PULSAFEEDER®

Product List

Effective 01/13/14

Metering Pumps and Control Systems

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

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-Europe
Via Kennedy, 12-20090
Segrate—Milano– Italy
Tel: +0039 377 706 6300

Far East (Office Only)
Room 3502-3504, Zhao Feng Plaza
No. 1027 Changning Rd
Shanghai 200050, China
Tel: 86-2163906367
Fax: 86-2163863338

Latin America (Office Only)
Av Ejercito Nacional # 404
Piso 8, Officinas 801-802
Col. Chapultepec Morales
Mexico, DF, CP 11560 Mexico
Tel: 52-555-255-1357
Fax: 52-555-255-1356

IDEX India Private Ltd.
Sunteck Center, 3rd Floor
37-40 Subhash Road, Vile Parle East
Mumbai-400 057, India
Tel: 91-22-66435500
Fax: 91-22-66780055

- 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.

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PULSAtron®

Feature Selection Guide

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 frequence 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 Timer	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 GPH	Flow Capacity LPH	Pressure PSIG	Pressure BAR	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
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										
A Plus	0.25 to 2	0.90 to 7.6	50 to 250	3.3 to 17	100:1				O						
T7	0.50 to 2	1.9 to 7.6	100	7	10:1										S
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						
ET	0.21 to 2	0.80 to	20 to 250	1.3 to 17	100:1			S						S	

S = Standard Features **O = Optional Features**

PULSAtron®

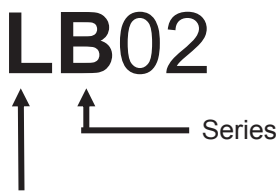
Model Selection Guide

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:

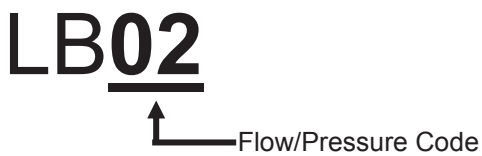
The first four digits represent the Series and Flow/Pressure Selection.



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

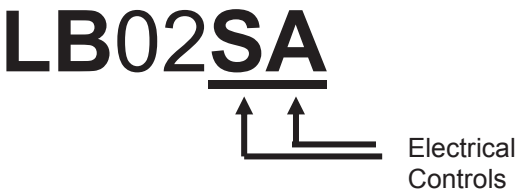
All PULSAtron models begin with this letter. The second letter designates the Series (e.g. Series MP, Series E+, Series A+, etc.). Each series has a different set of features that are available in terms of control and flow/pressure capacity. The next two digits represent the flow/pressure capacity of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

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 ET	T



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.



Digits 5 & 6 represent the Controls and Electrical selections.

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

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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 breads down as follows:

P - Head Material, including fittings. In this example, the P represents GFPPL.
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 Guide

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Head & Fittings

A	=	316 Stainless Steel (All models except H8)
K	=	PVDF (Kynar) (Consult factory for J7, H8 models)
P	=	GFPPL (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)

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

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

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 alot 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.

Degassing Head:

The degassing head assembly is the solution to pumping gas producing chemicals such as hydrogen peroxide or high strength sodium hypochlorite. The unique de-gas valve system is designed to allow air to be vented from the pump head while minimizing the return fluid volume. It also prevents the pump from losing its prime due to gas build up. The degassing head will be available on all PULSAtron pumps with volumes < 44GPD & pressures < 150PSI. This feature is only available with the wet-end codes VVC9, VHC9, and VTC9.

Connection Codes

Code	Connect Type	Suction	Discharge	Spring	GPH Flow Limitations-125 SPM	GPH Flow Limitations-250 SPM	Viscosity	Other Factors
2	Piping	.25" FNPT	.25" FNPT		0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	No Bleed Valve
4	Piping	.25" FNPT	.25" FNPT		1.63 - 10	3.26-20	1000 up to 3000 cps w/ SS balls	No Bleed Valve
6	Piping	.25" FNPT	.25" FNPT	Yes	Up to 10	NA	less than 10,000 cps	No Bleed Valve
8	Piping	.50" FNPT	.50" FNPT	Yes	Up to 25	NA	less than 10,000 cps	No Bleed Valve
C	Piping	.50" FNPT	.50" FNPT		25	50	1000 up to 3000 cps w/ SS balls	No Bleed Valve
G	Piping	.25" FNPT	.25" FNPT	Yes	0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	No Bleed Valve
I	Piping	.50" MNPT	.50" MNPT	Yes	Up to 10	NA	less than 10,000 cps	No Bleed Valve
L	Piping	.50" MNPT	.50" MNPT		0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	No Bleed Valve
X	Piping	.50" MNPT	.50" MNPT		1.63 - 10	3.26-20	1000 up to 3000 cps w/ SS balls	No Bleed Valve
1	Tubing	.25" x .38"	.25" x .38"		0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	
3	Tubing	.38" x .50"	.38" x .50"		1.63 - 10	3.26-20	1000 up to 3000 cps w/ SS balls	
5	Tubing	.50" x .75"	.38" x .50"	Yes	Up to 10	NA	less than 10,000 cps	
7	Tubing	.50" x .75"	.50" FNPT	Yes	Up to 25	NA	less than 10,000 cps	No Bleed Valve
9	Tubing	.25" x .38"	.25" x .38"	Yes	0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	Degas Head/No Bleed Valve
A	Tubing	.38" x .50"	.38" x .50"		0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	
B	Tubing	.50" x .75"	.50" x .75"		25	50	1000 up to 3000 cps w/ SS balls	No Bleed Valve
D	Tubing	.25" x .38"	.25" x .38"	Yes	0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	
E	Tubing	.38" x .50"	.38" x .50"	Yes	0 - 1.88	0-3.76	1000 up to 3000 cps w/ SS balls	
F	Tubing	.38" x .50"	.38" x .50"	Yes	1.63 - 10	3.26-20	1000 up to 3000 cps w/ SS balls	Not Available In PVDF
H	Tubing	.25" x .38"	.25" x .38"		1.63 - 10	3.26-20	1000 up to 3000 cps w/ SS balls	
J	Tubing	.25" x .38"	.25" x .38"		0 - 1.04	0-2.08	1000 up to 3000 cps w/ SS balls	
K	Tubing	.50" x .75"	.50" x .75"	Yes	1.88 - 25 (<50 psi)	NA	less than 10,000 cps	No Bleed Valve
Metric Connections					LPH Flow Limitations	LPH Flow Limitations		
M	Piping	G 1/2 A	G 1/2 A		6.15 - 37.85	12.3-75.7	1000 up to 3000 cps w/ SS balls	
R	Piping	G 1/2 A	G 1/2 A		0 - 7.10	0-14.2	1000 up to 3000 cps w/ SS balls	
N	Tubing	4 x 10 mm	4 x 10 mm		0 - 7.10	0-14.2	1000 up to 3000 cps w/ SS balls	
P	Tubing	4 x 6 mm	4 x 6 mm		0 - 3.94	0-7.88	1000 up to 3000 cps w/ SS balls	
Q	Tubing	10 x 14 mm	10 x 14 mm		6.15 - 37.85	12.3-75.7	1000 up to 3000 cps w/ SS balls	
S	Tubing	6 x 10 mm	6 x 10 mm		> 18.93	> 37.86	1000 up to 3000 cps w/ SS balls	
T	Tubing	6 x 10 mm	6 x 10 mm		0 - 7.10	0-14.2	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	0-14.2	1000 up to 3000 cps w/ SS balls	
V	Tubing	12 x 19 mm	12 x 19 mm		> 29.96	>59.92	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	12.3-75.7	1000 up to 3000 cps w/ SS balls	
Y	Tubing	6 x 12 mm	6 x 12 mm		0 - 7.10	0-14.2	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.**

PULSAtron®

Selection Guide cont'd.

Suffix Code:

LB02SA-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.

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.

CZ XXX = CE Approval

This suffix code tells us that you require CE Approval on the pump you are ordering. This suffix code is seven to nine 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, the suffix code would be CZEURO500.

130 = PVDF Tubing

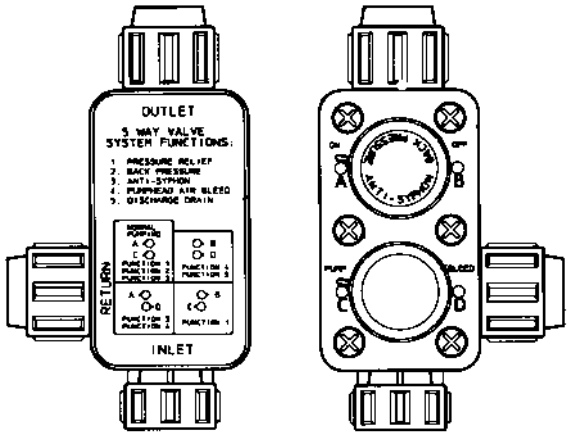
This suffix code will replace the standard pump tubing with PVDF Tubing.

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.



REAR VIEW FRONT VIEW

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.

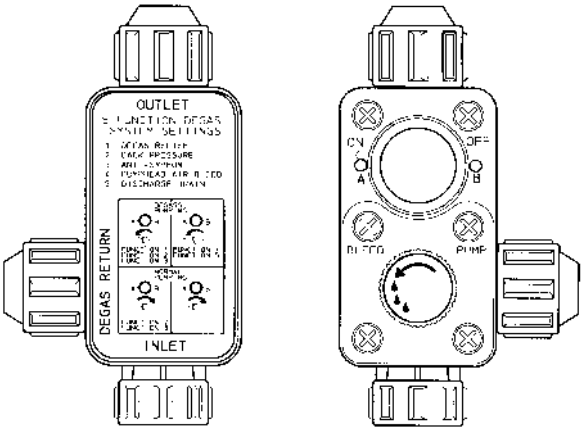
OPERATION

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.



REAR VIEW FRONT VIEW

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.

PULSAtron®

Electronic Metering Pumps

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.

Intertek 9700150 Intertek 9700150

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 Backilght

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

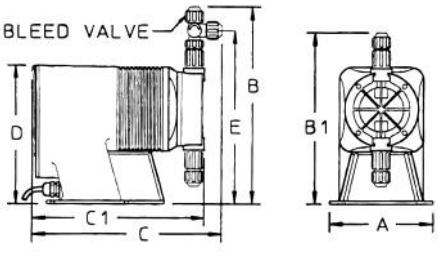
PULSAtron Series MP Selection Guide

LM_ _ _ _ - _ _ _ - _ _ _

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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)
LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**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): 4' Suction, 4' Return, 8' dischage 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 or H8 pump)
	FVV	= Flow Verification / Viton (not available on pumps greater than 100 psi or H8 pump)
	ITS	= 15 gal. ITS Tank System (ITS Tank not available on LM, LP, LT, and LE: H4, H5, H6, H7, H8, J7, K7 models)
	CZ_XXX	= CE Approval (CZXXX=Europe; CZUKXXX=UK; CZSUIXXX=Switzerland/Liechtenstein)
See pages 8 & 9 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 mADC 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).

Intertek 9700150 Intertek 9700150

Pressure and Flow Rate Capacity

MODEL		LPK2	LPB2	LPA2	LPD3	LPB3	LPA3	LPK3	LPF4	LPD4	LPB4	LPH4	LPG4	LPE4	LPK5	LPH5	LPG5	LPH6	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	4	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	96	120	192	240	240	600
	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	15.1	18.9	30.3	37.9	37.9	94.6
Pressure (max.)	PSIG	300	250	150	250	150	100	100	250	150	100	250	150	100	150	150	100	100	50	35	80	30
	BAR	21	17	10	17	10	7	7	17	10	7	17	10	7	10	10	7	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

LP_ _ _ _ _ - _ _ _ - _ _ _

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)
	G5	= 4.00 gph / 96 gpd (15.1 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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)

LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**PTC**	= GFPPL / TFE / Ceramic
	PTT	= GFPPL / TFE / TFE
	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)
	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

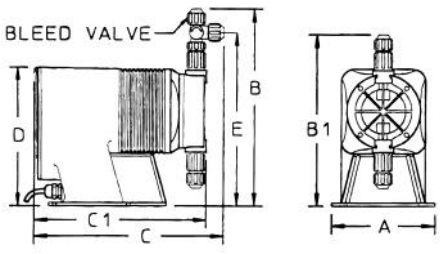
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps): 4' Suction, 4' Return, 8' dischage tubing, footvalve/strainer assy., injection valve and bleed valve.

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)
	CZ_XXX	= CE Approval (CZXXX=Europe; CZUKXXX=UK; CZSUIXXX=Switzerland/Liechtenstein)

See pages 8 & 9 for additional information and specs.

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

Dimensions



Series EPlus 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	5.4	10.3	-	10.8	-	7.5	8.9	13	LPH4	6.2	10.9	-	11.2	-	8.2	9.5	21
LPA3	5.4	10.6	-	10.7	-	7.5	9.2	13	LPH5	6.2	11.3	-	11.2	-	8.2	9.9	21
LPB2	5.4	10.3	-	10.8	-	7.5	8.9	13	LPG5	6.2	11.3	-	11.2	-	8.2	9.9	21
LPB3	5.4	10.6	-	10.7	-	7.5	9.2	13	LPH6	6.2	11.3	-	11.9	-	8.2	9.9	21
LPB4	5.4	10.6	-	10.7	-	7.5	9.2	13	LPH7	6.1	11.7	-	11.9	-	8.2	10.3	21
LPD3	5.4	10.6	-	11.2	-	7.5	9.2	15	LPH8*	6.1	-	10.9	-	11.3	8.2	-	26
LPD4	5.4	10.6	-	11.2	-	7.5	9.2	15	LPK2	5.4	10.3	-	10.8	-	7.5	8.9	13
LPE4	5.4	10.6	-	11.2	-	7.5	9.2	15	LPK3	5.4	10.6	-	10.7	-	7.5	9.2	13
LPF4	5.4	10.6	-	11.7	-	7.5	9.2	18	LPK5	5.4	10.9	-	11.7	-	7.5	9.5	18
LPG4	5.4	10.6	-	11.7	-	7.5	9.2	18	LPK7	6.1	11.7	-	11.2	-	8.2	10.3	21
									LPJ7	6.1	10.0	-	10.7	-	-	-	21

NOTE: Inches X 2.54 = cm /* the LPH8 is designed without a bleed valve available

PULSAtron® *Electronic Metering Pumps*

Series HV

Key Features

- **Automatic Control,** available with 4-20 mADC 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**.

Intertek 9700150 Intertek 9700150

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

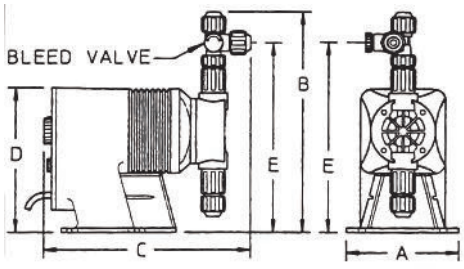
LV _ _ _ _ _ - _ _ _ - _

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)
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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)
LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**PTT**	= GFPPL / TFE / TFE - LVB3 & F4 only
	PTS	= GFPPL / 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 valve available.		
SUFFIX CODES	**XXX**	= No Additional Options

See pages 8 & 9 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
	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
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: +/- 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

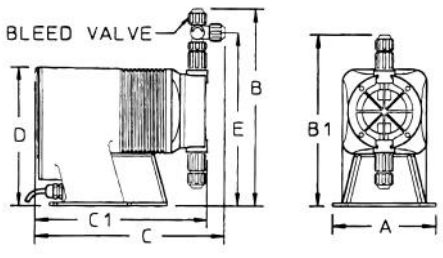
PULSAtron Series E Selection Guide

LE_ _ S _ - _ _ _ _ - _ _ _

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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)
LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**PHC**	= GFPPL / CSPE / Ceramic
	PTC	= GFPPL / TFE / Ceramic
	KTC	= PVDF / TFE / Ceramic (Consult factory for J7 or 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)
	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): 4' Suction, 4' Return, 8' dischage 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)
	CZ_XXX	= CE Approval (CZXXX=Europe; CZUKXXX=UK; CZSUIXXX=Switzerland/Liechtenstein)
See pages 8 & 9 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).

Contact factory for applicable agency approvals.

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
	LPH	0.9	1.9	3.8	7.0
Pressure (max.)	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 Power:	138.6 Watts
LS44 Power:	189 Watts
Average Input Power @Max SPM:	
LS02, 13, 14 Power:	50.4 Watts
LS44 Power:	100.8 Watts

PULSAtron Series E-DC Selection Guide

LS_ _ | S | 4 - _ _ _ | _ - _ _ _

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: Pump Head & Fittings/Seats & O-rings/Balls	**PHC**	= GFPPL / CSPE / Ceramic
	PTC	= GFPPL / TFE / Ceramic
	PVC	= GFPPL / Viton / 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
	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

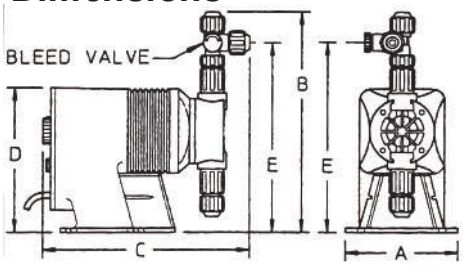
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps): 4' Suction, 4' Return, 8' dischage tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES:	**XXX**	= No Additional Options
	130	= PVDF Tubing
	500	= Five Function Valve
	520	= Five Function Degas Valve
	ITS	= 15 gal. ITS Tank System
	CZ_XXX	= CE Approval (CZXXX=Europe; CZUKXXX=UK; CZSUIXXX=Switzerland/Liechtenstein)

See pages 8 & 9 for additional information and specs.

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

Dimensions



Series E-DC Dimensions (inches)						
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 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)

Intertek 9700150 Intertek 9700150

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

LB _ _ _ _ - _ _ - _ - _ _

Models

Product Code	Flow Rate			Pressure Rating[1]		Stroke Rate	Standard Valve	Max. Viscosity
	GPD	GPH	LPH	PSI	BAR	(SPM)	Size	(cps)
S2	12	0.50	1.9	250	17	250	J (TFE Only)	1,000
S3	33	1.38	5.2	150	10			
S4	58	2.42	9.1	100	7		1	
C2	6	0.25	0.9	250	17	125	J (TFE 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				1	
C4	48	2.00	7.6	50	3.3		3	

Controls

S	Manual Control	100:1 Turndown	10:1 Stroke Length 10:1 Frequency
E	External Pace w/ Auto/Manual Switch		
P	Stop Function Option		
Q	External Pace w/ Stop (125 SPM only)		
X	Manual Control (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

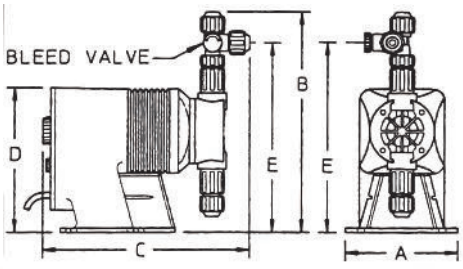
J	Tubing .25" I.D. x .38" O.D. Standard for pumps from 0 - 33 GPD
1	Tubing .25" I.D. x .38" O.D. Standard for pumps from 20 - 45 GPD
3	Tubing .38" I.D. x .50" O.D. Standard for pumps from 45 - 240 GPD
9	Degas Head: Vent Tubing .25" I.D. x .38" O.D. (0-150 PSI pumps only)
Metric	
R	G 1/2 A Threads, .25" 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	StandardPump - No Options
130	PVDF Tubing
500	Five Function Valve
520	Five Function Degassing Valve
ITS	15 gal. ITS Tank System
CZ_XXX	CE Approval (CZXXX=Europe; CZUKXXX=UK; CZSUIXXX=Switzerland/Liechtenstein)

A completed model number should look like 'LB03SA-PTCJ-XXX'

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



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 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
- Mode Select Knob, Stroke Length
- 12, 22, 30 & 44 GPD @ 100 psi – 7 bar
- Stroke length adjust 0-100%. Turn down ratio 10:1

Pressure and Flow Rate Capacity

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

LC_ _ | B | _ - _ _ _ | _ - _ _ _

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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)
LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**PHC**	= GFPPL / CSPE / Ceramic
	PTC	= GFPPL / TFE / 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:	
	Y	= 6 x 12mm, .25"" Ball, 0 - 7.10 LPH
	T	= 6 x 10mm, Degassing (Note: has 10mm suction), 0 - 7.10 LP

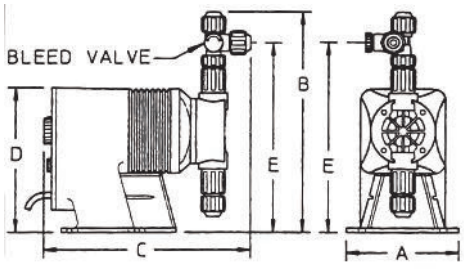
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps): 4' Suction, 4' Return, 8' dischage tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES:	**XXX**	= No Additional Options
	130	= PVDF Tubing
	500	= Five Function Valve
	520	= Five Function Degas Valve
	ITS	= 15 gal. ITS Tank System

See pages 8 & 9 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

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.

Intertek 9700150 Intertek 9700150

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

LD_ _ _ _ - _ _ _ _ - _ _ _

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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)
LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**PHC**	= GFPPL / CSPE / Ceramic
	PTC	= GFPPL / TFE / 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
	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

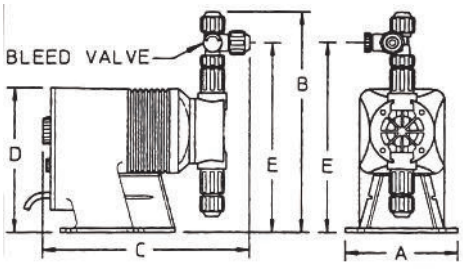
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps): 4' Suction, 4' Return, 8' dischage tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES:	**XXX**	= No Additional Options
	130	= PVDF Tubing
	500	= Five Function Valve
	520	= Five Function Degas Valve
	ITS	= 15 gal. ITS Tank System
	CZ_XXX	= CE Approval (CZXXX=Europe; CZUKXXX=UK; CZSUIXXX=Switzerland/Liechtenstein)

See pages 8 & 9 for additional information and specs.

A completed model number should look like 'LD03SA-PTC1-XXX'

Dimensions



Series C PLUS Dimensions (inches)						
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).

Degas Head Option

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

LC_ _ _ _ - _ _ _ - _ _ _

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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)
LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**PHC**	= GFPPL / CSPE / Ceramic
	PTC	= GFPPL / TFE / Ceramic
	VHC	= PVC / CSPE / Ceramic
	VTC	= PVC / TFE / Ceramic
	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

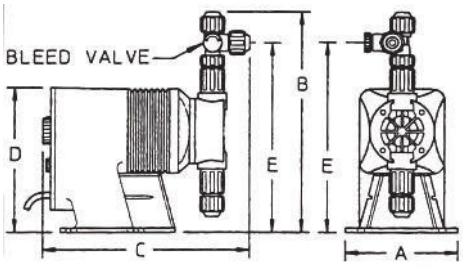
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps): 4' Suction, 4' Return, 8' dischage tubing, footvalve/strainer assy., injection valve and bleed valve.

SUFFIX CODES:	**XXX**	= No Additional Options
	130	= PVDF Tubing
	500	= Five Function Valve
	520	= Five Function Degas Valve
	ITS	= 15 gal. ITS Tank System
	CZ_XXX	= CE Approval (CZXXX=Europe; CZUKXXX=UK; CZSUIXXX=Switzerland/Liechtenstein)

See pages 8 & 9 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®

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
- 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 length adjust 0-100%.
- Agency approved for demanding ***OUTDOOR*** and indoor applications

Intertek 9700150 Intertek 9700150

Contact factory for applicable agency approvals.

Pressure and Flow Rate Capacity

MODEL		LTB2	LTA2	LTB3	LTA3	LTF4	LTD4	LTB4	LTH4	LTG4	LTE4	LTH5	LTH6	LTH7	LTH8
Capacity	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
nominal	GPD	5	6	12	12	20	22	24	41	42	44	76	120	240	504
(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
Pressure	PSIG	250	150	150	100	250	150	100	250	150	100	150	100	35	20
(max.)	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 Length Turn-Down Ratio: 10:1

Power Input: 120 VAC/50-60 HZ/1 ph
250 VAC/50-60 HZ/1 ph
5 Amp max

Power Output: 120VAC or 250VAC @ 50/60 HZ, 5A max

PULSAtron Series ET Selection Guide

LT_ _ | S | _ - _ _ _ | _ - _ _ _

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 (without agency approvals)
	B	= 230 Volt / 50-60Hz / 1ph with 6' (1.8m) 3-wire US Plug
	2	= 230 Volt / 50-60Hz (without agency approvals)

LIQUID END MATERIALS: Pump Head & Fittings/Seats & O-rings/Balls	**PTC**	= GFPPL / TFE / Ceramic
	PTT	= GFPPL / 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

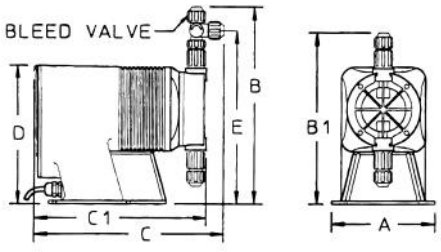
Please Refer to page 7 for additional connection sizes. All pumps with tubing connections come with the following items (except for LMH8, LPH8, LEH8, HV series pumps): 4' Suction, 4' Return, 8' dischage tubing, footvalve/strainer assy., injection valve and bleed valve.

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)

See pages 8 & 9 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

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.

LB0**2**SA-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 GFPPL.
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 Guide

K_ _ _ _ _ _

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** = GFPPL (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 when TFE seats selected
	2	= Double Balls when TFE seats selected
	3	= Double Balls when TFE seats selected
	4	= Double Balls when TFE seats selected
	5*	= Available for Discharge Only (L3201)
	6	=
	7*	= Available for Suction Only (L3101)
	8	=
	A	=
	B*	=
	C	=
	D	= Spring Loaded with SS Balls
	E	= Spring Loaded with SS Balls
	F	= Spring Loaded with SS Balls
	G	= Spring Loaded with 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
	PVD	= 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-FPF	HEAD, PUMP	.750
1	L0200900-FPF	HEAD, PUMP HSA #2 HEAD J	.750
1	L0200900-PVC	HEAD, PUMP HSA #2 HEAD J	.750
1	L0200200-PVI	HEAD, PUMP HSA #2 HEAD J	.750
1	L0200300-316	HEAD, PUMP	1.000
1	L0200300-FPF	HEAD, PUMP	1.000
1	L0202500-HPV	HEAD, PUMP	1.000
1	L0200300-PVI	HEAD, PUMP	1.000
1	L0200300-PVC	HEAD, PUMP	1.000
1	L0201000-FPF	HEAD, PUMP HSA #3 HEAD J	1.000
1	L0201000-PVC	HEAD, PUMP HSA #3 HEAD J	1.000
1	L0201000-PVI	HEAD, PUMP HSA #3 HEAD J	1.000
1	L0200400-316	HEAD, PUMP	1.250
1	L0200400-FPF	HEAD, PUMP	1.250
1	L0200400-PVC	HEAD, PUMP	1.250
1	L0200400-PVI	HEAD, PUMP	1.250
1	L0200500-SST	HEAD, PUMP	1.625
1	L0200500-FPF	HEAD, PUMP	1.625
1	L0200500-PVC	HEAD, PUMP	1.625
1	L0200500-PVI	HEAD, PUMP	1.625
1	L0200600-SST	HEAD, PUMP	2.000
1	L0200600-FPF	HEAD, PUMP	2.000
1	L0200600-PVC	HEAD, PUMP	2.000
1	L0200600-PVI	HEAD, PUMP	2.000
1	L0200700-316	HEAD, PUMP	2.500
1	L0200700-FPF	HEAD, PUMP	2.500
1	L0200700-HPV	HEAD, PUMP	2.500
1	L0200700-PVI	HEAD, PUMP	2.500
1	L0200800-PPL	HEAD, PUMP	3.625
1	L0200800-HPV	HEAD, PUMP	3.625
2	L0300900-THY	DIAPHRAGM	.750
2	L0301000-THY	DIAPHRAGM	1.000
2	L0301100-THY	DIAPHRAGM	1.250
2	L0301200-THY	DIAPHRAGM	1.625
2	L0301300-THY	DIAPHRAGM	2.000
2	L0301400-THY	DIAPHRAGM	2.500
2	L0301600-THY	DIAPHRAGM	3.625
18	L1501300-HYI	SUC/DIS VLV O-RING, CSPE	
18	L1501300-TFE	SUC/DIS VLV O-RING, TFE	
18	L1501300-VTN	SUC/DIS VLV O-RING, VTN	
24	L1103400-PVC	COUPLING NUT 5/16" OD	
24	L1100300-FPF	COUPLING NUT 3/8" OD	
24	L1100300-PVC	COUPLING NUT 3/8" OD	
24	L1100300-PVI	COUPLING NUT 3/8" OD	
24	L1100400-FPF	COUPLING NUT 1/2" OD	
24	L1100400-PVC	COUPLING NUT 1/2" OD	
24	L1100400-PVI	COUPLING NUT 1/2" OD	
25	L9906700-000	WEIGHT, CERAMIC TUBE	
36	L1501200-TFE	BLEED VLV O-RING, TFE	
60	L1500700-NTF	SECONDARY SEAL, O-RING 2-109	

DRIVE END COMPONENTS

Item No.	Part No.	Description	
3	L2100200-FPF	DEFLECTION PLATE	.750
3	L2100300-FPF	DEFLECTION PLATE	1.000
3	L2100400-FPF	DEFLECTION PLATE	1.250
3	L2100500-FPF	DEFLECTION PLATE	1.625
3	L2100600-FPF	DEFLECTION PLATE	2.000
3	L2100700-FPF	DEFLECTION PLATE	2.500
4	L0400200-FPF	ADAPTER, .750	HSG #2
4	L0400300-FPF	ADAPTER, 1.000	HSG #2
4	L0400400-FPF	ADAPTER, 1.250	HSG #2
4	L0400500-FPF	ADAPTER, 1.625	HSG #2
4	L0400600-FPF	ADAPTER, 1.250	HSG #3
4	L0400700-FPF	ADAPTER, 1.625	HSG #3
4	L0400800-FPF	ADAPTER, 2.000	HSG #3
4	L0400900-FPF	ADAPTER, 2.500	HSG #3
4	L0401100-FPF	ADAPTER, .750	HSG #1
4	L0401200-FPF	ADAPTER, 1.000	HSG #1
4	L0401300-FPF	ADAPTER, 1.250	HSG #1
4	L0401400-PPL	ADAPTER, 3.625	HSG #3
5	L9901200-BRS	SHIM, DIAPHRAGM	
6	L1500400-NTF	EPM/ADAPTER O-RING	
6	L1500600-NTF	EPM/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	115V
52	L0702702-125	CNTRL BD, LM A, B, C, D, E/K2, 3 SIGNAL RELAY	230V
52	L0702901-125	CNTRL BD, LM A, B, C, D, E/K2, 3 POWER RELAY	115V
52	L0702902-125	CNTRL BD, LM A, B, C, D, E/K2, 3 POWER RELAY	230V
52	L0703801-150	CNTRL BD, LM F, G, K5 SIGNAL RELAY	115V
52	L0703802-150	CNTRL BD, LM F, G, K5 SIGNAL RELAY	230V
52	L0703701-150	CNTRL BD, LM F, G, K5 POWER RELAY	115V
52	L0703702-150	CNTRL BD, LM F, G, K5 POWER RELAY	230V
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 POWER RELAY	115V 115V
52	L0703002-190	CNTRL BD, LM H, K7 POWER RELAY	230V
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 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 LM A,B,C,D,E,K3 SIGNAL RELAY 115V
81	L5007501-230	CNTRL PNL ASSY LMK2 SIGNAL RELAY 230V
81	L5007301-230	CNTRL PNL ASSY LM A,B,C,D,E,K3 SIGNAL RELAY 230V
81	L5007601-115	CNTRL PNL ASSY LMK2 POWER RELAY 115V
81	L5007401-115	CNTRL PNL ASSY LM A,B,C,D,E,K3 POWER RELAY 115V
81	L5007601-230	CNTRL PNL ASSY LMK2 POWER RELAY 230V
81	L5007401-230	CNTRL PNL ASSY LM A,B,C,D,E,K3 POWER RELAY 230V
81	L5007701-115	CNTRL PNL ASSY LMK5 SIGNAL RELAY 115V
81	L5007101-115	CNTRL PNL ASSY LM F, G SIGNAL RELAY 115V
81	L5007701-230	CNTRL PNL ASSY LMK5 SIGNAL RELAY 230V
81	L5007101-230	CNTRL PNL ASSY LM F, G SIGNAL RELAY 230V
81	L5007801-115	CNTRL PNL ASSY LMK5 POWER RELAY 115V
81	L5007201-115	CNTRL PNL ASSY LM F, G POWER RELAY 115V
81	L5007801-230	CNTRL PNL ASSY LMK5 POWER RELAY 230V
81	L5007201-230	CNTRL PNL ASSY LM F, G POWER RELAY 230V
81	L5007901-115	CNTRL PNL ASSY LMK7 SIGNAL RELAY 115V
81	L5006901-115	CNTRL PNL ASSY LM H SIGNAL RELAY 115V
81	L5007901-230	CNTRL PNL ASSY LMK7 SIGNAL RELAY 230V
81	L5006901-230	CNTRL PNL ASSY LM H 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

tem 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 PV	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

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 an 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 Mfgr'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 Dow n	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	150			75		150			90		45	
(max.)	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			

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

OMNI DC2 thru DC6 Selection Guide

DC_ _ _ _ _ _ - _ _ _ _

MODELS:	**2A**	= PVDF - 7.0 GPH (26.4 LPH)@60Hz & MPC or 5.8 GPH (22.0 LPH)@50Hz
	2A	= 316SS - 7.0 GPH (26.4 LPH)@60Hz & MPC or 5.8 GPH (22.0 LPH)@50Hz
	2B	= PVDF - 13.9 GPH (52.8 LPH)@60Hz & MPC or 11.6 GPH (44.0 LPH)@50Hz
	2B	= 316SS - 13.9 GPH (52.8 LPH)@60Hz & MPC or 11.6 GPH (44.0 LPH)@50Hz
	2C	= PVDF - 24.0 GPH (90.8 LPH)@60Hz & MPC or 20 GPH (75.7 LPH)@50Hz
	2C	= 316SS - 24.0 GPH (90.8 LPH)@60Hz & MPC or 20 GPH (75.7 LPH)@50Hz
	3B	= PVDF - 32.3 GPH (122.4 LPH)@60Hz & MPC or 26.9 GPH (102.0 LPH)@50Hz
	3B	= 316SS - 32.3 GPH (122.4 LPH)@60Hz & MPC or 26.9 GPH (102.0 LPH)@50Hz
	3C	= PVDF - 55.5 GPH (210 LPH)@60Hz & MPC or 46.2 GPH (175.0 LPH)@50Hz
	3C	= 316SS - 55.5 GPH (210 LPH)@60Hz & MPC or 46.2 GPH (175.0 LPH)@50Hz
	4B	= PVDF - 40.6 GPH (153.6 LPH)@60Hz & MPC or 33.8 GPH (128.0 LPH)@50Hz
	4B	= 316SS - 40.6 GPH (153.6 LPH)@60Hz & MPC or 33.8 GPH (128.0 LPH)@50Hz
	4C	= PVDF - 61.8 GPH (234 LPH)@60Hz & MPC or 51.5 GPH (195.0 LPH)@50Hz
	4C	= 316SS - 61.8 GPH (234 LPH)@60Hz & MPC or 51.5 GPH (195.0 LPH)@50Hz
	4D	= PVDF - 78.9[1] GPH (298.8[1] LPH)@60Hz & MPC or 65.8 GPH (249.0 LPH)@50Hz
	4D	= 316SS - 78.9[1] GPH (298.8[1] LPH)@60Hz & MPC or 65.8 GPH (249.0 LPH)@50Hz
	5C	= PP - 104.6 GPH (396 LPH)@60Hz & MPC or 87.2 GPH (330.0 LPH)@50Hz
	5C	= PVDF - 104.6 GPH (396 LPH)@60Hz & MPC or 87.2 GPH (330.0 LPH)@50Hz
	5C	= 316SS - 104.6 GPH (396 LPH)@60Hz & MPC or 87.2 GPH (330.0 LPH)@50Hz
	5D	= PP - 137.9[1] GPH (522[1] LPH)@60Hz & MPC or 114.9 GPH (435.0 LPH)@50Hz
	5D	= PVDF - 137.9[1] GPH (522[1] LPH)@60Hz & MPC or 114.9 GPH (435.0 LPH)@50Hz
	5D	= 316SS - 137.9[1] GPH (522[1] LPH)@60Hz & MPC or 114.9 GPH (435.0 LPH)@50Hz
	6C	= PP - 218.7 GPH (828 LPH)@60Hz & MPC or 182.3 GPH (690.0 LPH)@50Hz
	6C	= PVDF[2] - 218.7 GPH (828 LPH)@60Hz & MPC or 182.3 GPH (690.0 LPH)@50Hz
	6C	= 316SS - 218.7 GPH (828 LPH)@60Hz & MPC or 182.3 GPH (690.0 LPH)@50Hz
	6D	= PP - 272.6[1] GPH (1032[1] LPH)@60Hz & MPC or 227.2 GPH (860.0 LPH)@50Hz
	6D	= PVDF[2] - 272.6[1] GPH (1032[1] LPH)@60Hz & MPC or 227.2 GPH (860.0 LPH)@50Hz
	6D	= 316SS - 272.6[1] GPH (1032[1] LPH)@60Hz & MPC or 227.2 GPH (860.0 LPH)@50Hz

[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

MOTOR:	**1**	= IEC 71 B14 Frame, 1PH 115/230V, 0.37kW (1/2HP), TEFC, Motor [50/60hz]*
	2	= 56C Frame, 1PH 115/230V, 0.37kW (1/2HP), TEFC, MOTOR (60hz)
	3	= IEC 71 B14 Frame, 3PH 220/380V (&460V), 0.37kW (1/2HP), TEFC, Motor [50/60hz]*
	4	= 56C Frame, 3PH 220/380V (&460V), 0.37kW (1/2HP), TEFC, MOTOR (60hz)
	5	= MPC with 56C frame motor - price included in MPC price
	6	= MPC NO MOTOR with 56C frame [Always @ 60 hz!] (price subtracted from MPC)
	7	= MPC with 71 frame motor - price included in MPC price
	8	= MPC NO MOTOR with 71 frame [Always @ 60 hz!] (price subtracted from MPC)
	X	= NO MOTOR - 56C frame
	Y	= NO MOTOR - IEC 71 B14 frame

*** In the Americas, lead time is 8 weeks for any pump with these motors.**

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 Valves
	A	= 316SS Liquid End - PTFE Diaphragm and PTFE O-rings - 316SS Ball Valves

*** The DC2 has Ceramic Ball Valves**

CONNECTION TYPE	**P**	= NPT
	B	= Din ISO 228/1 (BSPT) (Not available on DC2 pumps)

Optional MPC Controller

CONTROL:	BLANK	= No MPC Controller
	M	= MPC Controller

CONTROLLER INPUT VOLTAGE	BLANK	= NO MPC CONTROLLER
	1	= 110-115V 50/60Hz ETL (UL & CSA) - Single Phase Only
	2	= 220-230V 50/60Hz CE & ETL (UL & CSA) - Single Phase Only

Contact factory for additional motor options. MPC output is 60Hz even if the input voltage is 50Hz - Select pump based on 60Hz performance.

EXTENDED REMOTE CABLE:	BLANK	= NO MPC CONTROLLER
	X	= PUMP MOUNTED KEYPAD with standard 1.5m (4.5 feet) of cable
	C	= EXTENDED REMOTE CABLE, KEYPAD MOUNTED OFF THE PUMP *

NOTE: * The MPC remote can be located up to 1000 feet (305m) away from the pump. Order extra cable by adding the line item part number NP530147-000 per foot to the order. Will be shipped loose as a line item for field installation. Example: If 62 ft of cable is needed, order 62 pieces of NP530147-000. MPC - PANEL MOUNT: The MPC remote is already a NEMA 4X (IP56) rated enclsoure. Instead of integrating this into a control panel, we suggest mounting the remote ""as is"" on the outside of a panel or next to a panel on the wall. The bracket for wall or panel mounting is the same bracket that comes as standard on the pump. There is no chassis mount available.

LANGUAGE (MPC will be shipped in language chosen)	BLANK	= NO MPC CONTROLLER
	E	= English
	F	= French
	S	= Spanish
	G	= German

Mechanical Diaphragm Pumps

OMNI DC7 Series Selection Guide

DC7_ _ _ _

MODELS	**7C** = PP - 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 **Duplex Models** **7J** = PP - 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
[1]**Caution: This pump has a high stroke rate & needs at least 25 psig back pressure and water-like viscosity.**	
MOTORS	**1** = 90 IEC FRAME **2** = 100 IEC FRAME **3** = 56C FRAME **4** = 145TC FRAME
WET END MATERIALS:	**P** = PP Liqud End - PTFE Diaphragm and PTFE O-rings - Ceramic Ball Valves
	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)

MPC Vector Selection Guide

EP C B _

MODELS	**EP** = MPC VECTOR
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	Enclosure
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				940 / 1140		

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			

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

OMNI 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
	1.5"	PVDF/TFE	NA100003-PVD
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
	1.5"	PVDF/TFE	NA200003-PVD
Gauge Isolator w/ 200PSI Gauge	1/4"	PVC/TFE	NA500001-PVC
	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 Connection	Wetted Material	Pump	KOPkit Number
NPT	PVDF	DC2	NLK020FP
NPT	PVDF	DC3 or DC4	NLK040FP
BSPT	PVDF	DC3 or DC4	NLK040FB
NPT	PVDF	DC5	NLK050FP
BSPT	PVDF	DC5	NLK050FB
NPT	PVDF	DC6	NLK060FP
BSPT	PVDF	DC6	NLK060FB
NPT	PP	DC5	NLK050PP
BSPT	PP	DC5	NLK050PB
NPT	PP	DC6	NLK060PP
BSPT	PP	DC6	NLK060PB
N/A	PVDF & PP	DC7	NLK070XX
NPT	316SS	DC2	NLK020AP
NPT	316SS	DC3 or DC4	NLK040AP
BSPT	316SS	DC3 or DC4	NLK040AB
NPT	316SS	DC5	NLK050AP
BSPT	316SS	DC5	NLK050AB
NPT	316SS	DC6	NLK060AP
BSPT	316SS	DC6	NLK060AB

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
		Viton	1/2" FNPT	L9908300-VIT
	PVC	CSPE	1/2" FNPT	L9908400-HYP
		TFE	1/2" FNPT	L9908400-TFE
		Viton	1/2" FNPT	L9908400-VIT
	PVDF	EPDM	3/8" FNPT	W777614-PVN
		CSPE	3/8" FNPT	W777614-PVH
		TFE	3/8" FNPT	W777614-PVT
		Viton	3/8" FNPT	W777614-PVV
	316 SS	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
	PVDF	EPDM	3/4" FNPT	W777616-PVN
		CSPE	3/4" FNPT	W777616-PVH
		TFE	3/4" FNPT	W777616-PVT
		Viton	3/4" FNPT	W777616-PVV
	316 SS	EPDM	3/4" FNPT	W777613-16N
		CSPE	3/4" FNPT	W777613-16H
		TFE	3/4" FNPT	W777613-16T
		Viton	3/4" FNPT	W777613-16V
370 cubic inches	POLY	EPDM	2" FNPT	W777618-PPN
		CSPE	2" FNPT	W777618-PPH
		TFE	2" FNPT	W777618-PPT
		Viton	2" FNPT	W777618-PPV
	PVDF	EPDM	2" FNPT	W777618-PVN
		CSPE	2" FNPT	W777618-PVH
		TFE	2" FNPT	W777618-PVT
		Viton	2" FNPT	W777618-PVV
	316 SS	EPDM	2" FNPT	W777631-16N
		CSPE	2" FNPT	W777631-16H
		TFE	2" FNPT	W777631-16T
		Viton	2" FNPT	W777631-16V
36 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
	PVDF	EPDM	3/4" FNPT	W777615-PVN
		CSPE	3/4" FNPT	W777615-PVH
		TFE	3/4" FNPT	W777615-PVT
		Viton	3/4" FNPT	W777615-PVV
	316 SS	EPDM	3/4" FNPT	W777612-16N
		CSPE	3/4" FNPT	W777612-16H
		TFE	3/4" FNPT	W777612-16T
		Viton	3/4" FNPT	W777612-16V
175 cubic inches	POLY	EPDM	2" FNPT	W777617-PPN
		CSPE	2" FNPT	W777617-PPH
		TFE	2" FNPT	W777617-PPT
		Viton	2" FNPT	W777617-PPV
	PVDF	EPDM	2" FNPT	W777617-PVN
		CSPE	2" FNPT	W777617-PVH
		TFE	2" FNPT	W777617-PVT
		Viton	2" FNPT	W777617-PVV
	316 SS	EPDM	2" FNPT	W777630-16N
		CSPE	2" FNPT	W777630-16H
		TFE	2" FNPT	W777630-16T
		Viton	2" FNPT	W777630-16V

Specificati 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 riability 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

Contact factory for applicable agency approvals.

Chem-Tech XP Series Selection Guide

XP_ _ _ – – – – –

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

ELECTRICAL:	L	115V, 60Hz
	H	230V, 50/60Hz
	R	230V, 50Hzwith 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
	G	Duplex Head - Fixed Rate, On / Off Only, 'L' Tube
	B	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 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 "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.

Contact factory for applicable agency approvals.

Key Features

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

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

Chem-Tech XPV Series Selection Guide

XP_ _ _ _ _ _ _ _

	Pump Size	Flow	Pressure Rating - PSI (Bar) Single Head Options 'H' Tube	'L' Tube	'F' Tube	Duplex 'L' Tube	Tube Size	Speed (RPM)
MODELS:	XP008	8 GPD (1.3 LPH)	125 (8.6)	80 (5.5)	60 (4.1)	80 (5.5)	2	65 Max.
	XP017	17 GPD (2.7 LPH)	110 (7.6)	70 (4.8)	50 (3.4)[1]	70 (4.8)	3	
	XP033	33 GPD (5.2 LPH)	100 (5.9)	50 (3.4)	40 (2.8)[2]	50 (3.4)	4	
	XP055	55 GPD (8.7 LPH)	80 (5.5)	40 (2.8)		40 (2.8)	6	60 Max
	XP100	100 GPD (15.8 LPH)		25 (1.7)		25 (1.7)	8	

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"

[1] Max flow rate is 15 GPD (2.4 LPH) with Fluran tube.
[2] Max flow rate is 28 GPD (4.4 LPH) with Fluran tube.

XP & XPV Series Parts 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
NCKA24PAP1	KOPkit XP - 004 / 008 - 3/8"
NCKA44PAP2	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 - 048 / 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 - 048 / 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/VTN, .25N
J30257	Grease Kit
PARTS	
J60609	Strainer Assembly w/o Valve
J63002	Control Panel Cover (Clear)
J63004	Rain Hood
J63007	Switch, 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-gasing 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
All 60Hz	X	X
All 50Hz		
Contact factory for alternate listings		

Intertek 9700150 Intertek 9700150

Contact factory for applicable agency approvals.

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
	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.

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

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

Intertek 9700150 Intertek 9700150

Contact factory for applicable agency approvals.

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
	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-BAAAXXX"

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
All 60Hz	X	X
100-150 50Hz		
200 50Hz		
Contact factory for alternate listings		

Contact factory for applicable agency approvals.

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

1 _ _ _ - _ _ - _ _ _ _ _ _ _

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**	= 115V, 60 Hz
	XB	= 230V, 50 Hz
	XC	= 230V, 60 Hz

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
	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 "1445-XA-BAAAXXX"

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.
Any pumps with piping connections come with strainer and injection valve only.

CHEM-TECH

KOPkits

Chem-Tech KOPkit Selection Guide

KX100 - _ _ _ _

PRODUCT DESIGNATOR:	**KX100**	= Chem-Tech Kopkit
LIQUID END MATERIALS: Head, Diaph., Seats & 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 :	**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 Schedule

Part No.	Description
00006	Suction Tubing - per foot 7/16" OD
00007	Suction Tubing - per foot 3/8"
00008	Discharge Tubing - per foot 1/2" OD
00009	Discharge Tubing - per foot 1/2" Black
00010	Discharge Tubing - per foot 3/8"
00011	Discharge Tubing - per foot 3/8" Black
20038	1/2" NPT Connection - PVC - fits Suction side of Pump Head and Back Ck. Vlv. Assy. (per connection)
20039	1/2" NPT Connection - PVC - fits Discharge side of Pump Head and Strainer Assy. (per connection)
J20560	Ball Check (ceramic)
21829	Drive Bracket Assy. S100
21960	Bronze Bushing (right)
21961	Bronze Bushing (left)
21962	Bronze Bushing (center)
21971	Diaphragm Shaft Bushing
22255	Cam Bearing Assy. S100 - 3, 7, 15, 30 GPD
22256	Cam Bearing Assy. S100 - 24 GPD
22257	Cam Bearing Assy. S150 - 68, 100 GPD
23700	Shaft Collar - .38 Small
23701	Shaft Collar - .38 Large
J24269	Oil (quart)
24450	Current Interrupter - S100 - 115V
24452	Current Interrupter - S200 - 115V
24453	Current Interrupter/Plug Receptacle S200 - 115V
24454	Current Interrupter/Plug Receptacle/Bottom Plate (Standard) 115V
24481	Current Interrupter - S100 - 230V
24482	Current Interrupter - S200 - 230V
24820	Cord Assy. - 115V, 60 Hz
24821	Cord - 230V, 50 or 60 Hz
J24960	Coupling Nut, PVC 1/2" (Standard)
24961	Coupling Nut, PP 1/2"
24963	Coupling Nut, PVC 3/8"
25180	Motor Cover
25704	Diaphragm, CSPE
25706	Diaphragm, Viton
25707	Diaphragm, PTFE Coated
J26780	Injection Fitting, PVC 3/8"
26781	Injection Fitting, PVC 1/2"
26858	Bulkhead Fitting (PP-1/2")
26867	Bulkhead Fitting (PP-3/8")
J26907	Bulkhead Fitting (PVC-1/2")
J26908	Bulkhead Fitting (PVC-3/8")

Part No.	Description
J26909	Bulkhead Fitting (PVC-5/16")
J26910	Bulkhead Fitting without strainer (PVC-3/8")
J26905	Bulkhead Fitting for ITS (PVC-1/4")
J27903	Gasket, TFE
27911	Gasket
28210	Gear Housing Assembly #210
28211	Gear Housing Assembly #215
28212	Gear Housing Assembly #220
28213	Gear Housing Assembly #230
28214	Gear Housing Assembly #240
28215	Gear Housing Assembly #260
28216	Gear Housing Assembly #280
28217	Gear Housing Assembly #2-100
28218	Gear Housing Assembly #2-120
28521	Grommet
28800	Head, Clear PVC
28803	Head, Polypropylene
28896	Head Assy, (SST-TFE-SST-1/4" S/D)
28897	Head Assy, (PVC-VT-C-1/2" S/D)
28899	Head Assy, (PP-VT-C-1/2" S/D)
28902	Head Assy, (PVC-VT-C-3/8" S/D)
29036	Head Assy, (PP-VT-C-3/8" D)
29230	Motor Housing
29232	Pump Housing (Duplex)
29313	Main Housing 10, 15, 20, 30, 40, 60, 100 GPD
29314	Main Housing 120 GPD only
30460	Output Adjustment Knob
30467	Output Adj Knob Asm S150
30468	Output Adj Knob Asm S100
J30496	Housing - S100 - 3, 7, 15, 30 GPD
J30497	Housing - S100 - 24 GPD
J30498	Housing - S150, 68, 100 GPD
J30503	Motor - 115V, 60 Hz, S200
J30504	Motor - 230V, 50 Hz, S200
J30505	Motor - 230V, 60 Hz, S200
J30507	Kit, Bleed, Valve, PVC/HPY/ 3/8
J30509	Kit, Bleed, Valve, PVC/VTN/ 3/8
J30510	Kit, Bleed, Valve, PVC/TFE/ 3/8
J30511	Kit, Bleed, Valve, FPP/CSPE/ 3/8
J30513	Kit, Bleed, Valve, FPP/VTN/ 3/8

Series 100, 150, 100D, 150D And 200 Parts Schedule

Part Number	Description
J30514	Kit, Bleed, Valve, FPP/TFE/ 3/8
J30515	Kit, Bleed, Valve, PVC/HPY/ 1/2
J30517	Kit, Bleed, Valve, PVC/VTN/ 1/2
J30518	Kit, Bleed, Valve, PVC/TFE/ 1/2
J30519	Kit, Bleed, Valve, FPP/CSPE/ 1/2
L3300V03-FPP	Kit, Bleed, Valve, FPP/VTN/ 1/2
J30522	Kit, Bleed, Valve, FPP/TFE/ 1/2
31081	Locking Lever - S100, 215, 230, 260
31082	Locking Lever 20, 40, GPD S200
31083	Locking Lever - S150, 280, 2-100, 2-120
32520	Motor - 7 SPM, 115V, 60 Hz, 003
32521	Motor - 13 SPM, 115V, 60 Hz, 007
32522	Motor - 25 SPM, 115V, 60 Hz, 015
32523	Motor - 51 SPM, 115V, 60 Hz, 024/030/068
32524	Motor - 7 SPM, 230V, 60 Hz, 003
32525	Motor - 13 SPM, 230V, 60 Hz, 007
32526	Motor - 25 SPM, 230V, 60 Hz, 015
32527	Motor - 51 SPM, 230V, 60 Hz, 024/030/068
32528	Motor - 7 SPM, 230V, 50 Hz, 003
32529	Motor - 13 SPM, 230V, 50 Hz, 007
32530	Motor - 25 SPM, 230V, 50 Hz, 015
32531	Motor - 51 SPM, 230V, 50 Hz, 024/030/068
32532	Motor - 70 SPM, 115V, 60 Hz, 100
32533	Motor - 70 SPM, 230V, 50 Hz, 100
32535	Motor - 70 SPM, 230V, 60 Hz, 100
J34379	Backing Plate
34405	Plate, Motor Cover
34423	Back Plate
34532	Oil Filler Plug w/Cap
J37073	Screw Motor Cover
37080	Output Adjust Screw 10, 20, 40 GPD
37081	Output Adjust Screw 15, 30, 60 GPD
37083	Output Adjust Screw 80, 100, 120 GPD
37088	Output Adj Screw - S150
37089	Output Adj Screw - S100
37300	Oil Seal
J37440	Valve Seat, CSPE
J37442	Valve Seat, Viton
37886	Diaphragm Shaft
38080	Locking Sleeve
38980	Diaphragm Return Spring
38981	Coupling Spring
38984	Valve Spring - top - light
J38985	Valve Spring
J60717	Foot Valve & Strainer Assy (PVD-CSPE-C-3/8")
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"

Part Number	Description
41588	Anti-Siphon Valve (PVC-VT-1/2")
41624	Anti-Siphon Valve (PVC-CSPE-1/2") (Standard)
41657	Back Check Valve Assy (PVC-CSPE-C-3/8")
J41658	Back Check Valve Assy (PVC-CSPE-C-1/2")
41659	Back Check Valve Assy (PP-VT-C-1/2")
41661	Back Check Valve Assy (PVC-VT-C-1/2")
41665	Anti-Scale Injector (PVC-CSPE-1/2")
41666	Double Ball Ck Vlv Cart Assy (PVC-3/8") Suct
J41667	Double Ball Ck Vlv Cart Assy (PVC-1/2") Suct
41668	Double Ball Ck Vlv Cart Assy (PVC-3/8") Disch
J41669	Double Ball Ck Vlv Cart Assy (PVC-1/2") Disch
J41694	Back Check Valve Assy (PVC-CSPE-C-1/2")
41695	Back Check Valve Assy (PVC-VT-C-3/8")
41696	Back Check Valve Assy (PP-VT-C-3/8")
41705	6" Ck Vlv Inj Assy (PVC-CSPE-C-3/8")
41707	6" Ck Vlve Inj Assy (PVC-VT-C-3/8")
41708	6" Ck Vlv Inj Assy (PVC-VT-C-1/2")
41709	6" Ck Vlv Inj Assy (PP-VT-C-3/8")
41710	6" Ck Vlv Inj Assy (PP-VT-C-1/2")
41720	Anti-Siphon Valve (PVC-CSPE-1/2" NPT)
41786	Anti-Siphon Valve (PVC-VT-1/2" NPT)
41795	Back Check Valve Assy (PVC-CSPE-C-1/2" x 1/2" NPT)
J42020	Head Bolt Washer SS .20 x .38
J42030	Fiber Washer
42031	Washer, Fiber
J60030	Head Assy (SAN-CSPE-C-3/8" D)
J61222	Kit, 5 Function Valve incl L380DT03-PVC for Series 100/200
J61271	Kit, 5 Function Valve incl L380FT03-PVC for Series 200
J61539	Kit, 5 Function Valve incl L380DT02-PVC for Series 100/200
J61502	Kit, Oil Drain Plug (includes J37002 & J42030)
J61503	Kit, S200 Back Plate Screws (5 - J37017, 5 - J42030)
J61504	Kit, S200 Motor Cover Hdwe (2 - J37002, 2 - J42030)
J61505	Kit, S100 Motor Cover Hdwe (4 - J37032, 2 - J37073)
J61506	Kit, S100 Cam Bearing Set Screw (2 - 37047)
J61507	Kit, S100 Motor Mount Hdwe (3 - 37049)
J61508	Kit, S200 Main Housing Screw (2 - 37021, 2 - J42083, 2 - 42031)
J61509	Kit, S200 Shaft Coupling Motor (1 - 24966, 1 - 37060)
J61510	Kit, S200 Shaft Coupling Gear (1 - 24967, 1 - 37061)
J61511	Kit, Screw Motor Cover (2 - J37073)
J61512	Kit, Valve Seats CSPE (4 - J37440)
J61513	Kit, Ball Checks (4 - J20560)
J61515	Kit, Valve Seats Viton (4 - J37442)
J61516	Kit, Head Mounting Bolts (4 - J37005, 4 - J42020)
J61518	Kit, Gasket TFE (4 - J27903)
L9906700-000	Sinker

SPECIAL ADAPTERS

20013	Pressure Relief Valve Adapter

STAINLESS STEEL PUMP ACCESSORIES

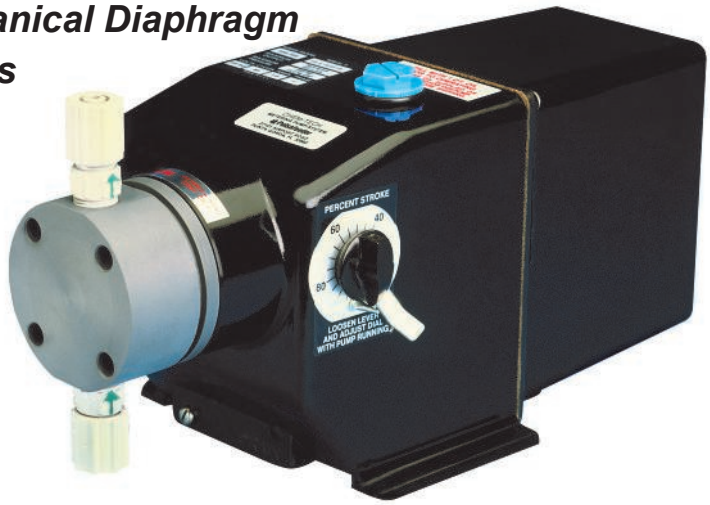
28896	316 SS Head Assy - Double Check Vlv (TFE, SS) 1/4" FPT Conn
J41656	316 SS Double Back Ck Vlv Assembly (TFE, SS) 1/4" FPT Conn
J40095	316 SS Strainer Assy 1/4" FPT Conn
J41640	316 SS Suction Valve 1/4" FPT
J41641	316 SS Discharge Valve 1/4" FPT

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

X25_ - _ _ - _ _ _ Q XXX

MODELS:	**3**	= 76.8 gpd (12.11 lph) max pres.: 225 PSI (15.52 BAR)
	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 Schedule

Part No.	Description
00006	Suction Tubing (per foot) 7/16" OD
J00012	Polypropylene Tubing, 1/2" OD - Discharge (per foot)
00013	Polypropylene Tubing, 1/2" OD-Discharge (per ft) - Black
J20560	Ball Check, Ceramic
23705	Collar - Model 253
23706	Collar - Model 254
J24269	Oil (quart)
24820	Cord Assembly, 115V, 60Hz
24821	Cord, 230V, 50-60 Hz
J24960	Coupling Nut - PVC 1/2"
25681	Diaphragm Assembly - Model 253
25682	Diaphragm Assembly - Model 254
J27903	Gasket, TFE
28220	Gear Housing Assembly - Model 253/254
J28815	Pump Head, PVC - Model 253
28816	Pump Head, PVC - Model 254
J28919	Head Assembly, PVC - Model 253 - 1/2"
28920	Head Assembly, PVC - Model 254 - 1/2"

Part No.	Description
29230	Motor Cover / 253 - 254
29313	Pump Housing
30460	Output Adjustment Knob
31084	Locking Lever
32545	Motor, 115/230V, 50/60 Hz, TEFC
34532	Oil Filler Plug w ith Cap
37084	Adjustment Screw
37886	Diaphragm Shaft
J41658	Back Check Valve Assy (PVC-CSPE-C-1/2")
J41667	Double Ball Check Valve Cart Assy (PVC 1/2") Suction
41668	Double Ball Check Valve Cart Assy (PVC 3/8") Disch
J41669	Double Ball Check Valve Cart Assy (PVC 1/2") Disch
J42020	Bolt Washer (4 required) SS
J60729	Foot Valve & Strainer Assy (PVD-CSPE-C-1/2")
J61272	Kit, 5 Function Valve incl L380KT03-PVC for Series X253
J61516	Kit, Head Mounting Bolts (4 - J37005, 4 - J42020)
J61518	Kit, Gasket TFE (4 - J27930)

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.

Intertek 9700150

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

Intertek 9700150

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 "US110DXABCAKXXX"

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 Schedule

Part No.	Description
41403	Discharge Tubing 8 ft PE 3/8"
J41424	Suction tubing 4 ft PVC 3/8"
U0810545	Spring Clutch
U0811279	Pump Head Series 200
U0817888	Shoulder Screw 10 - 24 X ,58
U0811861	Head Cover Series 100
U0812318	Pump Head Series 100
U0814211	Compression Nut
U0818143	Drive Block
U0818148	Drive Plate
U0818215	Motor Housing
U0818226	Regulator Housing
U0818227	Regulator Top Cover
U0818256	Output Adjustment Knob
U0818257	Wear Plate
U0818258	Adjustment Knob Bushing
U0818339	Adjustment Plate
U0818340	Adjustment Shaft Assembly
U8800412	Tubing Assy, 15', 3/8"
U8800456	Foot Valve Strainer 3/8" OD Tubing (viton)
U8800470	Diaphragm Kit
U8800525	Relief/Release Plunger Kit (viton)
U8800554	Cartridge Valve Kit Series 100 (viton)
U8800606	Injection Fitting

Part No.	Description
U8800656	Kit, SR Drive Block Conversion
U8800701	Head Assembly Series 100
U8800703	Head Assembly Series 200
U8800704	Valve Kit Series 200 (viton)
U8800729	Kit, Head Bolt S100 (4 - U0810036, 4 - L9801300-188)
U8800730	Kit, Head Bolt S200 (4 - U0813501, 4 - L9801300-188)
U8800732	Kit, Foot Pads (4 - U0818379)
U8800735	Kit, Spring (2 - U0812915)
L9900700-0C	Strain Relief
U0818406	Motor, SR 105/205, 120V, 60Hz
U0818407	Motor, SR 105/205, 240V, 50/60Hz
U0818408	Motor, SR 110/210, 120V, 60Hz
U0818409	Motor, SR 110/210, 240V, 50/60Hz
U0818410	Motor, SR 125/225, 120V, 60Hz
U0818411	Motor, SR 125/225, 240V, 50/60Hz
U0818412	Motor, SR 150/250, 120V, 60Hz
U0818413	Motor, SR 150/250, 240V, 50/60Hz
U0818414	Motor, SR 175/275, 120V, 60Hz
U0818415	Motor, SR 175/275, 240V, 50/60Hz
24820	Power Cord 120V
24821	Power Cord 240V
U0818561	Timer Assy, 24 hr (SR Electro Mech)
U0818562	Timer Assy, 7 Day (SR Electro Mech)
U0818564	Motor Fan SR 105, 110, 205, 210

Miscellaneous Tubing

Part No.	Description
U0811307	Tube PE, Transparent, 1/4" OD X 100 ft.
J41447	Tube PE, White, 3/8" OD X 100 ft.
U0818134	Viton Peri. Tube, 7/16" OD X 9"

Part No.	Description
U0818324	Viton Peri. Tube, 3/8" OD X 9"
U0818654	Nozzle Assembly
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.

Contact factory for applicable agency approvals.

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.

Intertek 9700150 Intertek 9700150 Contact factory for applicable agency approvals.

Mec-O-Matic DOLPHIN Series Selection Guide

UD_ _ - _ _ - _ _ _ U XXX

MODELS:	**10**	= 13.0 gpd (2.05 lph) max pres.: 25 PSI (1.72 BAR)
	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"

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

KUDXX - _ _ _ _

PRODUCT DESIGNATOR:	**KUDXX**	= Dolphin Kopkit
LIQUID END MATERIALS:	**LSAU**	= Norprene Tubing CRM
	LLAU	= Norprene Tubing BLK
	LBAU	= Viton Tubing

DOLPHIN Series Parts Schedule

Part No.	Description
J60552	Strainer Assembly w/o valve
24820	Power Cord 120V
24821	Power Cord 240V
U0817630	Lead Assembly
U0817635	Knob
U0817923	Switch, Rocker
U0817942	Screw 10 - 32 X .688", Motor Mount
U0819142	Box, Front
U0819143	Box, Back
U0818180	Potentiometer Assembly
U0818564	Fan D10 (CW)
U0818565	Fan D50, D75 (CCW)
U0812955	Screw 8 - 32 X 1/4", Fan
L9900700-000	Strain Relief

Part No.	Description
U0818616	Gearmotor Assembly. 120V. 10 RPM - D10
U0818617	Gearmotor Assembly. 240V. 10 RPM - D10
U0818618	Gearmotor Assembly. 120V. 50 RPM - D50
U0818619	Gearmotor Assembly. 240V. 50 RPM - D50
U0818620	Gearmotor Assembly. 120V. 75 RPM - D75
U0818621	Gearmotor Assembly. 240V. 75 RPM - D75
U8800431	Tubing cut 1/4" X 15 ft. PE
U8800637	Tubing Replacement Kit (7/16"Norprene Crm)
U8800651	Pump Head Assembly
U8800712	Injection Fitting
U8800740	Kit, Timer 120V (1 - U0818183, 1 - U0020522)
U8800741	Kit, Timer 240V (1 - U0818182, 1 - U0020522)
U8800742	Kit, Pump Head Bearings (2 - U0817121)
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 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

MEC-O-MATIC PERISTALTIC PUMPS

Series 2400T Grease Trap Dispenser

- Capable of Dispensing Low Volumes
- Programmable
- Simple Installation
- Prime Push Button for Quick Start-Up
- Quick Release Twist Off Head
- Built-In Timer
- No Tube Adjustment Needed
- Self Lubricating Roller Assembly

Contact factory for applicable agency approvals.

Mec-O-Matic 2400T Series Selection Guide

UT24 ___ - __ _U ___

MODELS:	UT24	= 2.5 gpd (0.39 lph) max pres.: 25 PSI (1.72 BAR) used w / 2400T & 2400T PLUS
	UT24	= 3.0 Oz / 1 Min max pres.: 25 PSI (1.72 BAR) used w / 2400T-DC only
ELECTRICAL:	-XA	= 115V, 60 Hz used w / 2400T only
	PXA	= 115V, 60 Hz used w / 2400T PLUS only
	-AD	= 12V DC used w / 2400T-DC only
LIQUID END MATERIALS:	LT	= Silicone Tubing
	LB	= Viton Tubing
	LL	= Norprene Tubing used w / 2400T-DC only
CONNECTION SIZES:	AU	= Tubing .125" I.D. X .31" O.D.
	XU	= Tubing .25" I.D. X .44" O.D. used w / 2400T-DC only
SUFFIX CODES:	XXX	= Standard

A completed model should look like "UT24-XA-LBAUXXX"

1. 2400T comes standard with 24 hour mechanical timer. 2400T plus and DC utilizes a 7 day, 8 event programmable timer
2. 2400T DC Pump requires 8 "D" cell batteries (not included).
3. Shipping weight is 7.5 lbs.

2400T & T PLUS Series Parts Schedule

Part No.	Description
J60552	Strainer Assembly w /o Valve
U0814047	Wire Clip
U0817131	Tubing Assy 5/16" X 9" Silicone
U0817133	Pump Cover (Backing Plate)
U0817742	Hose Clamp
U0817888	Pump Head Screw
U0817942	Screw 10 - 30 X .688", Motor Mount
U0817952	Timer (2400T)
U0818018	Indicator Light
U0819145	Pump Housing (front-2400T Plus)
U0819144	Pump Housing (front-2400T)

Part No.	Description
U0819143	Pump Housing (rear)
U0818061	Toggle Sw itch
U0818084	Lead Assembly 4.5" Yellow (2)
U0818564	Fan
U0818602	Gearmotor Assembly
U0818740	Timer (2400T Plus)
U8800431	15' X 1/4" PE Tubing
U8800712	Injection Fitting
U8800753	Pump Head Assembly Kit (No Tu
U0812955	Hex Screw 8 - 32 X 1/4"
L9900700-000	Strain Relief

2400T DC Series Parts Schedule

Part No.	Description
U0812955	Screw 6 - 32 X .25" PHP
U0817888	Shoulder Screw
U0818026	Spacer SST (Motor)
U0818061	Toggle Sw itch
U0818666	Screw 8 - 32 X 1.25 FHP
U0818881	12V DC Motor
U0818888	PVC Spacer (Timer)
U0818895	1/4" X 20' Tubing PE
U0818897	Housing Assembly w /lock
U0818901	Lock Nuts (10-24 NY - Lock)

Part No.	Description
U0818902	Battery Holder Assembly
U0818903	Low Battery Board Assembly
U0818904	Ground Wire Connection
U0819037	12V DC Timer LO AMP
U8800490	Injection Fitting
U8800637	7/16" Tubing Kit (Peristaltic)
U8800651	Pump Head Assembly Kit (No Tu
U8800700	3/8" Tubing Kit
U8800742	Kit, Pump Head Bearings (2 - U0

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;

Digital Glycol Feeders	Pre-Engineered Systems	Corrosion Coupon Racks
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 **Field Repairs and Start-ups**	**Service Rate** [1]
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 unfilled 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 p laced 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.

1 0 . 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.

1 1 . 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.

1 2 . 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.

1 3 . 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.

1 4 . 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.

1 5 . 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.

1 6 . 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.

1 7 . 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.

1 8 . WARRANTY : LIMITATION OF LIAB ILITY . 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.

1 9 . LAW . This order shall be governed by and shall be construed by the law of the State of New York .

2 0 . 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.

2 1 . 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 nuclear facility or in connection with any such facility . Purchaser hereby assumes any liability which might otherwise be imposed up on us and agrees to indemnify us and hold harmless from any such liability and costs or expenses in connection therewith.

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PULSAFEEDER

27101 Airport Road
Punta Gorda, FL 33982
Phone: + + 1(941) 575-3800
Fax: + + 1(941) 575-4085
www.pulsatron.com

IDEX CORPORATION

PLP001 L13