WHITE KNIGHT®
engineer approved™

PSD SERIES PUMPS

Reliable AODD Pumps for Chemicals & Corrosive

PSD Series pumps feature leak-proof, machined designs with no exposed metals. They offer performance and chemical containment that is superior to molded pumps. Their PTFE or UHMW (PE) flow paths are ideal for corrosive or toxic liquids.

Maintenance may be required depending on duty cycle.

Advanced Pump Technologies

Corrosion-resistant exterior

PTFE or UHMW (PE) Flow Path

Machined Design (Not Molded)

Icing-resistant air system

Serviceable air motor

Dead-head

Self Priming

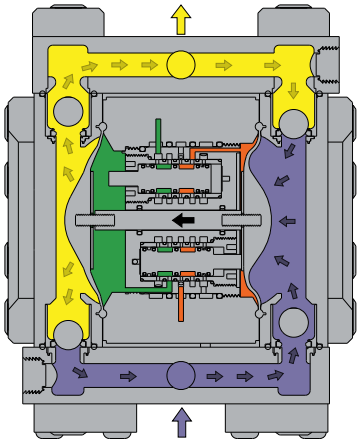
Dry run/prime

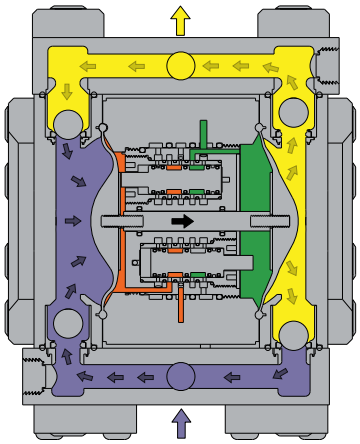
Positive seat-check improves suction lift

Operation

Parallel pilot shifting eliminates stalling.

Supply Air
Liquid Suction
Exhaust Air
Liquid Discharge





See online animation.

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

Features & Benefits

- Leak-proof design with no exposed metal optimizes reliability, reduces maintenance, extends pump life and offers clean, safe operation
- High-quality, machined design ensures consistent performance and chemical containment superior to molded pumps
- Serviceable air motor offers easy maintenance and extends pump life
- PTFE or UHMW liquid path with diaphragm and check valve options, and PP body
- Corrosion-resistant exterior with no exposed metals
- 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

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PSD SERIES AODD PUMPS

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 (Call for more options)
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)	84.2 dB(a) 89.8 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)	83.2 dB(a) 91.1 dB(a)

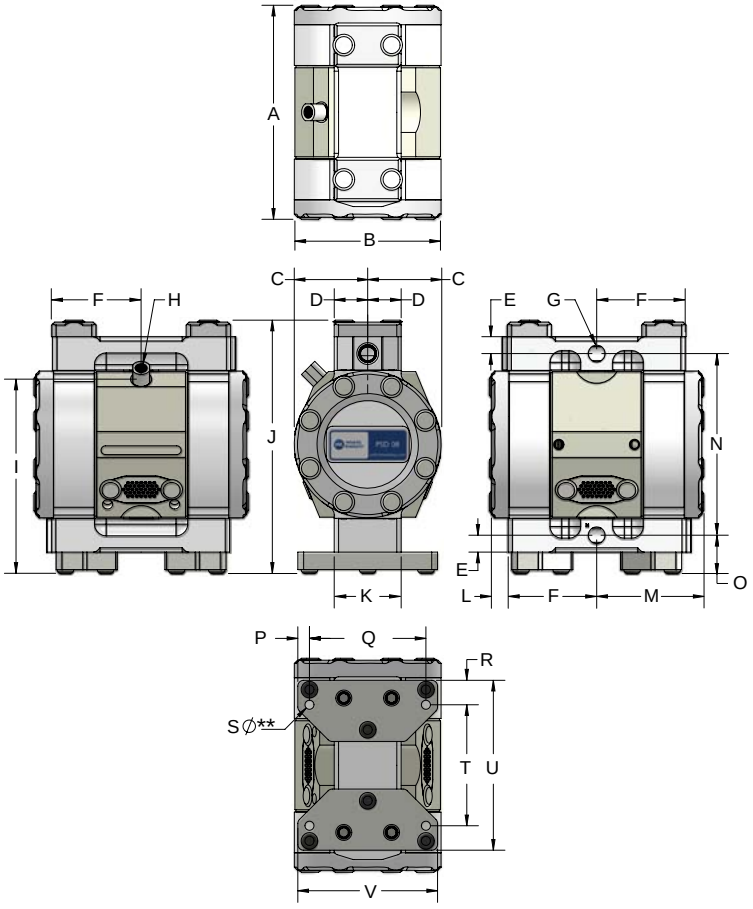
**May vary depending on materials. Suction lift diminishes over time. Minimize height for best performance.*
***Sound Levels measured at 7 bar 100 CPM (top) and 7 bar maximum CPM (bottom) in accordance with ISO9614-2:1997.*

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)	73 (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.*



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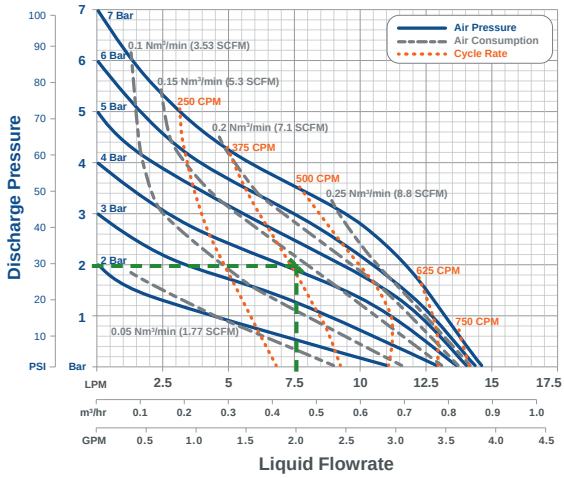
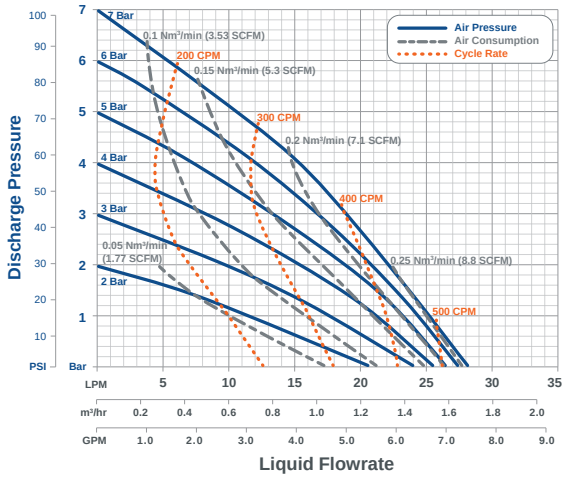
Performance

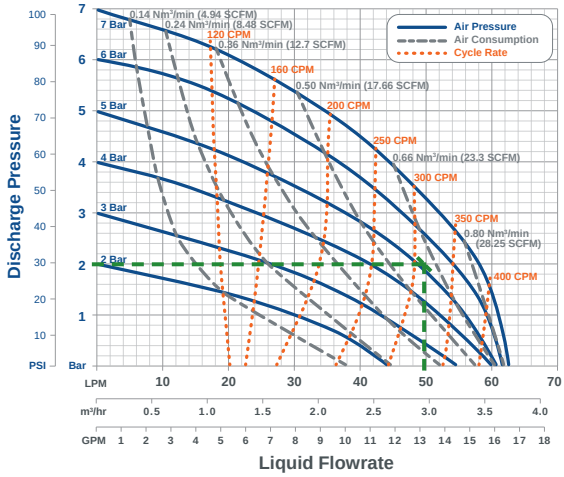
PSD04



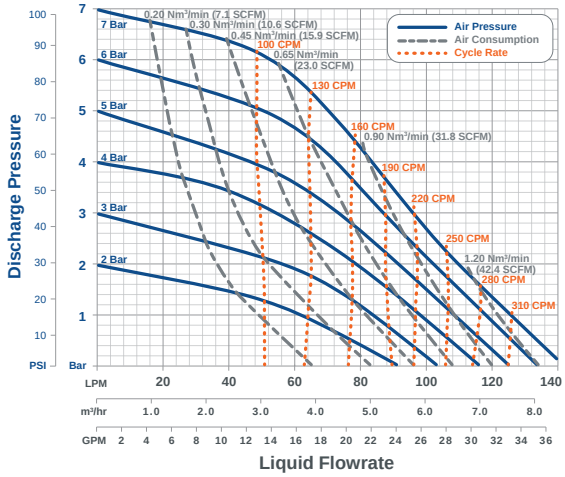
PSD06



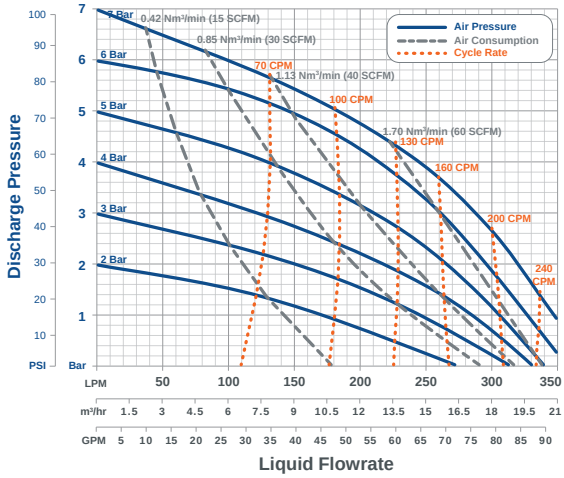
PSD08



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.

See green dashed lines in PSD04 and PSD08 charts for examples.

Example 1

At 2 bar (30 psi) liquid discharge pressure and 4 bar supply pressure, PSD04 pumps provide 7.5 lpm (2 gpm) liquid flow rate. They would cycle at 375 CPM, and exhaust 4.5 SCFM of air.

Example 2

At 2 bar (30 psi) liquid discharge pressure and 5 bar supply pressure, PSD08 pumps provide 50 lpm (13.2 gpm) flow rates.They would cycle at 320 CPM and exhaust 21 SCFM of air.

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