The DLCM controller for Pulsar pumps is a significant enhancement to the DLC controller. The DLCM provides the same features as the DLC, with the added capability of motor speed control. Variable speed is accomplished through the use of a tachometer feedback loop controlling a standard DC motor. This combination of variable stroke length and stroke speed control further extends the flexibility and capabilities of the Pulsar Pump.

Key Features

- DC motor speed control with tachometer feedback
- Manual flow control
- Keypad
- Back-lit 2 line 16 character LCD display
- NEMA 4X enclosure
- Two 4-20mA inputs for independent motor speed and stroke length control
- One 4-20mA output
- 10 year backed clock
- 4 wire RS-485 serial communications port using Modbus protocol
- Solid state alarm relay
- Level input/ remote START-STOP inputs
- PULSAlarm leak detection interface
- Self diagnostics

Controls

Two Analog Inputs
- When two analog input signals are utilized, the signals independently adjust stroke length and stroke speed. Calibration, ratio options, split ranging, direct/reverse action and loss of signal functions (motor shut down or maintain last available analog input signal) and signal isolation are all retained for each of the two analog inputs.

One Analog Input
- In situations where only one analog signal is available, the DLCM has the capability of being programmed with fixed flow range endpoints for both stroke length and motor speed. This option enables the DLCM to vary either stroke length or motor speed individually or in combination, according to a pre-programmed algorithm. Calibration, ratio option, split ranging, direct/ reverse action and loss of signal functions are all maintained with the DLCM when utilizing one analog input signal.

Manual Mode
- While in manual mode, stroke speed and stroke length respond according to a preprogrammed algorithm. Stroke length and stroke speed will respond according to their fixed flow range endpoints as programmed during the initial pump set up.

Operating Benefits

- A turndown capability of 50:1 (with an accuracy of ±1% steady state on set point) is possible when utilizing both variable speed and stroke length on a Pulsar equipped with the DLCM controller.
- DLCM has the ability to perform programmed batching operations, timer interval, and cycle injections.
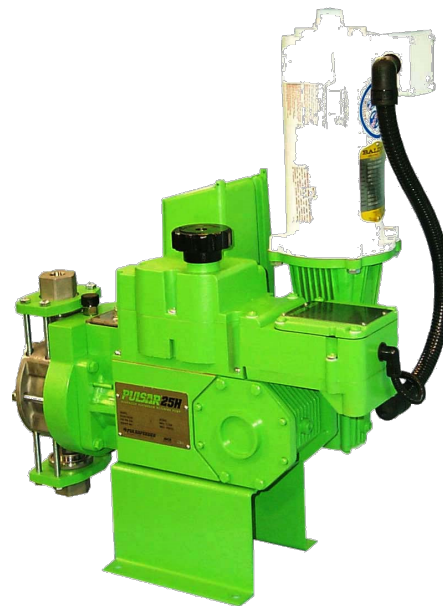
Other Accessory Offerings

- KOPkit®
- Cal Columns
- Strainer
- Pressure Relief Valves
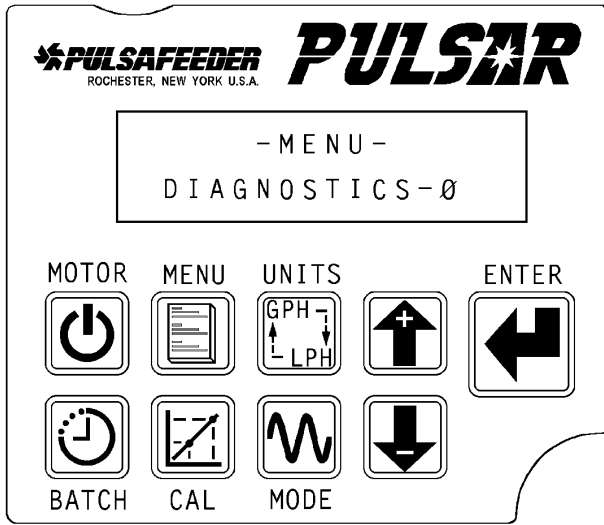- Back Pressure Valves
- Pulsation Dampeners
- Gauges

PULSAR® DLCM

DIGITAL STROKE LENGTH & MOTOR SPEED CONTROLLER

PULSAR®

**Specifications and Model Selection**

Keyboard Display

Keyboard Displays	
Percentage of Stroke	100%
Gallons Per Hour (GPH)	100 GPH
Liters Per Hour (LPH)	378.5 LPH
Cubic Centimeters Per Hour(cc/hr)	378,540 cc/Hr
Gallons Per Minute (GPM)	1.67 GPM
Liters Per Minute (LPM)	6.31 LPM
Cubic Centimeters Per Minute (cc/min)	6309 cc/min

Engineering Data

Power Input Options: Single Phase, 115 or 230VAC (50 or 60 Hz)*

Analog Input: Two separate inputs, range is 0-20mA, 4-20 mA, 1 5mA or 1-5V DC analog input for stroke length and stroke speed from a single input

Analog Output: Either 0-20mA, 4-20mA, or 1-5mA

Rated Ambient Temperature: $0^{o}F$-$104^{o}F$ ($-18^{o}C$-$40^{o}C$)

Motor Requirements: Pulsar models 25HJ and 25HL pumps require 1/3 horsepower motors. Either 90V DC or 180V DC motors may be utilized depending on customer requirements.

Pulsar model 55HL pumps require 1.0 Horsepower, 180V DC motors. 230V AC input power to the DLCM is required.

Steady State Accuracy: A turndown capability of 50:1 (with an accuracy of ±1% steady state turndown).
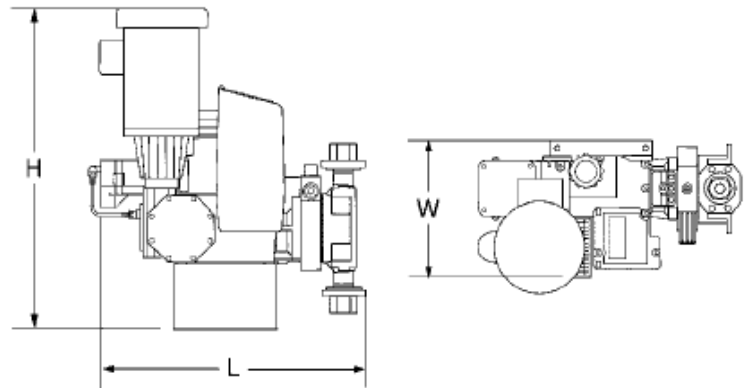
Dimensions

PULSAR DLCM	L	W	H	Approx. Shipping Weight
	inches (mm)			lb (kg)
	22.75 (574.8)	10.6 (269.5)	Motor Dependent	80-100 (36.3-45.4)