

## Low-Volume Pumps

### Special Application Pump

Neptune Model 5003-S and 5005-S hydraulic diaphragm metering pumps are built to deliver very low flows, repeatable and accurate ranging down to quarts per day. Discharge pressures are higher than are possible with mechanical diaphragm pumps. Explosion-proof models are available for use in hazardous atmospheres.

These pumps are especially popular in oil/gas production, oil recovery and refineries. Typical applications include the injection of antifoam agents, corrosion inhibitors and other additives injected at very low volumes but high pressures. (Refer to curves on reverse side.) These pumps are also used for neat feeding of boiler chemicals.

### Design Features/Benefits

- High discharge pressures, to 3,000 psi (210 kg/cm<sup>2</sup>). Exceeds limits of most small pumps, ideal for high pressure systems.
- **EZE-CLEAN™** valves. Cartridges can be removed for cleaning without disturbing piping.
- Electric stroke-length control available. Automatic capacity control in response to standard 4-20 mA process signal.
- Explosion-proof motors available. Suitable for use in hazardous atmospheres.
- Low flow-rates – quarts/day. Accurate, reliable chemical feed.
- Duplex available.



**Model 5005-S-N3-FALP**



# Low-Volume Pumps

## Pump Selection Chart

Standard Motor: 1/3 HP-1ph-115VAC-60c-TEFC				
MODEL NUMBER	MAXIMUM (1) CAPACITY @ 100 PSI (7KG/CM <sup>2</sup> )	STROKES PER MINUTE	MAXIMUM PRESSURE (2)	MATERIAL OF CONSTRUCTION
5003	0.35 gph (1.3 L/h) 8.4 gpd (31.8 L/d)	37	1500 psi (105 kg/cm <sup>2</sup> ) @ 1/3 HP	316SS
5005	0.5 gph (1.9 L/h) 12 gpd (44 L/d)	37	1500 psi (105 kg/cm <sup>2</sup> ) @ 1/3 HP 3000 psi (210 kg/cm <sup>2</sup> ) @ 1/2 HP	316SS C20 PVC

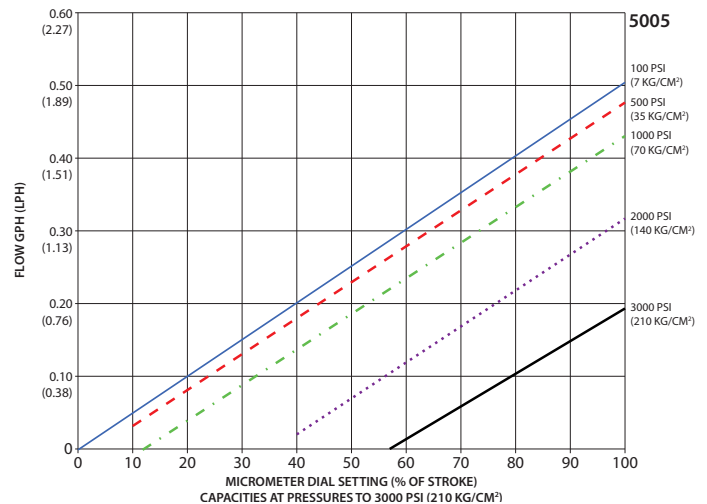
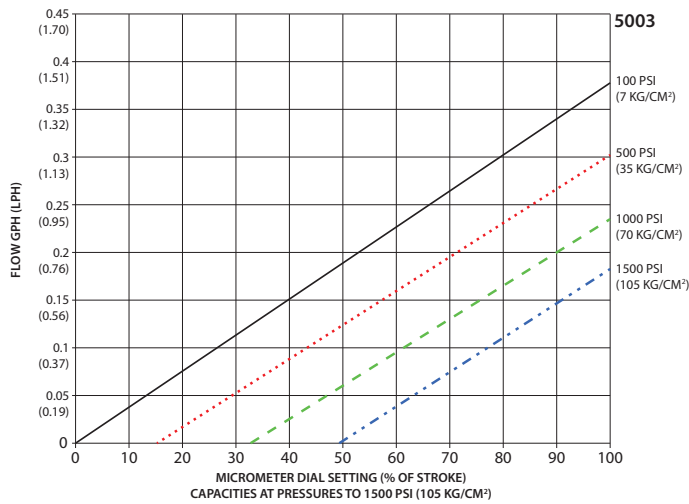
- See curves for minimum capacities.
- "N5" PVC Models 150 psi (10.5 kg/cm<sup>2</sup>) max.
- Duplex models available.

Use with flooded suction only.  
Model 5003 is available in N3 construction.  
Model 5005 is available in the following materials of construction:

PART	CODE N-3	CODE N-4	CODE N-5
Liquid Head	316SS	C-20	PVC*
Diaphragm	Teflon®	Teflon®	Teflon®
Valve Body and Seat	316SS	C-20	PVC*
Valve Checks	316SS	Hastelloy-C	Glass†

\* PVC head pumps are satisfactory for temperatures to 125°F / 52°C.  
† Special materials available for services not compatible with glass.  
Standard O-rings are Viton, all models; Teflon available.  
Request Bulletin DP-1100 for higher capacities.

## Performance Curves



## Series 500/5000 "DIA-PUMP" with Metal Head

**STANDARD MOTOR**

**FLANGE MOUNT MOTOR**

**SIMPLEX**

HEAD MATERIAL	DIMENSIONS		
	"A"	"B"	"C"
N3 & N4	2 1/4" [57]	2 3/16" [56]	3 7/8" [98]

**DUPLEX**

HEAD MATERIAL	DIMENSIONS		
	"A"	"B"	"C"
N3 & N4	5 3/4" [146]	2 3/16" [56]	3 7/8" [98]

See page 7 of Bulletin DP-1100 for bolt hole locations and for N5 (PVC) dimensions.

Distributed by:



295 DeKalb Pike • North Wales, PA 19454 USA  
Tel: +1 (215) 699-8700 • Fax: +1 (215) 699-0370  
info@neptune1.com www.neptune1.com