Spacer, packing 1-1/2" |
| 38986 | Spring-Packing Compression 1" |
| 38987 | Spring-Packing Compression 1-1/4" & 1-1/2" |
| 38989 | Valve Spring |
| 41673 | Discharge Check Valve Assy 1/2" FPT |
| 41675 | Suction Check Valve Assy 1/2" FPT |
| J61523 | Kit, Coupling Chain (1 - 24976, 1 - 33765, 1 - 36400) |
| J61531 | Kit, Main Bearing Cam (1 - 22263, 1 - 33771) |
| J61536 | Kit, Coupling Shaft (1 - 24984, 1 - 37059, 1 - 37047) |
| J61537 | Kit, Main Shaft (1 - 30121, 1 - 37894) |
| G-SERIES 500 PUMP HEAD | |
| 28829 | 1" Bore Stainless Steel S-SERIES |
| 28831 | 1-1/4" Bore Stainless Steel S-SERIES |
| 28831 | 1-1/2" Bore Stainless Steel S-SERIES |
| G-SERIES 500 PUMP HEAD CAP | |
| 28841 | 1" Stainless Steel |
| 28843 | 1-1/4" & 1-1/2" Stainless Steel |
| H-SERIES 500 PISTON | |
| 34188 | 1" Diameter 303 SS |
| 34189 | 1-1/4" Diameter 303 SS |
| 34190 | 1-1/2" Diameter 303 SS |
| I-SERIES 500 PACKING SET | |
| 33424 | 1" Bore (Neoprene - Standard) |
| 33425 | 1-1/4" Bore (Neoprene - Standard) |
| 33426 | 1-1/2" Bore (Neoprene - Standard) |
| 33431 | 1" Bore (TFE - Optional) |
| 33432 | 1-1/4" Bore (TFE - Optional) |
| 33433 | 1-1/2" Bore (TFE - Optional) |
| J-SERIES 500 PISTON HEAD ASSEMBLY | |
| 28934 | 1" Bore Stainless Steel |
| 28935 | 1-1/4" Bore CRS |
| 28936 | 1-1/4" Bore Stainless Steel |
| 28937 | 1-1/2" Bore CRS |
| 28938 | 1-1/2" Bore Stainless Steel |

*Series 400-500 1" parts are interchangeable.

MEC-O-MATIC DIAPHRAGM PUMPS

STINGRAY Series 100 & 200

- Versatility: range of models, offering feed rates from 8 GPD to 90 GPD, and operating pressures up to 100 PSI
- Durability: rugged, chemical-resistant plastic casing, and corrosion-resistant rubber and plastic solution handling components
- Long Life: PTFE coated diaphragm and viton seals, for long life even in highly corrosive applications
- Reliability: spring-loaded check valves for high reliability.



| Mec-O-Matic STINGRAY 100 and 200 Series Selection Guide | | US | | BCA | K | XXX |
|---|--|----|--|-----|---|-----|
| MODELS: | Series 100 105 = 8.0 gpd (1.26 lph) max pres.: 100 PSI (6.90 BAR) 110 = 12.0 gpd (1.89 lph) max pres.: 100 PSI (6.90 BAR) 125 = 30.0 gpd (4.73 lph) max pres.: 100 PSI (6.90 BAR) 150 = 60.0 gpd (9.46 lph) max pres.: 100 PSI (6.90 BAR) 175 = 90.0 gpd (14.19 lph) max pres.: 60 PSI (4.14 BAR) Series 200 205 = 8.0 gpd (1.26 lph) max pres.: 100 PSI (6.90 BAR) 210 = 12.0 gpd (1.89 lph) max pres.: 100 PSI (6.90 BAR) 225 = 30.0 gpd (4.73 lph) max pres.: 100 PSI (6.90 BAR) 250 = 60.0 gpd (9.46 lph) max pres.: 100 PSI (6.90 BAR) 275 = 90.0 gpd (14.19 lph) max pres.: 60 PSI (4.14 BAR) | | | | | |
| ELECTRICAL: | XA = 115V, 60 Hz | | | | | |
| LIQUID END MATERIALS: | BCA = PVC / Viton / Ceramic | | | | | |
| CONNECTION SIZES: | K = Tubing .38" PVC Suction / .38" PE Discharge | | | | | |
| SUFFIX CODES: | XXX = Standard | | | | | |
| A completed model should look like "US110XA-BCAKXXX" | | | | | | |

1. Maximum GPD Rating is at Zero PSI.
2. Standard material of construction is: PVC head/fittings, Viton Seats, PTFE faced diaphragm, spring loaded ceramic balls, 4 ft. 3/8" PVC suction tubing, 8 ft. 3/8" polyethelene discharge tubing.
3. KOPkit includes head assembly, diaphragm and head screws.
4. Shipping weight is 8 lbs



STINGRAY Electro Mechanical Series

| Mec-O-Matic STINGRAY ELECTRO MECH. Selection Guide | | US | | XA | BCA | K | XXX |
|--|--|----|--|----|-----|---|-----|
| MODELS: | 105 = 8.0 gpd (1.26 lph) max pres.: 100 PSI (6.90 BAR) 110 = 12.0 gpd (1.89 lph) max pres.: 100 PSI (6.90 BAR) 205 = 8.0 gpd (1.26 lph) max pres.: 100 PSI (6.90 BAR) 210 = 12.0 gpd (1.89 lph) max pres.: 100 PSI (6.90 BAR) | | | | | | |
| TIMER: | D = 24 Hour Timer W = 7 Day Timer | | | | | | |
| ELECTRICAL: | XA = 115V, 60 Hz | | | | | | |
| LIQUID END MATERIALS: | BCA = PVC / Viton / Ceramic | | | | | | |
| CONNECTION SIZES: | K = Tubing .38" PVC Suction / .38" PE Discharge | | | | | | |
| SUFFIX CODES: | XXX = Standard | | | | | | |
| A completed model should look like "US110DXABC AKXXX" | | | | | | | |

1. Available in 115V 60 cycle only.
2. Maximum GPD Rating is at Zero PSI.
3. Standard material of construction is: PVC head/fittings, Viton Seats, PTFE faced diaphragm, spring loaded ceramic balls, 4 ft. 3/8" PVC suction tubing, 8 ft. 3/8" polyethelene discharge tubing.

MEC-O-MATIC KOPkits

| Mec-O-Matic STINGRAY KOPkit Selection Guide | | KUSR | - | BCA | K |
|---|---|------|---|-----|---|
| PRODUCT DESIGNATOR: | 1 = Series 100 2 = Series 200 | | | | |
| LIQUID END MATERIALS: Head, Diaph., Seats & Balls | BCA = PVC / Viton / Ceramic | | | | |
| CONNECTION: | K = Tubing .38" PVC Suction / .38" PE Discharge | | | | |



STINGRAY SERIES PARTS PRICE SCHEDULE

| Part No. | Description | Part No. | Description |
|----------|--|-------------|--|
| 41403 | Discharge Tubing 8 ft PE 3/8" | U8800656 | Kit, SR Drive Block Conversion |
| J41424 | Suction tubing 4 ft PVC 3/8" | U8800701 | Head Assembly Series 100 |
| U0810545 | Spring Clutch | U8800703 | Head Assembly Series 200 |
| U0811279 | Pump Head Series 200 | U8800704 | Valve Kit Series 200 (viton) |
| U0817888 | Shoulder Screw 10 - 24 X .58 | U8800729 | Kit, Head Bolt S100 (4 - U0810036, 4 - L9801300-188) |
| U0811861 | Head Cover Series 100 | U8800730 | Kit, Head Bolt S200 (4 - U0813501, 4 - L9801300-188) |
| U0812318 | Pump Head Series 100 | U8800732 | Kit, Foot Pads (4 - U0818379) |
| U0814211 | Compression Nut | U8800735 | Kit, Spring (2 - U0812915) |
| U0818143 | Drive Block | L9900700-0C | Strain Relief |
| U0818148 | Drive Plate | U0818406 | Motor, SR 105/205, 120V, 60Hz |
| U0818215 | Motor Housing | U0818407 | Motor, SR 105/205, 240V, 50/60Hz |
| U0818226 | Regulator Housing | U0818408 | Motor, SR 110/210, 120V, 60Hz |
| U0818227 | Regulator Top Cover | U0818409 | Motor, SR 110/210, 240V, 50/60Hz |
| U0818256 | Output Adjustment Knob | U0818410 | Motor, SR 125/225, 120V, 60Hz |
| U0818257 | Wear Plate | U0818411 | Motor, SR 125/225, 240V, 50/60Hz |
| U0818258 | Adjustment Knob Bushing | U0818412 | Motor, SR 150/250, 120V, 60Hz |
| U0818339 | Adjustment Plate | U0818413 | Motor, SR 150/250, 240V, 50/60Hz |
| U0818340 | Adjustment Shaft Assembly | U0818414 | Motor, SR 175/275, 120V, 60Hz |
| U8800412 | Tubing Assy, 15', 3/8" | U0818415 | Motor, SR 175/275, 240V, 50/60Hz |
| U8800456 | Foot Valve Strainer 3/8" OD Tubing (viton) | 24820 | Power Cord 120V |
| U8800470 | Diaphragm Kit | 24821 | Power Cord 240V |
| U8800525 | Relief/Release Plunger Kit (viton) | U0818561 | Timer Assy, 24 hr (SR Electro Mech) |
| U8800554 | Cartridge Valve Kit Series 100 (viton) | U0818562 | Timer Assy, 7 Day (SR Electro Mech) |
| U8800606 | Injection Fitting | U0818564 | Motor Fan SR 105, 110, 205, 210 |

MISCELLANEOUS TUBING

| Part No. | Description | Part No. | Description |
|----------|---|----------|----------------------------------|
| U0811307 | Tube PE, Transparent, 1/4" OD X 100 ft. | U0818324 | Viton Peri. Tube, 3/8" OD X 9" |
| J41447 | Tube PE, White, 3/8" OD X 100 ft. | U0818654 | Nozzle Assembly |
| U0818134 | Viton Peri. Tube, 7/16" OD X 9" | U0818994 | Tube PE, Black, 1/4" OD X 15 ft. |

MEC-O-MATIC WAREWASH PUMPS

Series T-2000 Misting System

- Consistent misting pattern for maximum effectiveness.
- Diaphragm metering pump provides capacity of 180cc/6 oz. per minute at 100 PSI.
- Wide angle misting nozzle provides optimum pattern.



| Mec-O-Matic Series T-2000 Selection Guide | | US275 | XA | BCXX112 |
|---|--|-------|----|---------|
| MODELS: | US275 = 6 oz. per minute max pres.: 100 PSI (6.90 BAR) | | | |
| ELECTRICAL: | XA = 115V, 60 Hz | | | |
| LIQUID END MATERIALS: | BCXX112 = PVC / Viton / Ceramic | | | |

1. Standard system includes SR275 pump, 24 hour timer, spray nozzle and tubing in a lockable metal cabinet with an industrial gray finish.
2. Available in 115 volt only.

MEC-O-MATIC PERISTALTIC PUMPS

Dolphin Series

- Exclusive quick-release, twist-off, clear polycarbonate, acid-resistant head to withstand the harshest environment.
- Self-lubricating chemical resistant roller assembly.
- Durable, long lasting tubing with no tube adjustment.
- Rugged and dependable – Heavy-duty shaded pole gearmotor with lifetime lubrication.
- Flexibility in feed rates - from .13 gallons to 97 gallons per day ... to meet the demands of the pool and spa industry, and elsewhere.
- Agency approvals.



Mec-O-Matic DOLPHIN Series Selection Guide

| | | | | | | | |
|----------------|--|-----------|---|---|---|----------|------------|
| MODELS: | 10 = 13.0 gpd (2.05 lph) max pres.: 25 PSI (1.72 BAR) | UD | - | - | - | U | XXX |
| | 50 = 60.0 gpd (9.46 lph) max pres.: 25 PSI (1.72 BAR) | | | | | | |
| | 75 = 97.0 gpd (15.30lph) max pres.: 25 PSI (1.72 BAR) | | | | | | |

| | |
|--------------------|--|
| ELECTRICAL: | XA = 115V, 60 Hz |
| | XL = Standard 230V, 50/60 Hz, used w / Model 10 only |
| | XB = Standard 230V, 50 Hz, used w / Models 50 & 75 only |
| | XC = Standard 230V, 60 Hz, used w / Models 50 & 75 only |

| | |
|------------------------------|------------------------------|
| LIQUID END MATERIALS: | LSA = Norprene Tubing |
| | LBA = Viton Tubing |

| | |
|--------------------------|---|
| CONNECTION SIZES: | U = Tubing .25" I.D. X .44" O.D. |
|--------------------------|---|

| | |
|----------------------|-----------------------|
| SUFFIX CODES: | XXX = Standard |
|----------------------|-----------------------|

A completed model should look like "UD75-XA-LBAUXXX"

Mec-O-Matic DOLPHIN KOPkit Series Selection Guide

| | |
|-------------------|--|
| KUDXX-LSAU | = Standard KOPkit for all Dolphin Pumps (includes head& tube assembly) |
|-------------------|--|

Junction Box option is available on 230V models at no additional charge. Contact the factory for model numbers. Shipping weight for Dolphin Pumps is 7 lbs.

MEC-O-MATIC KOPkits

Mec-O-Matic DOLPHIN KOPkit Selection Guide

| | | | | | |
|----------------------------|-------------------------------|--------------|---|---|---|
| PRODUCT DESIGNATOR: | KUDXX = Dolphin Kopkit | KUDXX | - | - | - |
|----------------------------|-------------------------------|--------------|---|---|---|

| | |
|------------------------------|-----------------------------------|
| LIQUID END MATERIALS: | LSAU = Norprene Tubing CRM |
| | LLAU = Norprene Tubing BLK |
| | LBAU = Viton Tubing |

DOLPHIN SERIES PARTS PRICE SCHEDULE

| Part No. | Description | Part No. | Description |
|--------------|------------------------------------|----------|--|
| J60552 | Strainer Assembly w/o valve | U0818616 | Gearmotor Assembly, 120V, 10 RPM - D10 |
| 24820 | Power Cord 120V | U0818617 | Gearmotor Assembly, 240V, 10 RPM - D10 |
| 24821 | Power Cord 240V | U0818618 | Gearmotor Assembly, 120V, 50 RPM - D50 |
| U0817630 | Lead Assembly | U0818619 | Gearmotor Assembly, 240V, 50 RPM - D50 |
| U0817635 | Knob | U0818620 | Gearmotor Assembly, 120V, 75 RPM - D75 |
| U0817923 | Switch, Rocker | U0818621 | Gearmotor Assembly, 240V, 75 RPM - D75 |
| U0817942 | Screw 10 - 32 X .688", Motor Mount | U8800431 | Tubing cut 1/4" X 15 ft. PE |
| U0819142 | Box, Front | U8800637 | Tubing Replacement Kit (7/16"Norprene Crm) |
| U0819143 | Box, Back | U8800651 | Pump Head Assembly |
| U0818180 | Potentiometer Assembly | U8800712 | Injection Fitting |
| U0818564 | Fan D10 (CV) | U8800740 | Kit, Timer 120V (1 - U0818183, 1 - U0020522) |
| U0818565 | Fan D50, D75 (CCW) | U8800741 | Kit, Timer 240V (1 - U0818460, 1 - U0020522) |
| U0812955 | Screw 8 - 32 X 1/4", Fan | U8800742 | Kit, Pump Head Bearings (2 - U0817121) |
| L9900700-000 | Strain Relief | U8800743 | Kit, Collars (2 - U0817123) |
| | | U8800758 | Kit, Pump Head Tubing (Viton) |

MEC-O-MATIC PERISTALTIC PUMPS

VSP Series

- Versatile - The VSP is engineered to dispense low volumes of chemicals at exacting amounts.
- Reliable – Heavy-duty gearmotor... fieldtested, proven peristaltic head... durable chemical-resistant housing.
- Low Maintenance – Self-lubricating roller assembly... NO tube adjustment required... exclusive quick-release, twist-off head.
- Guaranteed – Full one year warranty on dispenser.



| Mec-O-Matic VSP Series Selection Guide | | UVSP | | | | U | XXX |
|---|---|------|--|--|--|---|-----|
| MODELS: | 12 = 12.0 gpd (1.89 lph) max pres.: 25 PSI (1.72 BAR) | | | | | | |
| | 20 = 20.0 gpd (3.15 lph) max pres.: 25 PSI (1.72 BAR) | | | | | | |
| ELECTRICAL: | XP = 24VAC | | | | | | |
| | XR = 120V 50/60 Hz | | | | | | |
| LIQUID END MATERIALS: | LLA = Norprene Tubing | | | | | | |
| | LBA = Viton Tubing | | | | | | |
| CONNECTION SIZES: | U = Tubing .19" I.D. X .38" O.D. used w/ UVSP12 only | | | | | | |
| | U = Tubing .25" I.D. X .44" O.D. used w/ UVSP20 only | | | | | | |
| SUFFIX CODES: | XXX = Standard | | | | | | |
| A completed model should look like "UVSP12XRLLAUXXX" | | | | | | | |

Shipping weight for all VSP pumps is 6 lbs.

VSP SERIES PARTS PRICE SCHEDULE

| Part Number | Description |
|--------------|--|
| J60552 | Strainer w/o Valve |
| U0817122 | Collar VSP - 12 |
| U0817123 | Collar VSP - 20 |
| U0817742 | Hose Clamps |
| U0817923 | Switch |
| 24820 | Power Cord 120 V |
| U0819142 | Front Housing |
| U0819143 | Rear Assembly |
| L9710200-000 | Lead Assembly |
| U0818083 | Hole Plug |
| U0818305 | Printed Circuit Board 24V |
| U0818306 | Printed Circuit Board 120V |
| U0818320 | Power Cord 24V |
| U0818463 | Fuse 24V, 1/2 Amp |
| U0818464 | Fuse 120V, 1/8 Amp |
| U0818667 | Gearmotor Kit |
| U7013397 | Tube Kit VSP - 20 |
| U8800431 | 15" X 1/4" Poly Tubing |
| U8800651 | Pump Head Kit |
| U8800700 | Tube Kit VSP - 12 |
| U8800712 | IPF Auto Clean Injection Fitting |
| U8800739 | Kit, Motor Mount (2 - U0818666, 2 - 32946, 2 - U0811297) |
| U8800742 | Kit, Pump Head Bearings (2 - U0817121) |
| L9900700-000 | Strain Relief |

Policies and Procedures

1. Manufacturer's Equipment Warranty

- a. Pulsafeeder warrants all pumps and controllers of its manufacture to be free of defects in material or workmanship. Liability under this policy extends for 24 months from date of shipment from the factory. The manufacturer's liability is limited to repair or replacement of any failed equipment or part which is proven defective in material or workmanship upon manufacturer's examination. This warranty does not include removal or installation costs and in no event shall the manufacturer's liability exceed the selling price of such equipment or part.
- b. The manufacturer disclaims all liability for damage to its products through improper installation, maintenance, use or attempts to operate such products beyond their functional capacity, intentionally or otherwise, or any other unauthorized repair. The manufacturer is not responsible for consequential or other damages, injuries or expense incurred through the use of its products.
- c. The above warranty is in lieu of any other warranty, whether expressed or implied. The manufacturer makes no warranty of fitness or merchantability. No agent of ours is authorized to provide any warranty other than the above.

2. Pulsafeeder's Parts and Accessory Warranty

- a. Pulsafeeder, Inc. warrants parts and accessories provided to be free of defects in material or workmanship. Unless otherwise noted below, liability under this policy extends for 90 days from date of shipment from the factory when sold as service parts. (Replaceable elastomeric parts are expendable and are not covered by any warranty either expressed or implied.)
- b. This policy is extended to a full 12 months from the date of installation or 18 months from shipment from the factory whichever comes first on the following accessories;
 - Intelliscan
 - Digital Glycol Feeders
 - Analog Timers
 - Water Meters
 - Flow Controllers
- c. MicroTrac and MicroVision toroidal probes are warranted for 24 months from date of shipment from the factory when purchased in conjunction with the controller.
 - All other electrodes/probes and sensors are considered maintenance items and such are warranted for six (6) months from the date of shipment when purchased in conjunction with the controller.
 - Any electrodes/probes and sensors purchased as spare parts are warranted for 90 days from date of shipment.
- d. The manufacturer's liability is limited to repair or replacement of any failed equipment or part which is proven defective in material or workmanship upon manufacturer's examination. This warranty does not include removal or installation costs and in no event shall the manufacturer's liability exceed the selling price of such equipment or part.
- e. The manufacturer disclaims all liability for damages to its products through improper installation, maintenance, use or attempts to operate such products beyond their functional capacity, intentionally or otherwise, or any unauthorized repair. The manufacturer is not responsible for consequential or other damages, injuries or expense incurred through the use of its products.
- f. The above warranty is in lieu of any other warranty, whether expressed or implied. The manufacturer makes no warranty of fitness or merchantability. No agent of ours is authorized to provide any warranty other than the above.

3. Process for All Returned Goods

- a. Please contact our Customer Service Department to request a RMA (Return Material Authorization) number prior to returning any goods. The following information will be required:
 - Billing and ship-to address
 - Model number and serial number
 - Contact name and phone number
 - Reason for return
 - Purchase order (where applicable)
 A packing slip will be provided to the shipper and MUST accompany the product being returned. Packages received without our proper packing list will be refused by the receiver.
- b. All material must be returned freight prepaid.
- c. All material must be properly packaged to prevent damage in shipment.
- d. All products MUST be wiped and flushed clean of any and all chemicals, solvents or buffers and be warranted to be safe for handling. You will be requested to acknowledge the condition of the product being returned on our packing list. Any product received that is deemed to be unsafe for handling or without this acknowledgement will be refused by our receiver.
- e. RMA for returning product for credit is effective for 90 days from the date of issue. After 90 days if the product has not been returned to Pulsafeeder the RMA number will be cancelled, and a new request must be made by the customer to continue with the return procedure.

4. Non-Warranty Return Procedure

- a. If you are experiencing a concern with your Pulsafeeder product, first consult the distributor, dealer or Regional Sales Manager or the operation and maintenance manual for assistance. If service of your non-warranty unit is necessary, you must request a return material authorization. A RMA form will be issued and must be used as the packing list attached to the outside of the box. Please send the unit freight prepaid with the RMA number visibly displayed on the outside of the carton. All products MUST be wiped and flushed clean of any and all chemicals, solvents or buffers and be warranted to be safe for handling. You will be requested to acknowledge the condition of the product being returned on our packing list. Any product received that is deemed to be unsafe for handling or without this acknowledgement will be refused by our receiver.
- b. The charges listed in the following table will apply.

| Product | Repair Cost |
|--|--|
| Pumps and Pump Accessories – within 5 years of sale date | Current List Price x .50 x Part Discount Multiplier |
| Controllers and Controller Accessories within 5 years of sale date | Current List Price x .50 x Part Discount Multiplier |
| Any item older than 5 years from date of sale | With purchase order, \$50 bench fee to evaluate. The \$50 bench fee may be applied towards repair cost of unit or towards a new controller |

- c. Extended warranty on repair goods will be offered only when the repairs were made by the factory on non-warranty units.
 - i. Microprocessor Controls – 1 year from date of shipment
 - ii. Electronic Controls – 6 months from date of shipment (excluding electronic parts)
 - iii. Standard metering pumps – 3 months from date of shipment

Policies and Procedures continued

5. Credit for Return of New, Unused Equipment

- a. No equipment will be accepted beyond six months after date of shipment from factory for credit.
- b. Only new, unused and undamaged standard equipment will be accepted for return to stock.
- c. All credits are based on evaluation and acceptance of material as new and unused by Pulsafeeder. You will be requested to acknowledge the condition of the product being returned on our packing list. Any product received that is deemed to be unsafe for handling or without this acknowledgement will be refused by our receiver.
- d. A restocking fee of 25% will apply to returned goods. When a PO is provided for a replacement item at the time of the return request the restocking fee will be 15%. Note: any product mounted on a panel or skid will be charged a 50% re-stocking fee.
- e. A request for a Returned Material Authorization (RMA) number must be made prior to returning product to Pulsafeeder.
- f. All equipment shall be returned with the RMA Packing List form attached to the outside of the box.
- g. If any chemical, solvent or buffer has been introduced into the product it must be wiped and flushed clean of any and all substances prior to returning to Pulsafeeder.
- h. All material shall be returned freight prepaid.
- i. Private label products or Engineered Panel Mount Systems are not returnable.

6. Pricing Errors

- a. Pulsafeeder does their very best to avoid errors in billing. You will receive a confirmation of your order within 24 hours of order entry. If upon review the customer feels there is a discrepancy, they should contact Pulsafeeder Customer Service as soon as possible to resolve.
- b. Should an invoice be received that the customer believes to have incorrect pricing, they should notify Pulsafeeder Customer Service to investigate.

7. Missing Items

- a. If a product is received by the customer with an item missing the customer must notify Pulsafeeder Customer Service within 7 days of receipt of the product by the end user. A replacement item will be sent at no charge as quickly as possible.
- b. If a shipment is received by the customer with a line item missing they must notify Pulsafeeder Customer Service within 7 days of receipt of the product by the end user. If the customer had been billed for that item, a credit will be issued against the original Sales Order and a new Sales Order will be created for the replacement product.

8. Damaged Items

- a. Should the customer receive an order that was damaged in transit, the customer must notify the carrier directly to initiate a claim on the day of delivery.
- b. Should the customer receive a product with damaged components due to improper packaging they should notify Pulsafeeder Customer Service within 7 days of receipt of product by end user. A replacement item will be sent at no charge as quickly as possible.

9. Technical Support Services Available

- a. Pulsafeeder's Technical Sales Support team is available *to provide all your sales and support needs. The principle mission of this group is to sell and support our customer base in a timely and effective manner. This includes the ability to provide in-field service training, assistance in start-up of our products and perform field repair of goods when required.*
- b. Scope
Pulsafeeder, Inc. factory Field Service Technicians are available throughout the World for field services on all Pulsafeeder products. Services include:
 - i. Maintenance Training Seminars, including Classroom slide presentations and or Hands-on Training. The seminar will take approximately four to five hours, and if time permits minor repair and or adjustments may be made to the customer's pumps, controllers or accessories.
 - ii. Pre-start up inspections and start up testing/calibration of pumps, controllers and accessories.

| Fee Schedule | Service Rate ⁽¹⁾ |
|--|---|
| Field Repairs and Start-ups | |
| Normal 8 hour day | \$98.00/hour |
| Overtime (in excess of 8 hrs, each day) | \$148.00/hour |
| Sundays, National Holiday | \$195.00/hour |
| Travel time to job site and return | \$87.00/hour |
| Travel expenses (air fare, hotel, car and meals) | Chargeable to customer at cost |
| Minimum charge | 4 hours labor, plus travel time and expenses |
| End User Training Seminars | |
| Normal work day | \$750.00/day plus expenses (air fare, car rental, hotel and meals at cost) |
| Sundays, National Holiday | \$1495.00/day plus expenses (air fare, car rental, hotel and meals at cost) |

- iii. Field repairs of pumps controllers and accessories
- iv. Diagnosing and recommending solutions to systems problems.

⁽¹⁾ All rates listed in this section are actual hourly and daily rates, not reference rates

TERMS & CONDITIONS

- 1 . **AGREEMENT.** The contract of sale resulting from Seller's documentation together with these terms and conditions ("Contract") constitutes the entire agreement between the parties hereto, except as modified in writing signed by both the Seller and Purchaser. The Seller is Pulsafeeder, Inc. and the Purchaser is identified in the Contract. Any terms in a purchase order, irrespective of their materiality, which are either different from or additional to Seller's conditions of sale, are objected to and are excluded unless the Seller expressly agrees in writing to such terms. Execution of such forms by Seller to accommodate Purchaser's procurement or accounting procedures or to evidence agreed up on change orders shall not be construed as assent to Purchaser's terms. Acceptance of the goods shipped shall constitute assent to Seller's conditions of sale. This Contract shall be binding up on Purchaser and Seller, and on their successors and assigns.
- 2 . **PROPOSAL OR QUOTATION.** A proposal shall not become binding up on Seller until it has been executed and returned by Purchaser. An oral quotation shall not be considered an offer: only a written confirmation thereof incorporating Seller's terms and conditions shall constitute an offer.
- 3 . **CREDIT.** Credit terms of payment must have the approval of Seller's Credit Department and must be specified in writing on Seller's invoice or in the Contract. If Purchaser's credit is found by Seller to be unsatisfactory . Seller may rescind or terminate this Contract. If at any time during the term of this Contract Purchaser's financial responsibility becomes impaired or unsatisfactory to Seller, Seller reserves the right to stop shipment on notification to Purchaser, project owner and surety with a demand for payment in advance or at time of delivery for future deliveries or to require other security satisfactory to Seller and in the absence thereof, to cancel the unfulfilled portion of the Contract. Seller will notify Purchaser promptly of its decision to stop shipments and give an advance notice to the extent this is possible. In the absence of credit terms, sales are for cash.
- 4 . **PAYMENT.** Specific terms of payment for this order shall be set forth on the reverse side of this Contract or identified and appended hereto. Purchaser agrees to make payment at Seller's location specified in this Contract in lawful money of the United States. Purchaser further agrees to make all payments when due to Seller in accordance with the agreed terms of payment in this Contract without reference to Purchaser's agreement with or payments by the owner and with no right of retention.
- 5 . **INTEREST AND COSTS.** Purchaser agrees to pay interest at 1.5% per month (to the extent permitted by law) on all delinquent balances if and when assessed by Seller, and any attorney's fees or court costs arising out of and made necessary in collection of its obligation to Seller created by this Contract.
- 6 . **TAXES.** Any federal, state or local tax assessment, fee, duty or charge hereafter imposed on or measured by the products purchased hereunder shall be for Purchaser's account unless Purchaser furnishes Seller an acceptable exemption certificate from such tax, fee, duty or charge prior to shipment.
- 7 . **FORCE MAJEURE.** Seller shall make delivery in accordance with the terms of this Contract or within a reasonable time in the absence of any commitment, but Seller shall not be liable for delays or defaults in delivery caused by floods, fires, storms, or other acts of God, by war or act of public enemy (or civil disturbance), strikes, lock outs, shortages of labor or raw materials and supplies (including fuel) or production facilities, transportation service or equipment shortages or failures, action of any governmental authority or other conditions beyond Seller's reasonable control.
- 8 . **CANCELLATION.** If Purchaser desires to cancel or change any portion of this Contract, he must make such request in writing to Seller. Seller may, in its sole discretion, accept or reject any such request. If accepted, the Purchaser nonetheless must take delivery and make payment to Seller for all material manufactured and in process of manufacture at time of notice, and all special materials ordered at time of notice and for which Seller must take delivery , unless otherwise agreed by Seller in writing. All such materials must be removed from Seller's premises within 30 days after payment and payment will due at time of notice. Seller also reserves the right to make a cancellation charge in the event of cancellation by the Purchaser of an order placed in Seller's shipping schedule and acknowledged by Seller.
- 9 . **INSPECTION AND TESTING .** Seller's standard specifications and tests apply to all orders. All charges for inspections or tests not regularly furnished are for Purchaser's account and subject to prior negotiation. All inspections shall be conducted at Seller's plant, and failure of Purchaser to avail himself of inspection privileges shall be deemed a waiver of such privileges.
- 10 . **PRICES.** Prices are subject to change without notice. Orders based on published prices and accepted for scheduled shipment will be invoiced at Seller's applicable price in effect on the scheduled date of shipment, unless otherwise specifically noted on the order acknowledgment. All prices will be in accordance with applicable government regulations. Orders specifying palletizing or special packaging will involve special charges.
- 11 . **DELAYS.** All orders are accepted subject to Seller's ability to make delivery at the time and in the quantities specified, and Seller shall not be liable for damages for failure to make partial or complete shipment or for any delay in making shipments. Purchaser shall be liable for any added expenses incurred by Seller because of Purchaser's delay in furnishing requested information to Seller, delay resulting from order changes by Purchaser, or delay in unloading shipments at delivery point.
- 12 . **SHIPMENT.** Seller will select method of shipment and routing when transportation charges are for account of Seller. When shipping instructions are specified by the Purchaser, all costs will be for the account of the Purchaser. The foregoing includes, but is not limited to, carriers charges for notification prior to delivery, demurrage, delay in unloading, diversion, or reconsignment.
- 13 . **TITLE.** Title to products transfers up on delivery to Purchaser at the F.O.B. point of delivery which will be clearly set forth in the shipment terms of this Contract. On receipt of title, Purchaser is then responsible for proper protection of product, placement, compliance with all regulations and ordinances, and will indemnify Seller against all claims for personal injuries or property damage arising from the storage, use or handling of such products.
- 14 . **IN TRANSIT CLAIMS.** Claims for damage or shortage in transit must be made against the carrier by the owner of the shipment according to the F.O.B. terms of the Contract. Purchaser has the responsibility to inspect shipments before or during unloading to identify any such damage or shortage and see that appropriate notation is made on the delivery tickets or an inspection report furnished by the local agent of the carrier in order to support a claim.
- 15 . **CLAIMS.** Notice of Claims against Seller hereunder for any reason, must be made to Seller in writing promptly after discovery and within any applicable warranty period. Failure to give such notice to Seller shall constitute a waiver by Purchaser of any right later to assert such a claim.
- 16 . **RETURNS.** Returned goods shall be accepted for credit only if in salable condition and only with evidence of Seller's prior written consent. Seller will assess charges for freight both ways and any costs necessary to restore such goods to the regular plant inventory . The amount of credit given will depend further up on the degree of salability of products accepted in opinion of Seller.
- 17 . **PATENTS.** Seller agrees to defend, and to protect Purchaser against loss or damage arising out of any legal action for patent infringement in connection with the manufacture of its products sold to Purchaser, provided Seller is notified promptly of any such action with complete information and is given an opportunity to defend.
- 18 . **WARRANTY : LIMITATION OF LIABILITY .** Seller warrants title to each individual product sold under this Contract and further warrants for a period of twenty-four (24) months from ship date, but only to the extent and limit of the purchase price paid for such individual product, that such product conforms to the specifications set forth in the Contract and is free from defects in material and workmanship under normal service and use for which it was designed. Seller's sole obligation and Purchaser's exclusive remedy under this warranty shall be limited to one of the following, as selected by Seller: delivering to Purchaser a replacement for any product or part thereof determined by Seller to be defective, repairing such product or part, or refunding the purchase price (or an equitable portion thereof) paid for such product or part by Purchaser. **SELLER MAKES NO WARRANTY OF FITNESS OR MERCHANTABILITY, AND NO OTHER WARRANTY, WHETHER EXPRESS OR ARISING BY OPERATION OF LAW, COURSE OF DEALING, USAGE OF TRADE OR OTHERWISE IMPLIED SHALL EXIST IN CONNECTION WITH SELLER'S PRODUCTS OR ANY SALE OR USE THERE OF.** Purchaser must notify Seller promptly and within the warranty period of any claim under this warranty. Seller's warranty extends only to the first purchaser of a product from Seller or Seller's authorized distributor. All goods not manufactured by Seller are warranted only to the extent of the warranties of the original manufacturer. Seller disclaims any liability arising from tort, including strict liability , and Seller further disclaims any liability (whether arising under this or any other provision of this Contract or otherwise) for any costs (including costs of removal or replacement), liabilities, lost profits, loss of good will or any other general, special, incidental or consequential damages incurred by Purchaser in connection with this Contract or any product purchased there under.
- 19 . **LAW .** This order shall be governed by and shall be construed by the law of the State of New York .
- 20 . **GOVERNMENTAL REGULATIONS.** Seller warrants that no code, law, regulation or ordinance of the United States, a state or any other governmental authority or agency or any applicable Executive Order has been violated in the manufacture or sale of the items covered by this Agreement and warrants that the equipment, supplies, and/or articles covered thereby conform with all such requirements.
- 21 . **NUCLEAR FINANCIAL PROTECTION.** Purchaser agrees to procure and maintain, as available to it, nuclear energy liability insurance, in a form of policy approved by the Nuclear Regulatory Commission, and protection, as available, against liability for nuclear incidents not covered by such insurance through an indemnity agreement, as provided in Section 170 of the Atomic Energy Act of 1954, as amended, or any succeeding comparable statutory provision, and the regulations thereunder. Such financial protection shall be effective prior to the time any equipment purchased from us is used or installed at or in connection with any nuclear facility and shall cover us an insured party . To the extent that such financial protection is not suitable to Purchaser. Purchaser agrees to use its best efforts to cause such financial protection to be obtained by eligible parties. We will cooperate with Purchaser and representatives of the nuclear energy insurance syndicates in complying with all underwriting requirements and with those insurance recommendations which may be mutually agreed up on. Notwithstanding any representations or warranties made by us elsewhere in these conditions of sale, we shall not be responsible for any bodily injury or property damage liability or any other public liability for any nuclear incidents, whether or not in respect of or arising in connection with use or installation of our equipment at any

