

## **EHE31-56 Series Specifications**

### **1.0 Scope**

- 1.1 This specification in combination with pump data sheets identifies the minimum requirements for electronic metering pumps.

### **2.0 Reference codes and standards**

- 2.1 Pumps shall comply with the latest editions of the following codes and standards:

**UL Standard 778  
Hydraulic Institute Standards  
National Electric Code  
NEMA 4X (IP65)**

### **3.0 Definitions**

- 3.1 Electronic metering pump -A positive displacement diaphragm metering pump in which the diaphragm is actuated by an electromagnetic solenoid which is in turn controlled by an electronic circuit.

### **4.0 General**

- 4.1 Output volume shall be adjustable while pump is in operation.
- 4.2 Weight of pump as installed shall not exceed 22 pounds.
- 4.3 Pump shall fit within a rectangular volume 11.6" long by 6" wide by 11.6" high.

### **5.0 Drive**

- 5.1 The pump mechanism shall be totally enclosed with no exposed moving parts.
- 5.2 Electronic control module shall be located beneath solenoid and protected by a clear, hinged cover.
- 5.3 Average power consumption shall not exceed 48 watts under full speed and maximum pressure conditions.
- 5.4 Metering pump shall be capable of pumping a maximum of (q) GPH against a maximum pressure of (p) PSI. (q and p from Table 1)
- 5.5 Stroke length shall be adjustable from 20% to 100% by means of a readily accessible keypad.
- 5.6 Control of pump speed shall be selectable between manual and external.
- 5.7 In manual mode, pump speed shall be adjustable from 1 to 360 strokes per minute by means of a readily accessible keypad with digital display.

- 5.8 In external analog mode, the pump shall accept a 4 to 20 mA control signal from external equipment and operate at a speed that is proportional to the signal level. The slope and zero offset of the pump's response shall be operator adjustable by means of push buttons.
- 5.9 In external digital mode, the pump shall respond to a pulse signal from external equipment such that either one pulse produces n pump strokes (multiply mode) or n pulses produce one pump stroke (divide mode). In either mode, n shall be operator adjustable from 1 to 999 by means of push buttons.

## 6.0 Materials of construction

- 6.1 Pump housing shall be of chemically resistant glass fiber reinforced thermoplastic.
- 6.2 All exposed fasteners shall be stainless steel.
- 6.3 Liquid end materials shall be as shown in Table 2.

## 7.0 Shop tests

- 7.1 All pumps shall pass manufacturer's standard performance test.

**Table 1 Capacity/Pressure Rating**

Size	Maximum Output Capacity (q)		Output per Stroke (mL)		Maximum Pressure (p)		Connection Size Tubing O.D.*
	Gal/hr	mL/min	Min	Max	PSI	MPa	in
E31	5.5	340	0.18	0.94	150	1.0	½
E36	8.5	520	0.29	1.44	105	0.7	½
E46	12.0	750	0.42	2.08	60	0.4	½
E56	20.0	1250	0.69	3.47	30	0.2	½

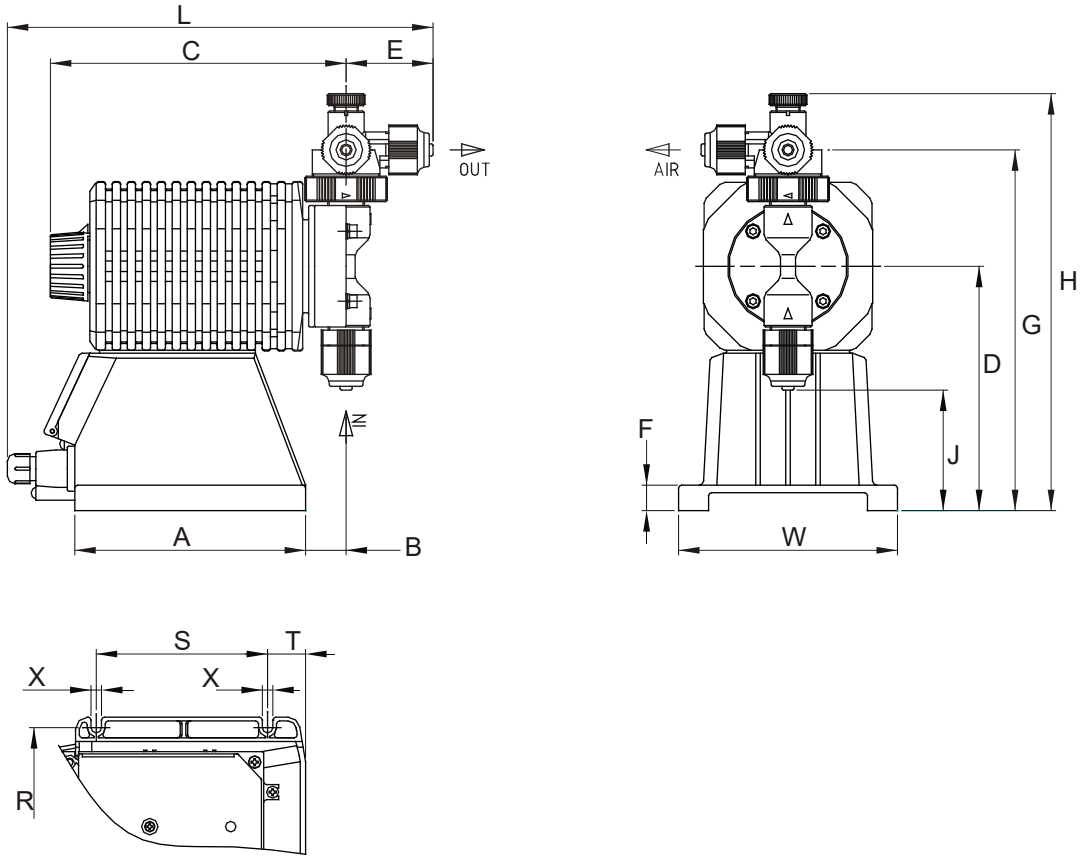
**Table 2 Materials of Construction**

Liquid End	Pump Head & Fittings	Diaphragm	Valve Balls	Valve Seat	Valve Seals	Gasket	Tubing
FC	PVDF	PTFE bonded to EPDM	CE	PCTFE	PTFE	PTFE	PE
PC	GFRPP		CE	FKM	FKM		
PE	GFRPP		CE	EPDM	EPDM		
VC	PVC		CE	FKM	FKM		
VE	PVC		CE	EPDM	EPDM		
VM	M-PVC		CE	FKM	FKM		
TC	PVDF		CE	FKM	FKM		

CE Alumina ceramic  
 FKM Fluoroelastomer  
 HC Hastelloy C276  
 PE Polyethylene  
 PVC Polyvinylchloride (translucent)  
 SS 316 stainless steel

EPDM Ethylene propylene diene monomer  
 GFRPP Glass fiber reinforced polypropylene  
 PCTFE Polychlorotrifluoroethylene  
 PTFE Polytetrafluoroethylene  
 PVDF Polyvinylidene fluoride

# DIMENSIONS



Model					A	B	C	D	E	F	G	H	J	L	W
EHE	31	E1	-VC	-PE	6.06	1.05	7.76	6.42	2.28	0.67	9.49	10.95	3.15	11.18	5.75
	36	E2	-PC	-VF											
EHE	46	E1	-VC	-PE	6.06	1.14	7.83	6.42	2.28	0.67	9.86	11.34	2.80	11.25	5.75
		E2	-PC	-VF											
EHE	56	E1	-VC	-PE	6.06	1.42	8.13	6.42	2.28	0.67	10.10	11.57	2.38	11.55	5.75
		E2	-PC	-VF											
EHE	56	E2	-VM		6.06	1.42	8.13	6.42	2.28	0.67	10.10	11.57	2.38	11.55	5.75
Mounting Dimensions					R		S			T			X		
EHE all variations					5.20		4.50			1.00			0.28		

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