

# CHEMICAL METERING PUMPS

## Manual or Automatic Operation

### PHP-500 Series



### PHP-300 Series

- ✓ Automatic or Manual Control
- ✓ Bleed Valve Assembly
- ✓ Thermally Protected Solenoid with Auto-Reset

### PHP-400 and 500 Series

- ✓ Manual Control
- ✓ Water-Resistant Casing
- ✓ Reliable Timing Circuit
- ✓ Bleed Valve Assembly

Employing a 4 to 20 mA or pulse input, OMEGA's PHP-300 programmable, solenoid-driven diaphragm liquid metering pumps can be operated manually or automatically. The PHP-400 and PHP-500 Series are diaphragm liquid metering pumps designed for manual operation. The stroke length for all pumps is manually adjustable from 10 to 100% and the stroking rate from 12 to 125 strokes per minute. Head and filling material options include glass-filled polypropylene, polyvinylidene fluoride (PVDF), and AISI-316 SS. The diaphragm is made of PTFE-faced CSPE. The guided check valves provide precise seating along with excellent priming and suction lift characteristics. The PHP-310 Series incorporates all the features of the PHP-300 as well as a 4 to 20 mA input signal, while the PHP-320 accepts a pulse input signal. Every unit comes with an inlet strainer/foot valve and an injection valve. In addition, "G" and "K" models are equipped with 1.2 m (4') of PVC suction tubing, 2.4 m (8') of PE discharge tubing, and bleed valve assembly.



PHP-314-K, shown smaller than actual size.

### SPECIFICATIONS

**Power:** 115 Vac, 60 Hz  
**Liquid End:** Glass-filled polypropylene on "G" models, PVDF on "K" models, and AISI-316 SS on "S" models  
**Valve Balls:** Ceramic for "G" and "K" models; 316 SS for "S" models  
**Seals:** CSPE for "G" and "K" models; PTFE for "S" models  
**Diaphragm:** PTFE-faced CSPE  
**Metering Range:** 10 to 100% of capacity  
**Maximum Frequency:** 125 strokes/minute  
**Nominal Power:**  
 PHP-300: 130 W  
 PHP-400/500: 50 W  
**Peak Power Consumption:**  
 PHP-300: 30 W  
 PHP-400/500: 130 W

### Dimensions:

**PHP-300:** 292 H x 159 W x 292 mm D (11.25 x 6.25 x 11.25")  
**PHP-400:** 250 H x 127 W x 241 mm D (10 x 5 x 9.5")  
**PHP-500:** 250 H x 127 W x 241 mm D (10 x 5 x 9.5")

### Weight:

**PHP-300:** 9.5 kg (21 lb)  
**PHP-400:** 4.5 kg (10 lb)  
**PHP-500:** 4.5 kg (10 lb)

### Maximum Temperature:

**"G" Models:** 77°C (170°F)  
**"K" and "S" Models:** 93°C (200°F)

PHP-305-K  
shown smaller  
than actual size.



PHP-305-K,  
back view.



### PHP-300 Series Manual Operation

Model No.	Maximum Capacity			Maximum Pressure psi/bar	Suction Line OD x ID	Discharge OD x ID	Line Material*
	GPH	GPD	LPD				
PHP-304-(*)	5.0	120	454	100/7	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/2 FNPT	1/2 FNPT	S
PHP-305-(*)	8.0	192	727	50/3.3	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/2 FNPT	1/2 FNPT	S
PHP-306-(*)	10.0	240	909	35/5.6	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4 FNPT	1/4 FNPT	S

Ordering Example: PHP-305-K, pump with manual operation, PVDF, 8.00 GPH (727 LPD) capacity.

### PHP-310 Series Operation with 4 to 20 mA Input (124 Ω Input Impedance)

Model No.	Maximum Capacity			Maximum Pressure psi/bar	Suction Line OD x ID	Discharge OD x ID	Line Material*
	GPH	GPD	LPD				
PHP-311-(*)	1.70	41	154	250/17	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					1/4 FNPT	1/4 FNPT	S
PHP-312-(*)	3.15	76	286	150/10	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/2 x 3/8"	1/4 FNPT	S
PHP-314-(*)	5.00	120	454	100/7	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4 FNPT	1/4 FNPT	S
PHP-315-(*)	8.00	192	727	50/3.3	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4 FNPT	1/4 FNPT	S
PHP-316-(*)	10.00	240	910	35/5.6	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4 FNPT	1/4 FNPT	S
PHP-317-(*)	25	600	2270	30/2	3/4 x 1/2"	3/4 x 1/2"	G

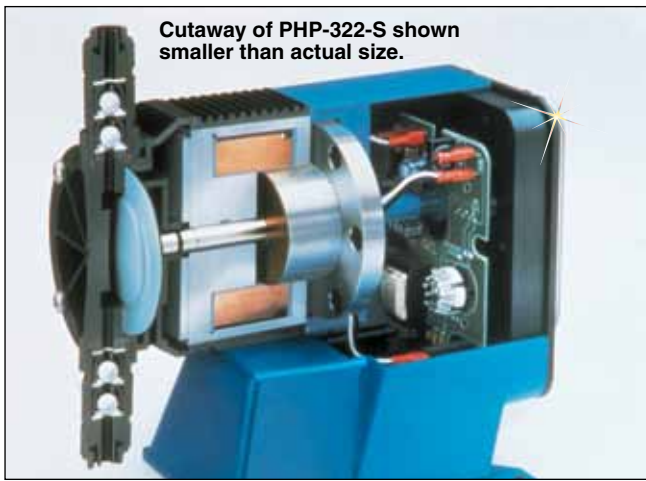
Ordering Example: PHP-314-K, pump with 4 to 20 mA input, PVDF, 5.00 GPH (120 GPD) capacity.

### PHP-500 Series Manual Operation

Model No.	Maximum Capacity			Maximum Pressure psi/bar	Suction Line OD x ID	Discharge OD x ID	Line Material*
	GPH	GPD	LPD				
PHP-501-(*)	0.25	6	22	80/5.6	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					1/4 FNPT	1/4 FNPT	S
PHP-502-(*)	0.50	12	46	80/5.6	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					3/8 x 1/4"	1/4 FNPT	S
PHP-503-(*)	1.00	24	91	80/5.6	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					1/4 FNPT	1/4 FNPT	S
PHP-504-(*)	1.25	30	113	80/5.6	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					1/4 FNPT	1/4 FNPT	S

Comes with complete operator's manual, inlet strainer/foot valve, and injection valve. In addition, "G" and "K" models are equipped with 1.2 m (4') of PVC suction tubing, 2.4 m (8') of PE discharge tubing, and bleed valve assembly. \*Insert "G" for glass-filled polypropylene, "K" for PVDF, or "S" for 316 SS.

Ordering Example: PHP-504-K, pump with manual operation, PVDF, 1.25 GPH (113 LPD) capacity.



### PHP-320 Series Operation with Pulse Input

Model No.	Maximum Capacity			Maximum Pressure psi/bar	Suction Line OD x ID	Discharge OD x ID	Line Material*
	GPH	GPD	LPD				
PHP-321-(* )	1.70	41	154	250/17	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					1/4"	1/4"	S
PHP-322-(* )	3.15	76	286	150/10	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4"	1/4"	S
PHP-324-(* )	5.00	120	454	100/7	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4 FNPT	1/4 FNPT	S
PHP-325-(* )	8.00	192	727	50/3.3	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4 FNPT	1/4 FNPT	S
PHP-326-(* )	10.00	240	910	35/5.6	1/2 x 3/8"	1/2 x 3/8"	G
					1/2 x 3/8"	1/2 x 3/8"	K
					1/4 FNPT	1/4 FNPT	S
PHP-327-(* )	25.00	600	2270	30/2	1/2 x 3/8"	1/2 x 3/8"	G

\* Insert "G" for glass-filled polypropylene, "K" for PVDF, or "S" for 316 SS.

Ordering Example: PHP-324-K, pump, PVDF, 120 GPD (454 LPD) capacity.

### PHP-400 Series Manual Operation

Model No.	Maximum Capacity			Maximum Pressure psi/bar	Suction Line OD x ID	Discharge OD x ID	Line Material*
	GPH	GPD	LPD				
PHP-401- (* )	0.25	6	22	150/10	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					1/4 FNPT	1/4 FNPT	S
PHP-402- (* )	0.50	12	46	150/10	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					3/8 x 1/4"	1/4 FNPT	S
PHP-403- (* )	1.00	24	92	100/7	3/8 x 1/4"	3/8 x 1/4"	G
					3/8 x 1/4"	3/8 x 1/4"	K
					1/4 FNPT	1/4 FNPT	S
PHP-404- (* )	1.25	30	112	100/7	3/8 x 1/4"	3/8 x 1/4"	K
					1/4 FNPT	1/4 FNPT	S

\* Insert "G" for glass-filled polypropylene, "K" for PVDF, or "S" for 316 SS.

Ordering Example: PHP-401-K, pump, PVDF, 6 GPD (22 LPD) capacity.