



**WHITE
KNIGHT®**
.....engineer approved™

PSD SERIES PUMPS

Reliable AODD Pumps for Chemicals & Corrosive

PSD Series pumps feature PTFE or UHMW (PE) flow paths. Their machined designs offer performance and fluid containment that is superior to molded pumps. The pumps are ideal for corrosive or toxic liquids in waste, removal, or bulk transfer applications.

Advanced Pump Technologies

PTFE or UHMW
(PE) Flow Path

Machined Design
(Not Molded)

Icing-resistant
air system

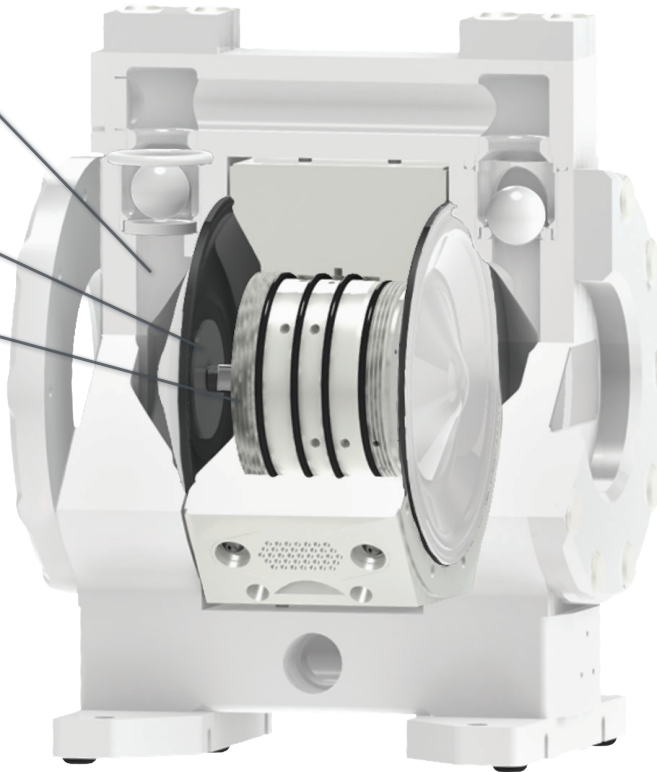
Serviceable
air motor

Dead-head

Self Priming

Dry run/prime

Positive seat-check
improves suction lift

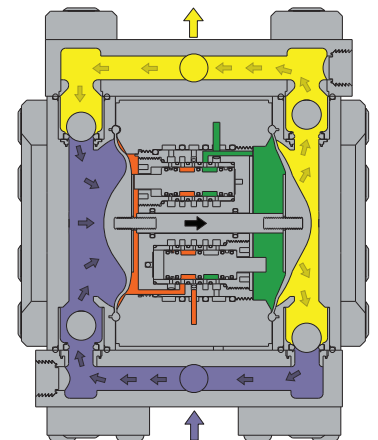
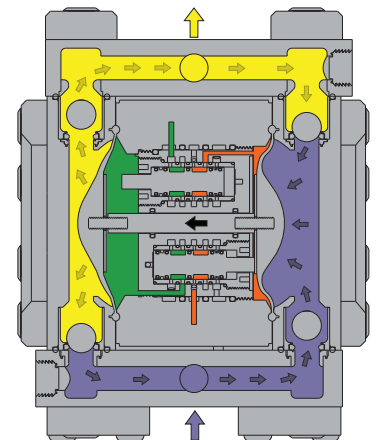


Maintenance required.
Schedule depends on duty cycle.

Operation

Parallel pilot shifting
eliminates stalling.

Supply Air Liquid Suction
Exhaust Air Liquid Discharge



See online animation.

Features & Benefits

- PTFE or UHMW liquid path with diaphragm options and Polypropylene (PP) body
- High-quality, machined design ensures consistent, reliable performance and chemical containment that is superior to molded pumps
- Serviceable air motor offers safe operation with easy maintenance and extends pump life
- Positive seat-check assembly improves suction lift and pump performance while minimizing required maintenance
- Icing-resistant air system for reliable operation and constant, on-demand fluid or slurry delivery
- Dead-head capable operation
- Dry run/prime capability
- Low operational noise minimizes factory environment noise and operator fatigue
- Easy to install and service
- Durable, field rebuildable design with minimal parts
- Small footprint

Note: Unlike White Knight's ultrapure bellows pumps, PSD Series pumps are not assembled in a clean room environment.

<https://wkfluidhandling.com/psd-series/>



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Specifications subject to change without notice

Specifications

Max Air/Fluid Temperature	PTFE 100°C (212°F) UHMW 70°C (158°F)
Max Supply Air Pressure	7 Bar (100 psi)
Min. Startup Air Pressure	2 Bar (30 psi)

Fluid Path Materials	PTFE or UHMW
Diaphragm Materials	Over-molded PTFE/EPDM, EPDM, or NBR
Check Balls	PTFE
Body Type	Polypropylene (PP)

Options	Solid state pressure switch (NPN or PNP) stroke detection
	Fiber optic (NPN or PNP) or Conductivity leak detection
	Electronic control



Model	PSD04	PSD06	PSD08	PSD16	PSD24
Max Flow Rate*	14 lpm (3.6 gpm)	28 lpm (7.4 gpm)	63 lpm (16.6 gpm)	142 lpm (37.5 gpm)	372 lpm (98.3 gpm)
Displacement Per Cycle*	0.03 liters (0.008 gal)	0.07 liters (0.019 gal)	0.16 liters (0.042 gal)	0.56 liters (0.148 gal)	1.64 liters (0.433 gal)
Connection Sizes / Types	1/4 in NPT 1/4 in BSPT	3/8 in NPT 3/8 in BSPT	1/2 in NPT 1/2 in BSPT	1 in NPT 1 in BSPT	1-1/2 in NPT 1-1/2 in BSPT
Max. Size of Passable Solids	1.5 mm (0.06 in)	2 mm (0.08 in)	4 mm (0.16 in)	5 mm (0.20 in)	8 mm (0.32 in)
Weight (PTFE)	1.4 kg (3.0 lb)	3.1 kg (6.8 lb)	9.0 kg (19.8 lb)	18.2 kg (40.1 lb)	43.2 kg (95.2 lb)
Weight (UHMW)	1.8 kg (4 lb)	2.7 kg (6 lb)	6.2 kg (13.7 lb)	12 kg (26.4 lb)	27.2 kg (60 lb)
Suction Lift Dry*	2 m (6.5 ft)	3 m (10 ft)	3 m (10 ft)	4 m (13 ft)	5 m (16 ft)
Suction Lift Wet*	9.5 m (31 ft)	9.5 m (31 ft)	9.5 m (31 ft)	9.5 m (31 ft)	9.5 m (31 ft)
Sound	Pressure**	60.1 dB(a) 70.6 dB(a)	60.2 dB(a) 66.1 dB(a)	61.7 dB(a) 82.0 dB(a)	66.6 dB(a) 83.3 dB(a)
	Power**	60.7 dB(a) 64.2 dB(a)	51.7 dB(a) 58.1 dB(a)	54.5 dB(a) 74.8 dB(a)	61.6 dB(a) 78.3 dB(a)

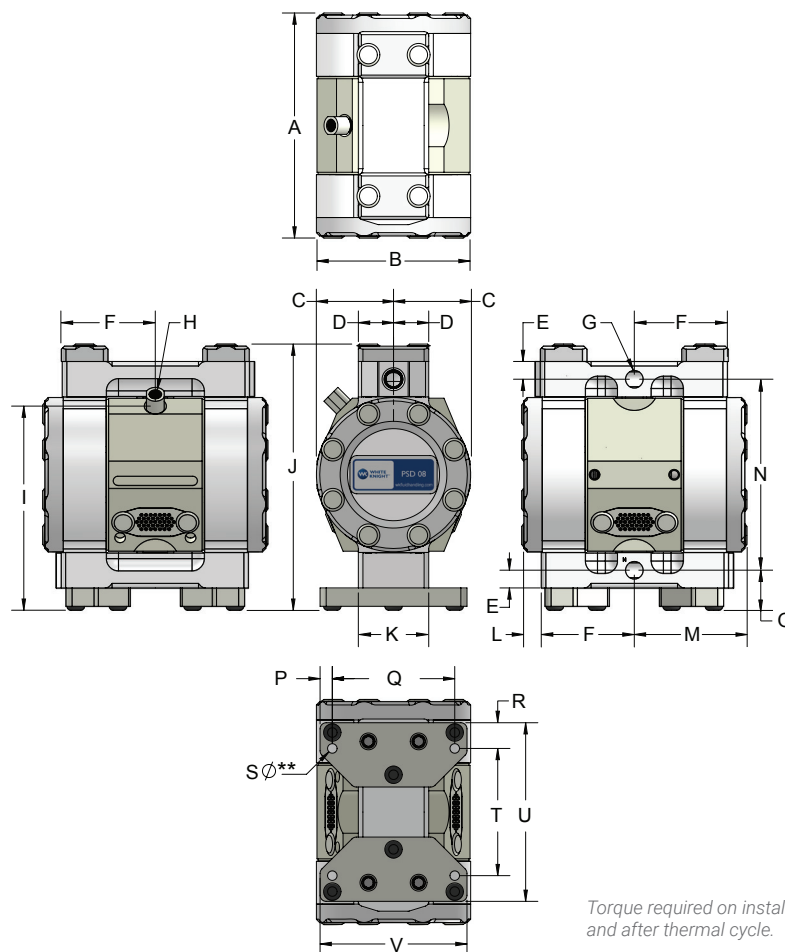
*May vary depending on materials. Suction lift diminishes over time. Minimize height for best performance.

**Sound Levels measured at 7 Bar 100 CPM (top), 7 Bar maximum CPM (bottom) in accordance with ISO9614-2:1997.

Dimensions

mm (inches)

	PSD04	PSD06	PSD08	PSD16	PSD24
A	139 (5.5)	149 (5.9)	233 (9.2)	276 (10.9)	373 (14.7)
B	88 (3.5)	108 (4.3)	159 (6.3)	208 (8.2)	296 (11.6)
C	44 (1.7)	54 (2.1)	79 (3.1)	104 (4.1)	147 (5.8)
D	23 (0.9)	25 (1.0)	37 (1.4)	49 (1.9)	62 (2.4)
E	11 (0.4)	12 (0.5)	18 (0.7)	25 (1.0)	32 (1.3)
F	54 (2.1)	58 (2.3)	97 (3.8)	117 (4.6)	159 (6.3)
G*	1/4 in	3/8 in	1/2 in	1 in	1-1/2 in
H*	1/8 in	1/8 in	1/4 in	1/4 in	1/2 in
I	107 (4.2)	123 (4.9)	216 (8.5)	266 (10.5)	332 (13.1)
J	166 (6.5)	192 (7.6)	276 (10.9)	355 (14.0)	506 (19.9)
K	44 (1.8)	51 (2.0)	73 (2.9)	98 (3.9)	127 (5.0)
L	15 (0.6)	15 (0.6)	18 (0.7)	19 (0.7)	27 (1.1)
M	69 (2.7)	74 (2.9)	115 (4.5)	136 (5.4)	186 (7.3)
N	113 (4.4)	136 (5.3)	202 (8.0)	264 (10.4)	386 (15.2)
O	28 (1.1)	29 (1.1)	42 (1.6)	48 (1.9)	61 (2.4)
P	6 (0.3)	6 (0.3)	13 (0.5)	13 (0.5)	9 (0.3)
Q	70 (2.8)	76 (3.0)	127 (5.0)	127 (5.0)	230 (9.1)
R	22 (0.9)	22 (0.9)	27 (1.1)	27 (1.1)	18 (0.7)
S	7 (0.3)**	7 (0.3)	10 (0.4)**	10 (0.4)**	10 (0.4)**
T	64 (2.5)	75 (3.0)	132 (5.2)	180 (7.1)	283 (11.1)
U	108 (4.3)	120 (4.7)	185 (7.3)	234 (9.2)	318 (12.5)
V	83 (3.3)	89 (3.5)	152 (6.0)	152 (6.0)	248 (9.8)



*Available in NPT or BSPT. May vary depending on configuration.

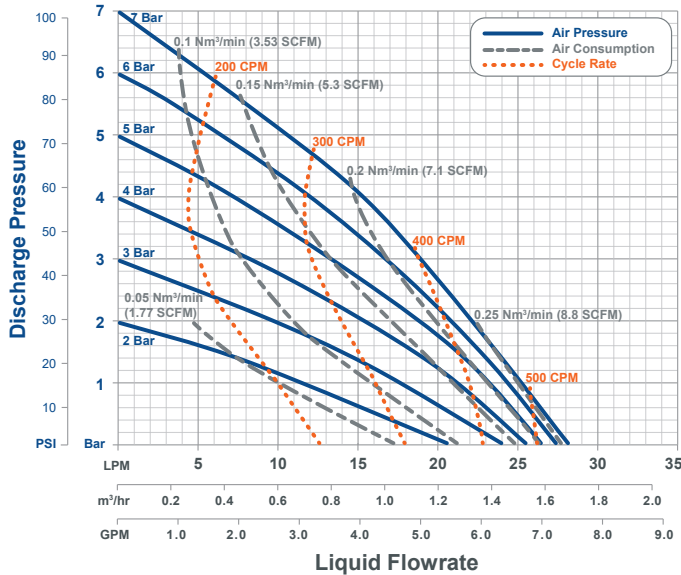
**Mount with 4 ea. 1/4" (6 mm) head cap screws.

Torque required on install and after thermal cycle.

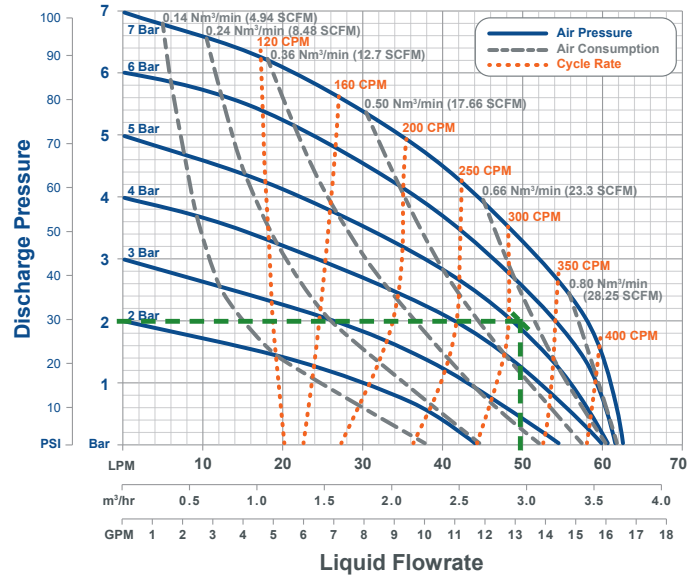
Performance

PSD04 chart at wkfluid.com/psd

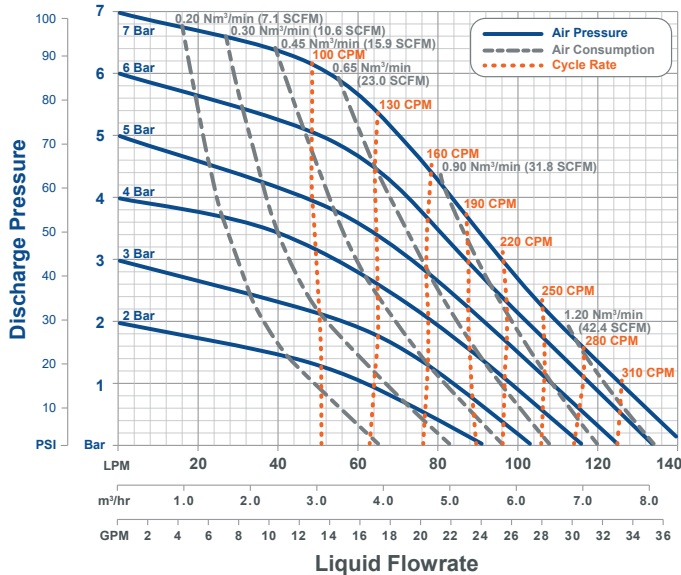
PSD06



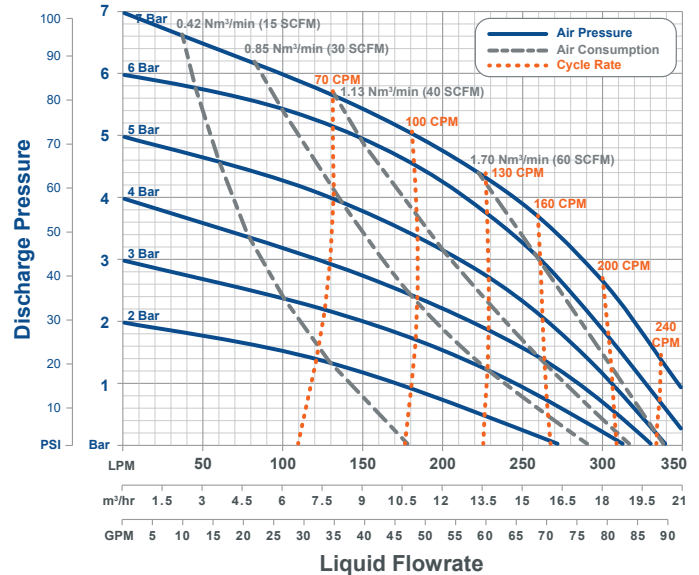
PSD08



PSD16



PSD24



Reading Charts

Draw a horizontal line from your discharge pressure and a vertical line through your desired flow rate. At their intersection, estimate required air supply pressure, cycle rate and air consumption.

Example

See green dashed lines in PSD08 chart. At 2 bar (30 psi) liquid discharge pressure and 5 bar supply pressure, PSD08 pumps provide 50 L/min (13.2 gpm) flow rates. They would cycle at 320 CPM and exhaust 21 SCFM.