

# **PULSAFEEDER**<sup>®</sup> ENGINEERED PRODUCTS



**Flow:** up to 845 gph (3,200 lph)



**Pressure:** up to 175 psi (12 bar)



**Temperature:** from 32 to 113°F (0-45°C)



**Accuracy:** +/- 2% of Set Point



## **PULSA**<sup>®</sup> **GLM**

**MECHANICAL DIAPHRAGM METERING PUMP**

[PULSA.COM/PULSAGLM](http://PULSA.COM/PULSAGLM)

# MECHANICAL DIAPHR

## PULSAFEEDER EXPERTISE

For over 70 years, Pulsafeeder, Inc. continues to be a proven leader in diaphragm and dosing metering technologies. With extensive experience in providing fluid handling solutions, our pumps and systems are designed to handle your toughest applications. Known for their rugged construction and dependable performance, our products are of the highest level of manufacturing excellence and quality control.

## PULSA® GLM SERIES PUMPS

Our Pulsa GLM series is a mechanically actuated diaphragm metering pump, designed to be reliable, robust, efficient, and compact. It features an industrial design to work in just about any application or environment. If you are looking for a high value chemical transfer or dosing metering pump with low cost of ownership, GLM is an outstanding choice. This latest pump series from Pulsafeeder can handle a wide range of flows and process chemicals.

## MATERIALS OF CONSTRUCTION

**Wet End Materials:** Polypropylene, PVDF, 316L Stainless Steel

**Diaphragms:** Composite PTFE, solid PTFE (GLM7 Only)

**Check Valves:** Ceramic or Stainless Steel

**Housing:** Epoxy painted aluminum

**Lubrication:** Oil bath

**Hardware:** Stainless Steel



GLM1-2



GLM3-4



GLM5-6











GLM7

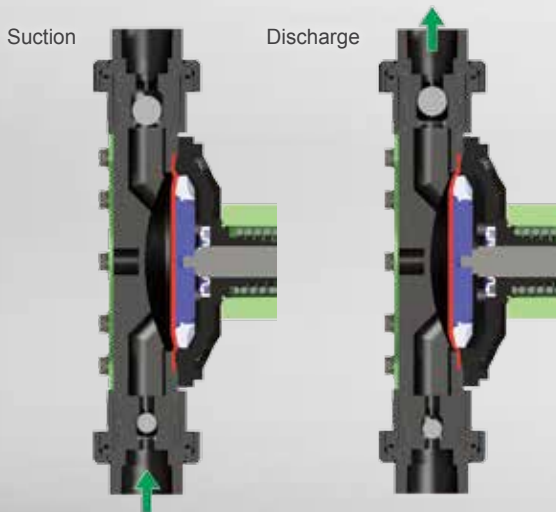
Design Feature	Customer Benefit
Robust industrial design	Long pump life, low cost of ownership
Auto stroke lock and adjustment	Accurate chemical dosing
Leak free wet end with secondary sealing	Safety, no clean up or environmental risks
Toolless valve and connection options	Fast and easy installation and servicing
Multiple KOPkit® service options	Proper level of maintenance with minimized cost
Epoxy paint and ETFE coated heads	Chemical resistant and protected from the environment
Fully sealed outdoor-duty gearbox	Sealed and protected from harsh environments
Oil sight glass	Quick maintenance checks
Never-seize coupling	Allows for quick and easy removal of motor

# AGM METERING PUMP

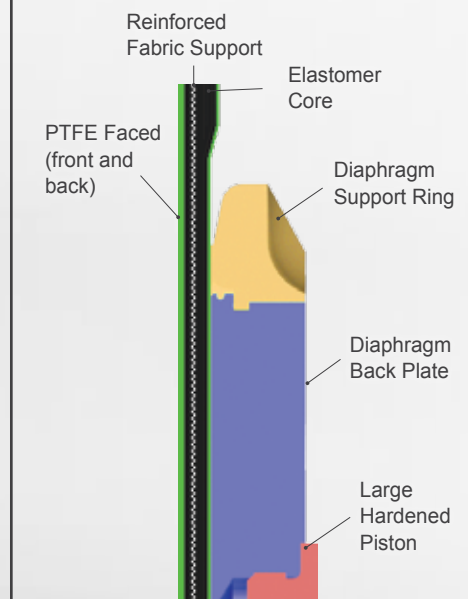
## PRODUCT SPECIFICATIONS

 <b>Max Flow:</b> up to 845 gph (3,200 lph)	 <b>Pressure:</b> up to 175 psi (12 bar)	 <b>Process Temperature:</b> from 32 to 113°F (0 - 45°C)	 <b>Accuracy:</b> +/- 2% of Set Point
<b>Min Flow:</b> 0.0264 gph (0.10 lph)	<b>Suction Pressure:</b> up to 170 psi (11.7 bar)	<b>Ambient Temperature Range:</b> from 32 to 113°F (0-45°C)	
 <b>Stroke Adjustment:</b> 0-100%, resolution 0.5%	 <b>Suction Lift:</b> 10 ft (3 m)	 <b>Modular Connections:</b> Tube, Threaded, Flanged	 <b>NEMA Type 7 Class 1:</b> Div 1 Groups C&D (when used with classified motor)
<b>Auto-locking Stroke Adjustment</b>	<b>Standard Viscosity:</b> up to 1,000 cPs		

## DIAPHRAGM TECHNOLOGY



A diaphragm reciprocates at a preset stroke length, displacing an exact volume of process fluid. Diaphragm retraction causes the product to enter through the suction check valve. Diaphragm advancement causes the discharge of an equal amount of the product through the discharge check valve.



## MARKETS & TYPICAL APPLICATIONS

### Markets

- Water Treatment - Power
- Water Treatment - Municipal
- Wastewater Treatment
- Chemical Processing
- Oil & Gas
- Petrochemical

### Typical Applications

- Acids
- Caustics
- Polymers
- Bleaches
- pH Control
- Solvents
- Dyes/Inks
- Catalysts
- Cleaning Agents

# FEATURES & BENEFITS



## GEARBOX

- Compact and lightweight - saves space and easy to handle
- Fully sealed, non-vented gearbox design prevents ingress of contaminants
- Oil bath gearbox allows for use in hazardous areas
- Oversized, shielded bearings for long life and reliability
- Robust industrial hex-head SS hardware for proper torques and standardized fittings



## MOUNTING FEET

- Flat and solid uniform mounting feet - extend outside of the gearbox for stability
- Oversized, slotted mounting holes to accommodate various fasteners
- With motor installed, pump will not tip over prior to installation



## DRIVE

- Sealed upper worm bearing extends gear and motor life, reduces noise, and maximizes pump efficiencies by ensuring full torque output
- Motor flange drain path redirects liquids away from seal and eliminates pooling/resting on seal or motor shaft connection
- Non-metallic, never-seize motor coupling prevents sticking or "welding" of worm shaft to motor shaft allowing for ease of motor installation/removal
- Highly efficient, heavy-duty drive train maximizes uptime and reduces total cost of ownership



## OIL LUBRICATION

- Oil bath for normal or explosion proof areas - lubricates all internal moving parts to extend pump life
- Easy and accessible oil fill location - obstruction free and visible



## WET END & CONNECTIONS

- Standard materials: PVDF, PP, and 316LSS
- Stainless Steel hardware for added chemical resistance
- Four bolt tiebar (316LSS models only)
- Multiple connection options: Tube, NPT, ISO/BSPT (see pump model configurations for availability)





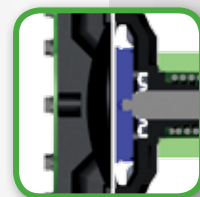
## LEAK FREE HEAD

- Secure diaphragm sealing technology provides leak free service and chemical containment
- Secondary O-ring seal offers worry free valve sealing and eliminates chemical spray
- Retention plate ensures pressure containment (hydrostatic and creep elimination) and allows for proper head bolt torque without loosening over time



## DIAPHRAGM

- Flat mechanically actuated diaphragm delivers reliable pumping action and long life
- Double sided PTFE coated composite diaphragms maximizes chemical resistance and diaphragm lubrication
- Multiple diaphragm sealing beads prevent leakage in industrial applications



## CHECK VALVES

- Patent pending spherical uniform velocity valving, limited turbulence superior solids handling, and auto-flushing; flow is routed evenly without cavitation concerns
- Three piece self contained replacement assemblies
- O-ring valve seat (soft seat) for improved priming, less noise, and better solids/slurry handling (not available in 316LSS configurations)



## STROKE CONTROL

- 10:1 turndown standard
- 0-100% stroke range (while on or off) in one complete revolution
- Auto-lock stroke position, drift free - maintaining proper flow



## SERVICING

- Toolless valve removal for simple servicing
- Multiple KOPkit options for simple maintenance and extended pump life
- Easy oil fill and drain
- Oil sight glass for fast inspection of oil and operation
- Ease of maintenance - common hardware, no special tools required
- Never-seize, non-metallic motor coupling for fast disconnect



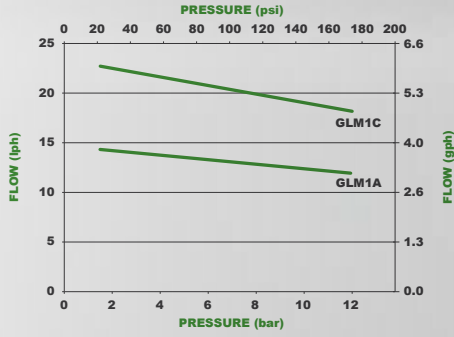
# FLOW & PRESSURE

## FLOW CURVES

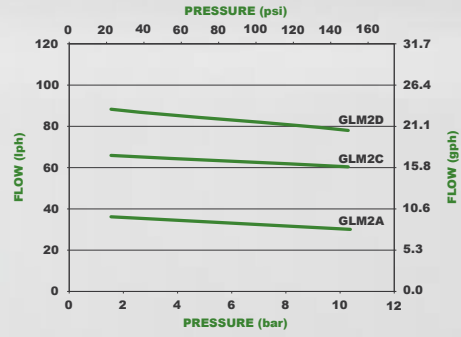
Only 60 Hz speeds and flows are shown.

See Model Table on page 8 for 50 Hz.

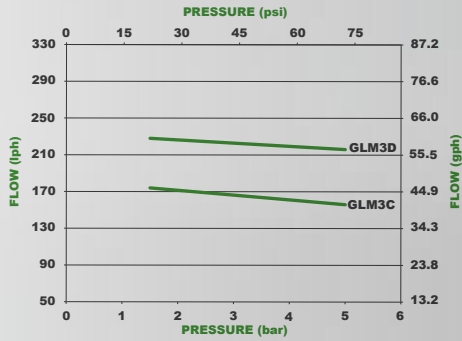
### GLM1



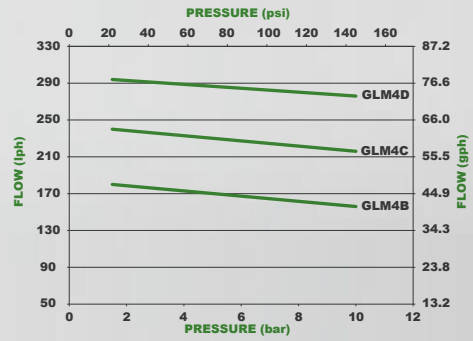
### GLM2



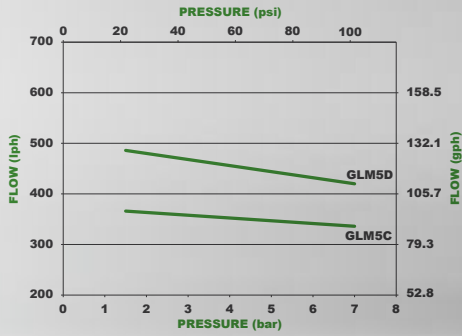
### GLM3



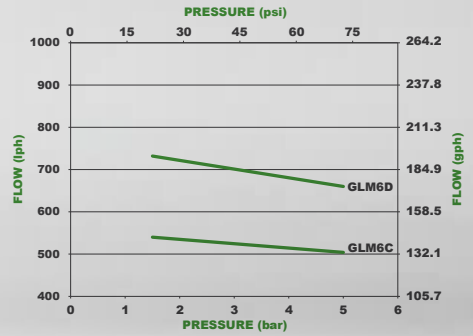
### GLM4



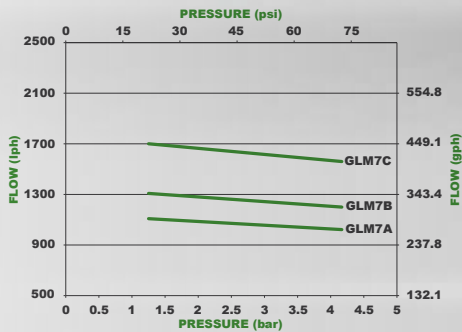
### GLM5



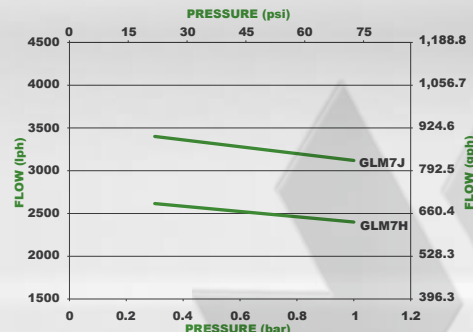
### GLM6



### GLM7 SIMPLEX

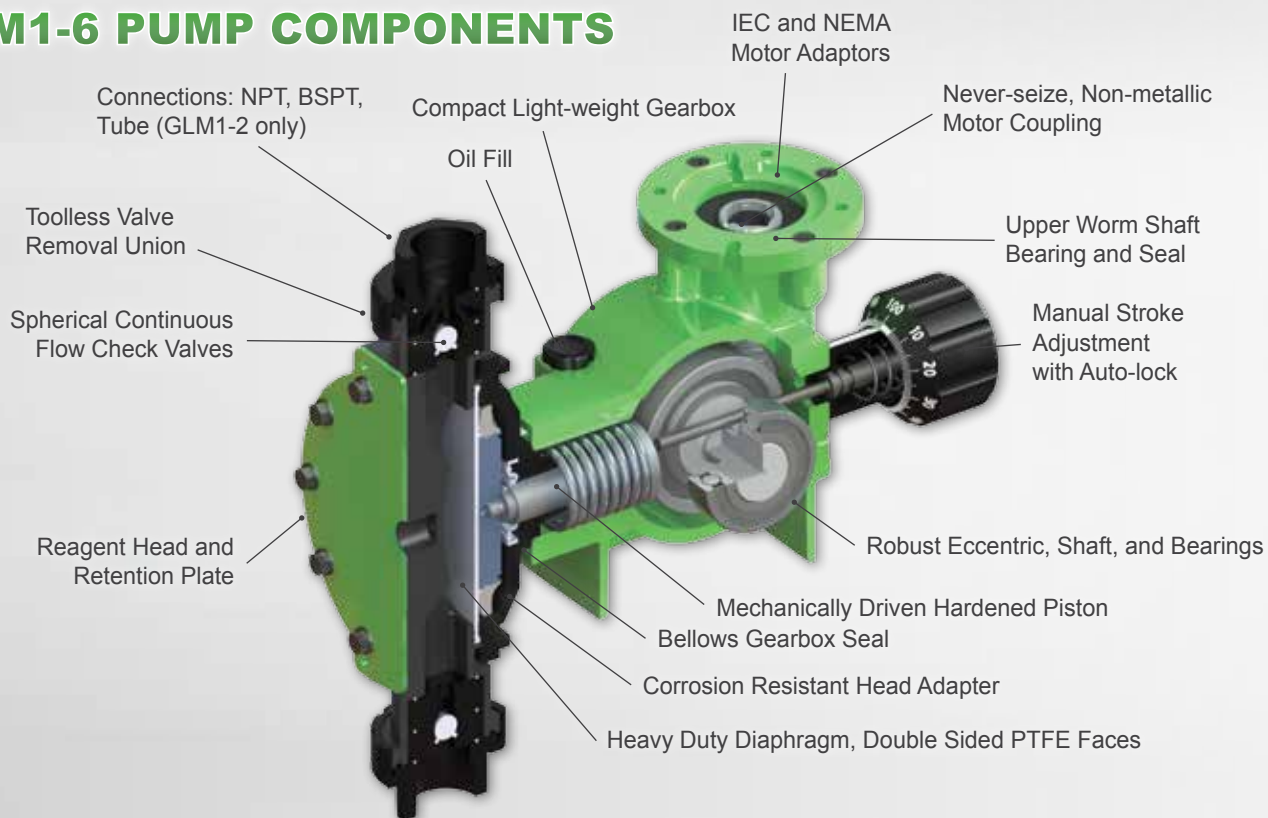


### GLM7 DUPLEX

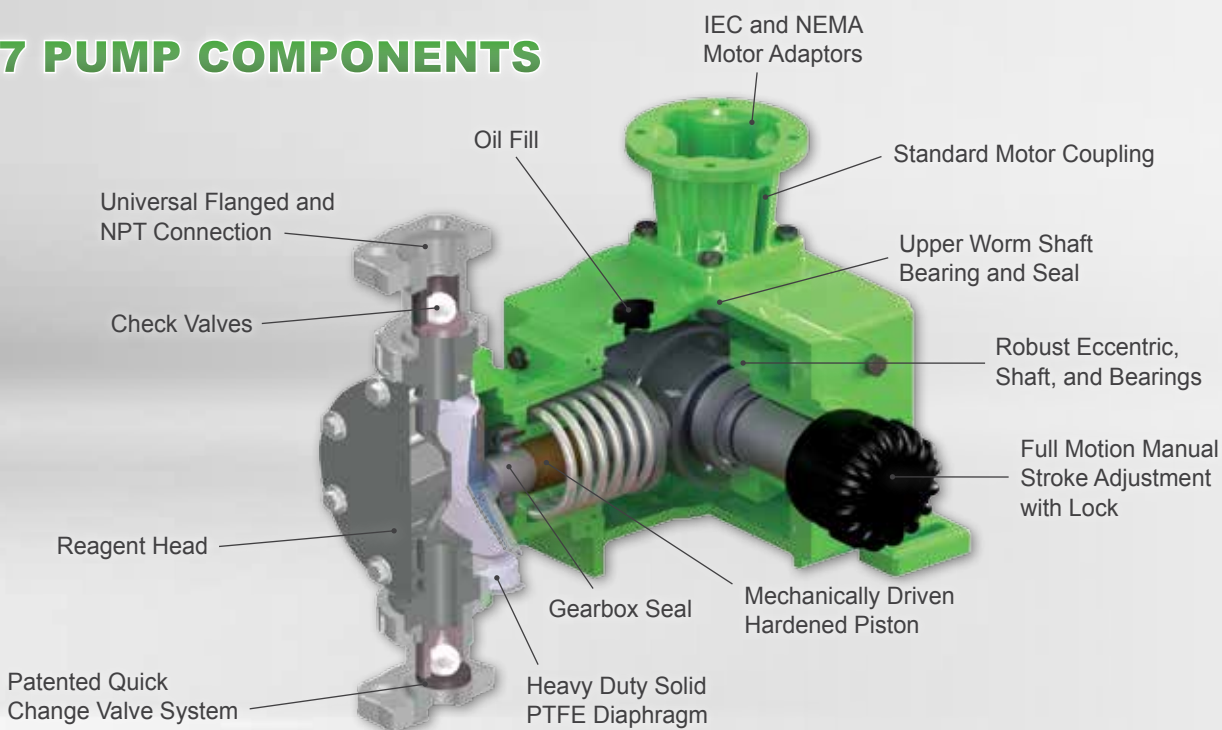


# RATING

## GLM1-6 PUMP COMPONENTS



## GLM7 PUMP COMPONENTS



# PERFORMANCE & D

## MODEL TABLE — FLOW & PRESSURE RATINGS

MODEL	60 Hz				50 Hz				HP (kW) Required	Connection Size	
	Pressure (psi)	Flow (gph)	Flow (lph)	SPM	Pressure (bar)	Flow (gph)	Flow (lph)	SPM			
GLM1A	175	3.2	12	88	12	2.6	10	73	0.33 (0.25)	1/2" FNPT or FBSP or 3/8" x 1/2" Tube (Plastic Models Only)	
GLM1C		4.8	18	140		4.0	15	116			
GLM2A	150	8.0	30	88	10	6.6	25	73			
GLM2C		15.9	60	140		13.2	50	116			
GLM2D		20.6	78	184		17.2	65	153			
GLM2E	NA	NA	NA	NA	21.1	80	187				
GLM3C	75	41.2	156	140	5	34.3	130	116		1 (0.75)	1" FNPT or FBSP
GLM3D		57.1	216	184		47.6	180	153			
GLM3E	NA	NA	NA	NA		60.8	230	187			
GLM4B	150	41.2	156	116	10	34.3	130	97			
GLM4C		57.1	216	140		47.6	180	116			
GLM4D		72.9	276	184		60.8	230	153			
GLM5C	100	88.8	336	140	7	74.0	280	116	1.5 (1.1)		1.5" FNPT or FBSP
GLM5D		111	420	184		92.5	350	153			
GLM5E	NA	NA	NA	NA		119	450	187			
GLM6C	75	133	504	140	5	111	420	116			
GLM6D		174	660	184		145	550	153			
GLM6E	NA	NA	NA	NA		182	690	187			
GLM7A	75	270	1020	116	5	225	850	97		1.5 (1.1)	1.5" FNPT (316LSS Models) or ANSI 1.5" Flange with 1.5" FNPT (Plastic Models Only)
GLM7B		317	1200	140		264	1000	116			
GLM7C		412	1560	175		343	1300	145			
GLM7D	NA	NA	NA	NA		423	1600	173			
GLM7H*	75	634	2400	140		528	2000	116			
GLM7J*		824	3120	175		687	2600	145			
GLM7K*	NA	NA	NA	NA		845	3200	173			

\*Duplex Models

Note: Flow and pressure ratings based on water-like viscosity and are subject to change without notice.



## GLM1-7 PUMP MODEL CONFIGURATION

GLM1-7 PUMP MODEL CONFIGURATION				Required Code	
Pump Selection	List \$ Adder	Code	Choice And Description	GLM	- - - - -
<b>PUMP SIZE</b> (Determined from chart) Position 1-5	See chart	See chart	See chart		
<b>Motor Frame Selection</b> Position 6	Standard - Non-deduct (based on kW)	A B D S T	NEMA 56C (All GLM Models) IEC 71B14 (GLM1-6 Models Only) NEMA 143/5TC (GLM7 Models Only) IEC 90B14 (GLM7 Models Only) IEC 100B14 (GLM7 Models Only)		
<b>Wet End Materials</b> Position 7	See chart	A F P	316LSS/PTFE-316LSS liquid end - PTFE diaphragm and PTFE O-rings - 316LSS ball valves PVDF/Viton - PVDF liquid end - PTFE diaphragm and Viton O-rings - ceramic ball valves PP/Viton - PP liquid end - PTFE diaphragm and Viton O-rings - ceramic ball valves		
<b>Connections</b> Position 8		P B T	FNPT (All GLM Models, PP/PVDF GLM7 models include Flange) FBSP (GLM1-6 Models Only) 3/8" tube connection (PP/PVDF GLM1-2 Models Only)		

## GLM1-7 KOPkit® CONFIGURATION

GLM1-7 KOPkit® CONFIGURATION			Required Code		
KOPkit® Selection	Code	Choice and Description	KM	-	_ X
<b>PUMP SIZE</b> (Determined from chart) Position 1-3	1	For All GLM1 Models			
	2	For All GLM2 Models			
	3	For All GLM3 Models			
	4	For All GLM4 Models			
	5	For All GLM5 Models			
	6	For All GLM6 Models			
	7	For All GLM7 Models			
<b>WET END MATERIALS</b> Position 4	A F P	316LSS Wet End with PTFE O-rings PVDF Wet End with Viton O-rings PP Wet End with Viton O-rings			

## WET END MATERIALS

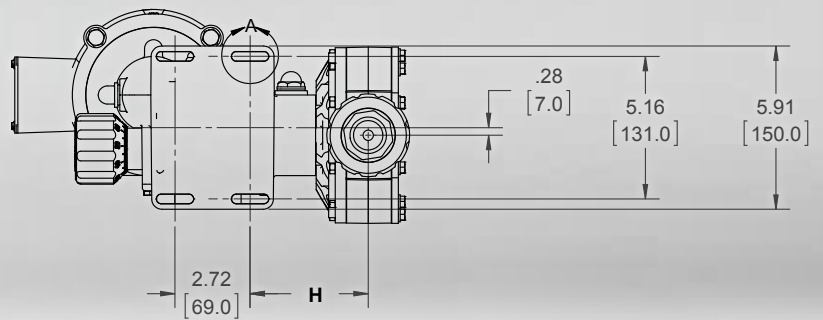
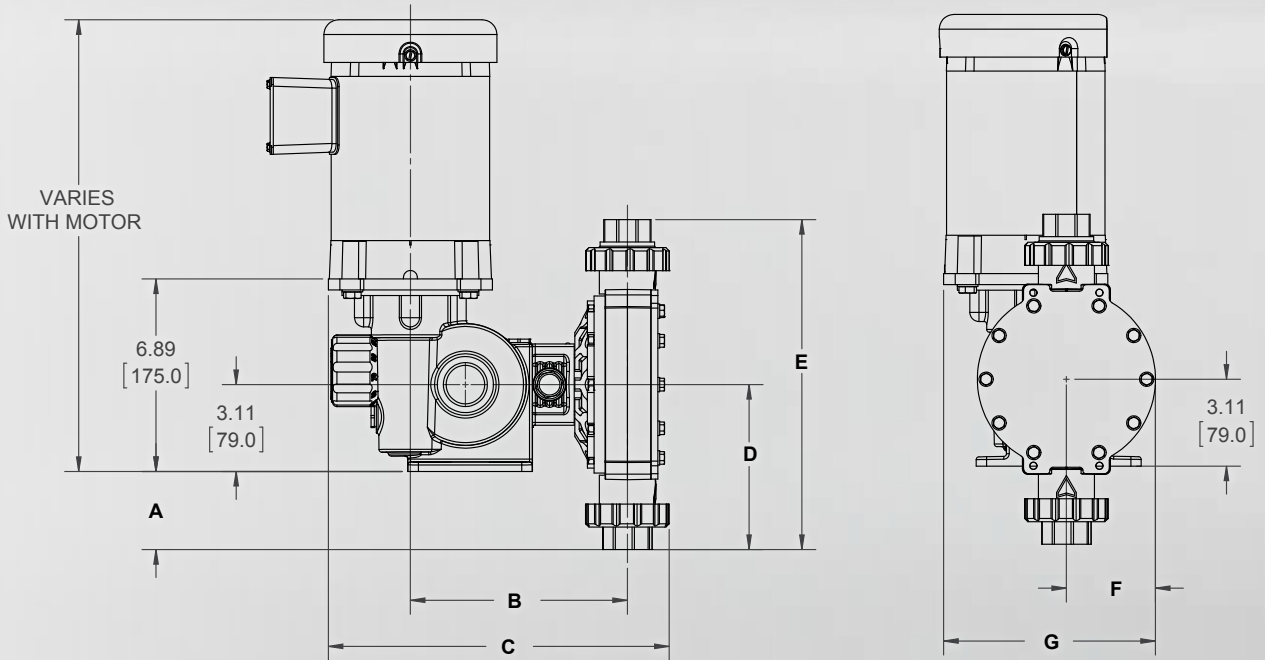
Wet End	Model	Head	Diaphragm	Guide	Seat	Valve Cap	Balls	O-rings	O-ring Seat
PVDF	GLM1-7	PVDF	PTFE	PVDF	PVDF	PVDF	Ceramic	Viton®	Viton®
PP		PP		PVDF	PVDF	PP			
SS		SS		SS	SS	SS	SS	PTFE	N/A

Viton® is a registered trademark of DuPont Performance Elastomers.

# D I M E N S I O N A L

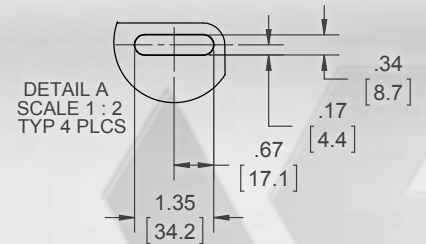
## DIMENSIONAL DRAWINGS - GLM1-6

See Table Below



Dim	GLM1-2	GLM3-4	GLM5-6
A	0.95 / 24.0	2.80 / 71.0	3.68 / 93.5
B	7.43 / 188.6	7.77 / 197.3	7.91 / 200.8
C	11.31 / 287.2	12.20 / 309.9	12.59 / 319.9
D	4.06 / 103.0	5.91 / 150.0	6.79 / 172.5
E	8.11 / 206.1	11.81 / 300.1	13.58 / 344.9
F	2.75 / 69.8	3.75 / 95.2	4.00 / 101.6
G	7.23 / 183.6	8.30 / 210.9	8.55 / 217.2
H	3.95 / 100.4	4.27 / 108.6	4.41 / 112.1

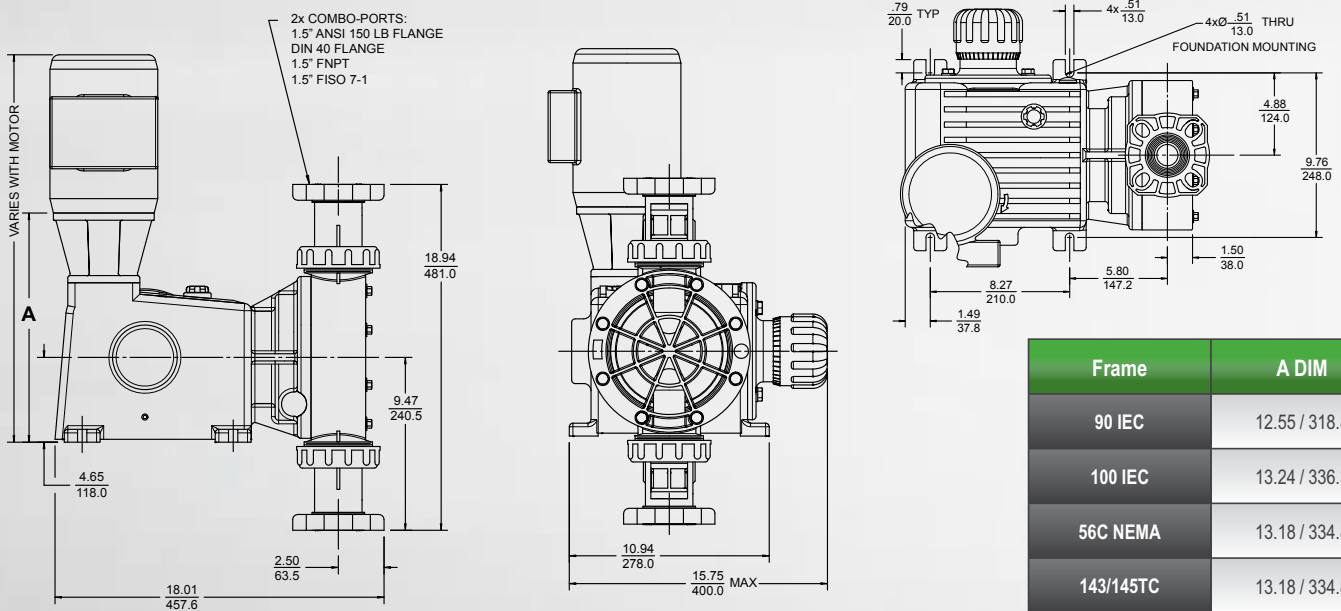
All measurements are in inches/millimeters.



Largest measurements shown. Size may vary depending on material. All measurements are for reference only. Subject to change.

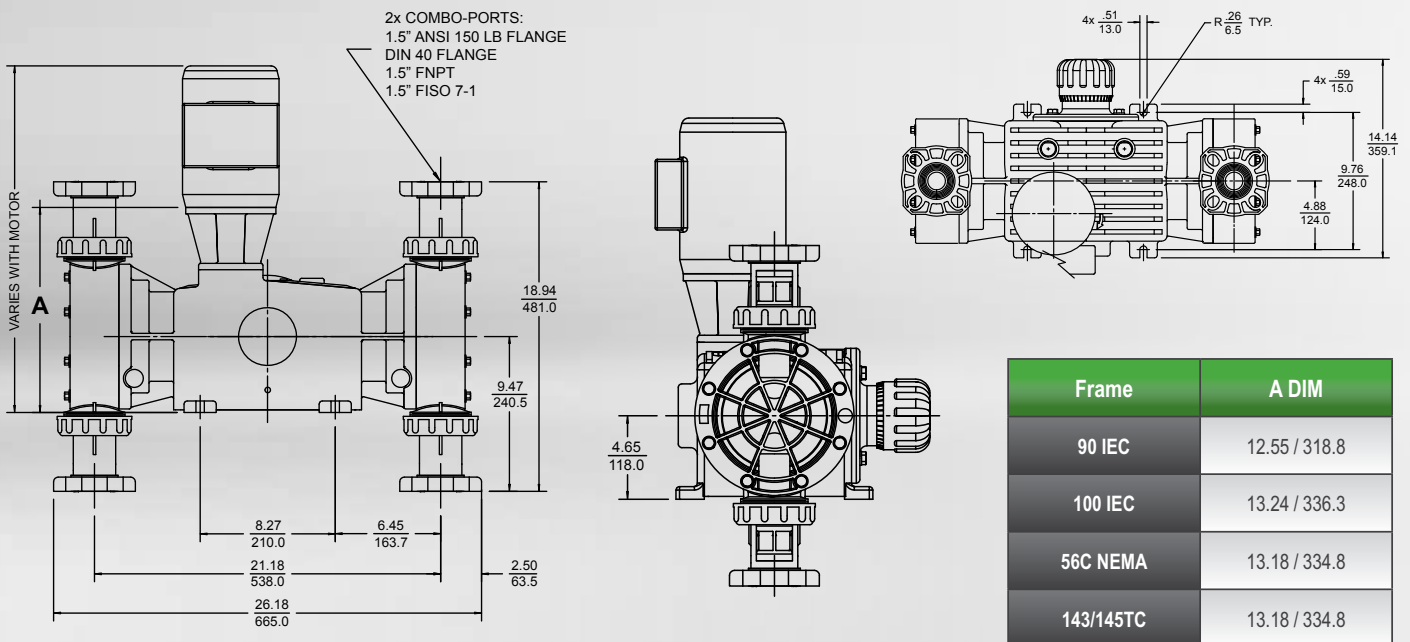
# DRAWINGS

## DIMENSIONAL DRAWINGS - GLM7 SIMPLEX



All measurements are in inches/millimeters.  
Reinforcement plate not shown.

## DIMENSIONAL DRAWINGS - GLM7 DUPLEX



All measurements are in inches/millimeters.  
Reinforcement plate not shown.



**PARTS, KITS,  
& ACCESSORIES**



**Spare Parts** related to your pump are available. If you need to replace a diaphragm, reagent head, or a valve assembly, we have it.



**Pulsation Dampeners** improve pump efficiency by removing pulsations and smoothing pipe flows.



**Pressure Relief Valves** prevent an over pressurization situation from damaging your pump or system.



**Back Pressure Valves** provide positive back pressure for systems with less than the minimum required pressure difference between the discharge and suction side of the metering pump. They assure optimum performance.



**PULSALube**<sup>®</sup> is the only oil Pulsafeeder recommends for use in our pumps. PULSALube is a superior blend of oils designed to provide optimal lubrication and extend equipment life. It maintains your pump warranty.



**We offer KOPkit**<sup>®</sup> (Keep on Pumping kits) designed to guard against unnecessary downtime and assure the highest level of efficient and uninterrupted service from your GLM pump. In the event of a breakdown, one kit will put you back in business fast!

