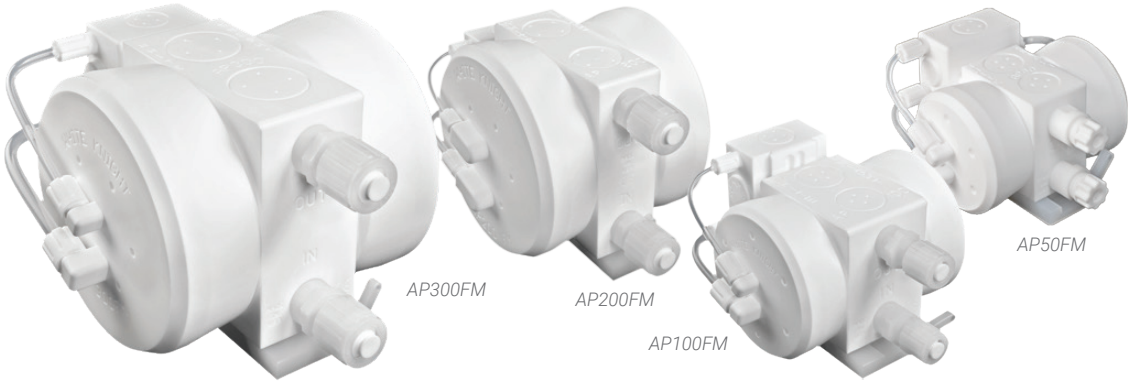
WHITE KNIGHT®
engineer approved™

AP FM SERIES PUMPS

Proven Reliable Recirculation of the Harshest Chemicals

AP FM Series pumps are discontinued. Please upgrade to PSH Series pumps for better performance, improved reliability, shorter lead times, extended pump life, and increased warranty periods. See pump comparison information below or online at: https://wkfluid.com/ap-fm-series/

PTFE/PFA pump for the most stringent semiconductor chemical processing requirements



1 YEAR WARRANTY

PURITY
ULTRA HIGH

RECIRCULATION
UP TO 4 BAR / 60 PSI

TEMPERATURE
UP TO
100˚C
212˚F

Overview

AP FM Series pumps are completely metal-free PTFE/PFA. They are capable of distributing chemicals at temperatures up to 100°C (212°F) and allow for air supply pressures up to 4 Bar (60 psi). The pumps perform safely and reliably running continuously throughout their one-year warranties. The pumps are available in four models AP50FM, AP100FM, AP200FM and AP300FM, which are capable of maximum flow rates of 20, 55, 68 and 115 lpm, respectively.

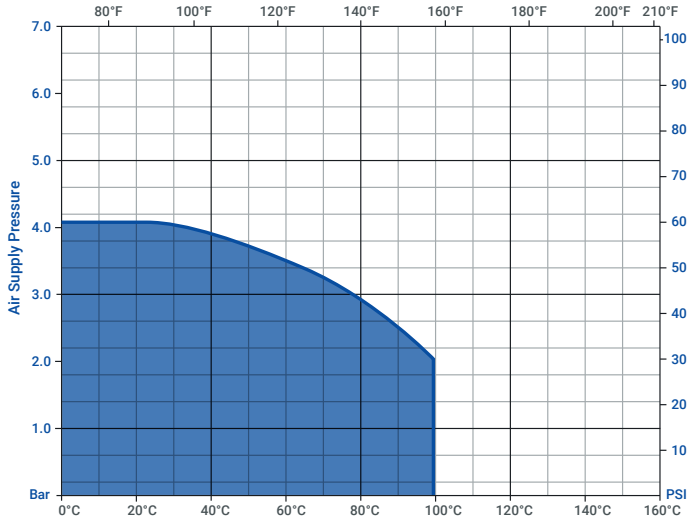
Features & Benefits

- Nonmetal pumps with PTFE/PFA liquid paths
- No elastomer O-rings, no leaks, never retorque
- Safe, leak-free operation due to no-metal design
- Pneumatic Logic™ minimizes pulsation and vibration
- Proven reliable to 200 million+ cycles
- No lubrication in shift mechanisms
- Minimal parts for durable design
- Ceramic in air shuttle valve

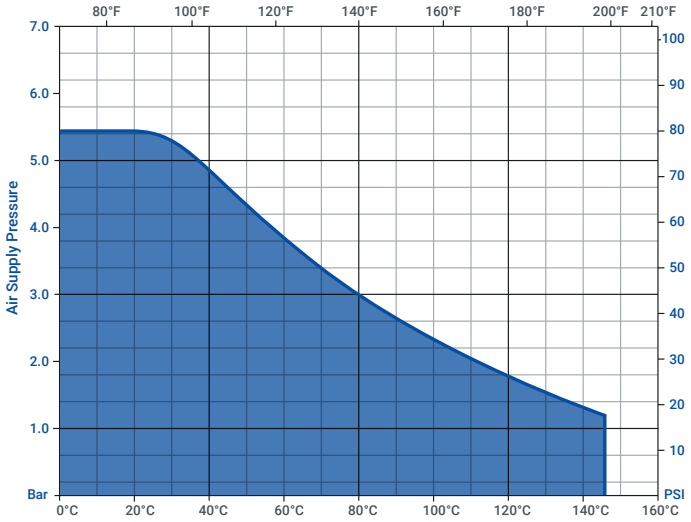
PUMP COMPARISONS

Temperature Limits

AP FM Series



PSH Series



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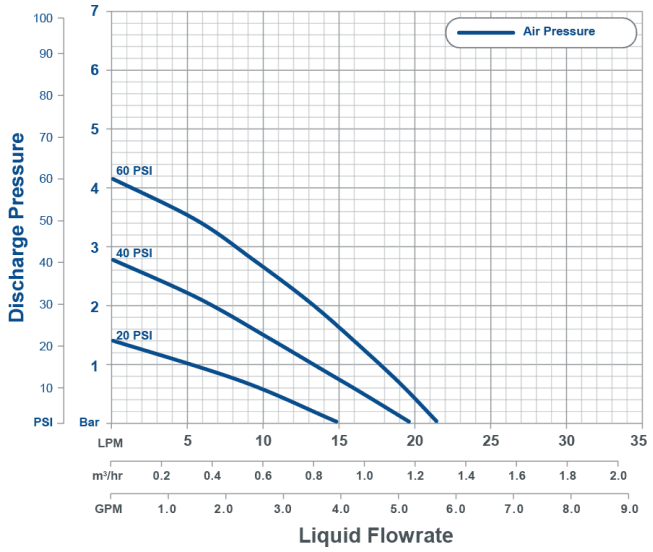
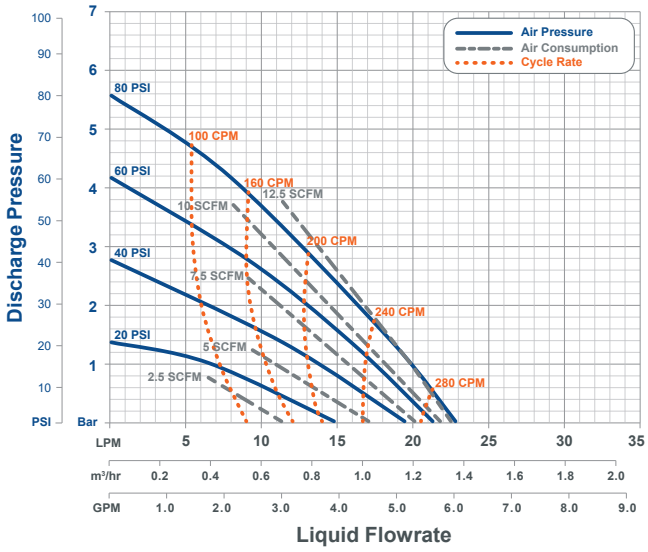
AP50FM - PSH030 COMPARISON

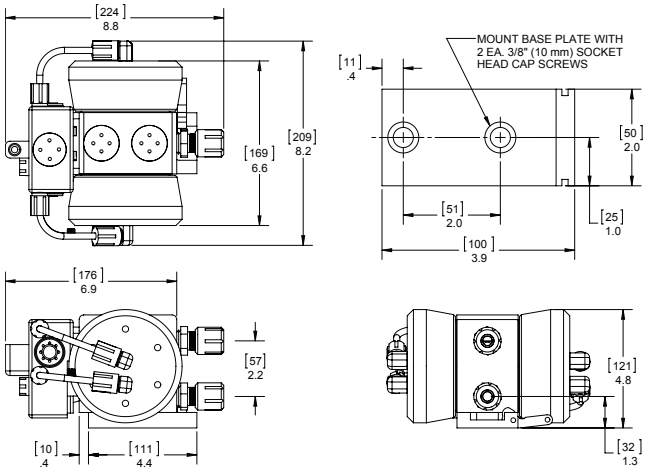
AP50FM Performance



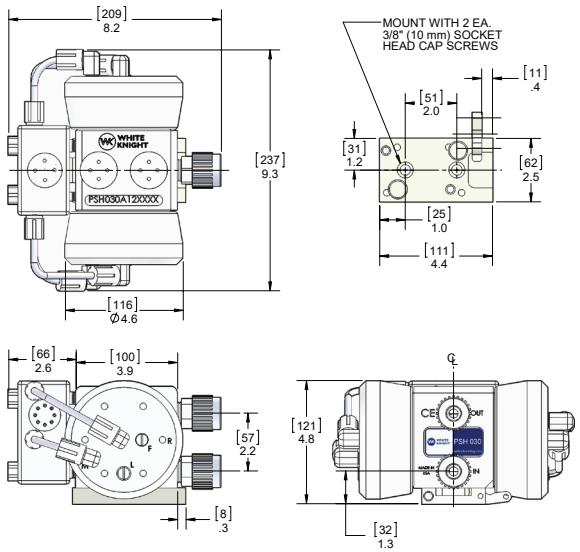
PSH030 Performance



AP50FM Dimensions *[mm] in*



PSH030 Dimensions *[mm] in*



Specifications

Model		AP50FM	PSH030
Max Flow Rate*		20 lpm 5 gpm	22.8 lpm 6.02 gpm
Displacement Per Cycle*		0.076 liters 0.02 gal	0.074 liters 0.019 gal
Cycles per min		≤ 270	≤ 292
Air Connection		1/8, 1/4, or 3/8 in FNPT	1/4 in FNPT
Weight		4.2 kg 9.4 lb	4.6 kg 10.05 lb
Sound	Pressure**	69.38 dB(a) 76.55 dB(a)	74.00 dB(a) 79.90 dB(a)
	Power**	58.52 dB(a) 65.75 dB(a)	63.01 dB(a) 69.90 dB(a)

Model	AP50FM	PSH030
Max Fluid Temperature	100°C 212°F	145°C 293°F
Max Supply Air Pressure	4 Bar 60 psi	5.5 Bar 80 psi
Min Startup Air Pressure	1.4 Bar 20 psi	1.4 Bar 20 psi
Max Suction Lift*	1 m 3 ft	1 m 3 ft
Fluid Path Materials	PTFE, PFA	PTFE, PFA
Non-Fluid Path Materials	PTFE, PFA, Ceramic	PTFE, PFA, Ceramic
Warranty	1 Year	2 Years

All AP FM & PSH Series Models	
Stroke Detection	Fiber optic with or without D10 sensor, or solid state pressure switch (NPN or PNP)
Leak Detection	Fiber optic with or without sensor, or conductivity
Electronic Control	CPC, CPT, or custom. Call for details.

**May vary by configuration. Suction lift diminishes over time. Recommended installation level less than 3 ft above source. **dB at 60 psi 50 CPM (top) and 60 psi max. CPM (bottom). Sound levels measured in accordance with ISO9614-2:1997.*

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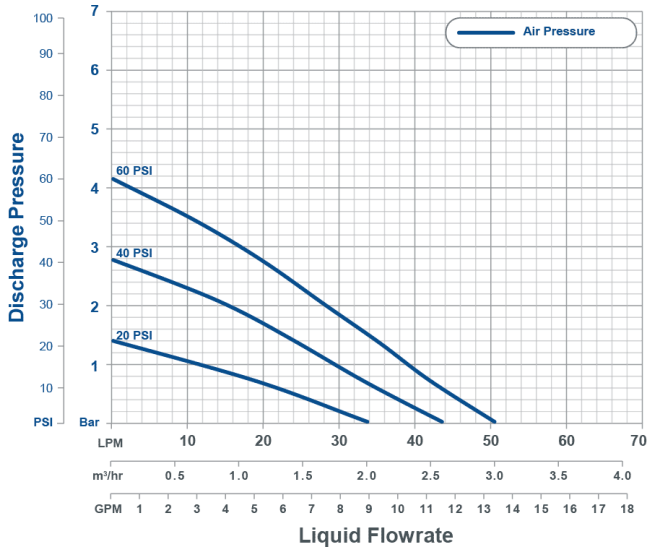
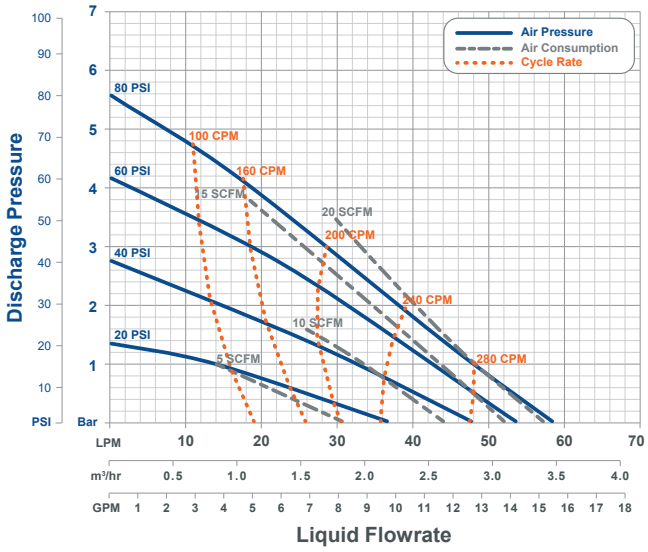
AP100FM - PSH060 COMPARISON

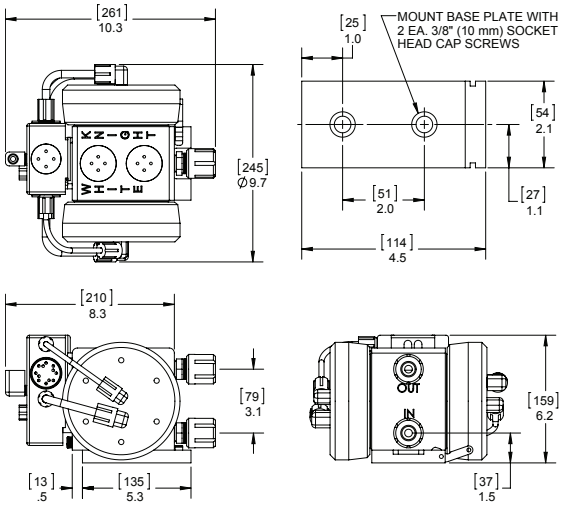
AP100FM Performance



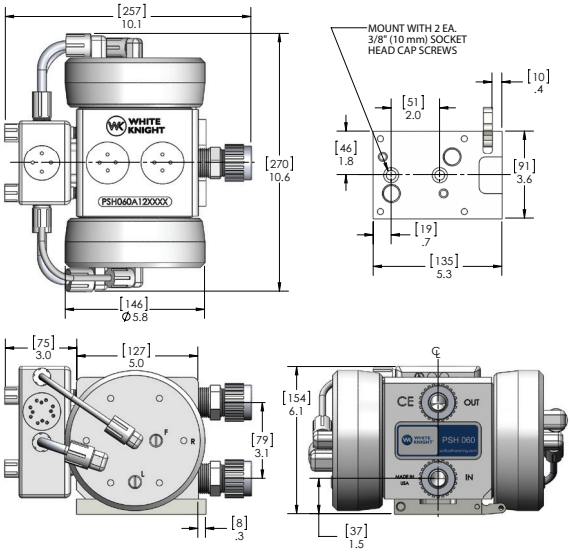
PSH060 Performance



AP100FM Dimensions *[mm] in*



PSH060 Dimensions *[mm] in*



Specifications

Model		AP100FM	PSH060
Max Flow Rate*		55 lpm 14 gpm	58.3 lpm 15.40 gpm
Displacement Per Cycle*		0.189 liters 0.05 gal	0.178 liters 0.047 gal
Cycles per min		≤ 300	≤ 348
Air Connection		1/4 or 3/8 in FNPT	1/4 in FNPT
Weight		7.1 kg 15.6 lb	7.3 kg 16.1 lb
Sound	Pressure**	72.38 dB(a) 79.12 dB(a)	73.11 dB(a) 82.50 dB(a)
	Power**	64.31 dB(a) 71.98 dB(a)	64.29 dB(a) 74.11 dB(a)

Model	AP100FM	PSH060
Max Fluid Temperature	100°C 212°F	145°C 293°F
Max Supply Air Pressure	4 Bar 60 psi	5.5 Bar 80 psi
Min Startup Air Pressure	1.4 Bar 20 psi	1.4 Bar 20 psi
Max Suction Lift*	1 m 3 ft	1 m 3 ft
Fluid Path Materials	PTFE, PFA	PTFE, PFA
Non-Fluid Path Materials	PTFE, PFA, Ceramic	PTFE, PFA, Ceramic
Warranty	1 Year	2 Years

All AP FM & PSH Series Models	
Stroke Detection	Fiber optic with or without D10 sensor, or solid state pressure switch (NPN or PNP)
Leak Detection	Fiber optic with or without sensor, or conductivity
Electronic Control	CPC, CPT, or custom. Call for details.

**May vary by configuration. Suction lift diminishes over time. Recommended installation level less than 3 ft above source. **dB at 60 psi 50 CPM (top) and 60 psi max. CPM (bottom). Sound levels measured in accordance with ISO9614-2:1997.*

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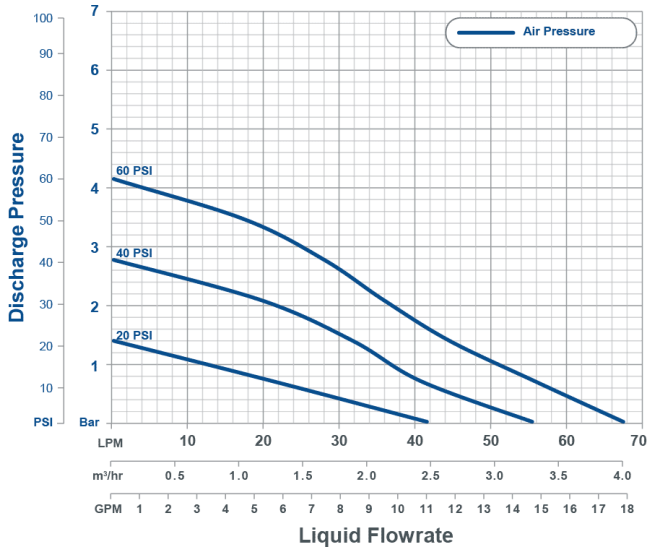
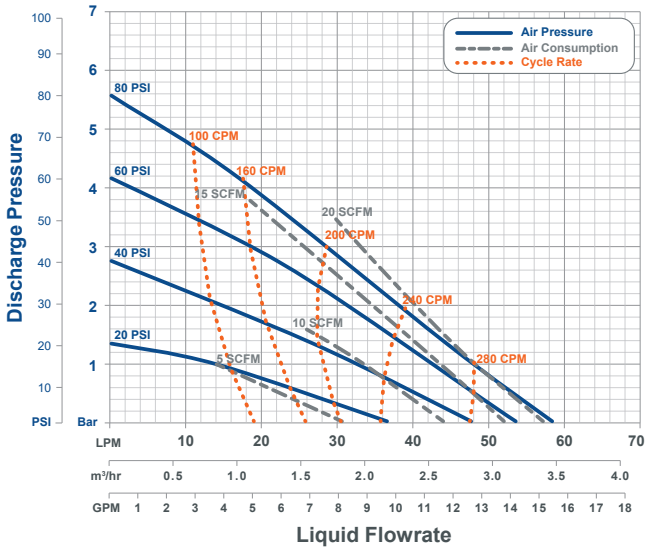
AP200FM - PSH060 COMPARISON

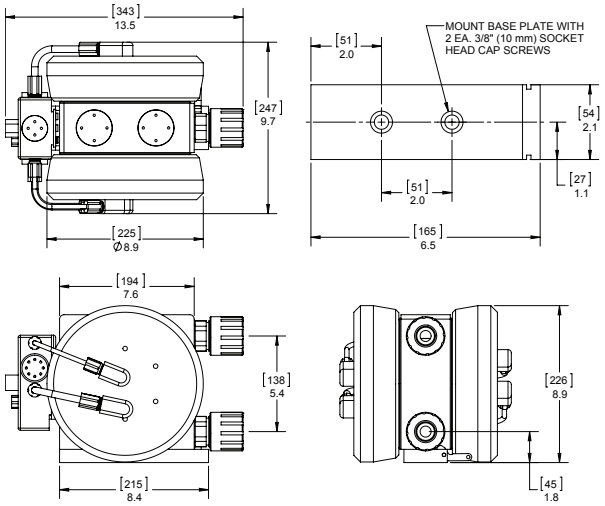
AP200FM Performance



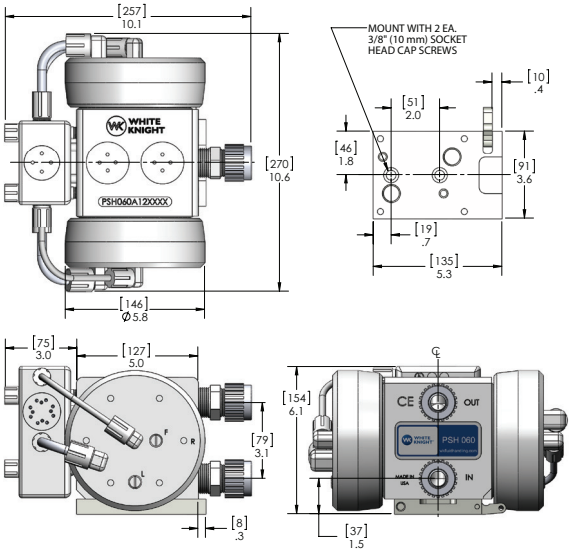
PSH060 Performance



AP200FM Dimensions *[mm] in*



PSH060 Dimensions *[mm] in*



Specifications

Model		AP200FM	PSH060
Max Flow Rate*		68 lpm 17 gpm	58.3 lpm 15.40 gpm
Displacement Per Cycle*		0.454 liters 0.12 gal	0.178 liters 0.047 gal
Cycles per min		≤ 150	≤ 348
Air Connection		1/2 or 3/8 in FNPT	1/4 in FNPT
Weight		16.2 kg 35.8 lb	7.3 kg 16.1 lb
Sound	Pressure**	74.80 dB(a) 82.31 dB(a)	73.11 dB(a) 82.50 dB(a)
	Power**	69.24 dB(a) 77.17 dB(a)	64.29 dB(a) 74.11 dB(a)

Model	AP200FM	PSH060
Max Fluid Temperature	100°C 212°F	145°C 293°F
Max Supply Air Pressure	4 Bar 60 psi	5.5 Bar 80 psi
Min Startup Air Pressure	1.4 Bar 20 psi	1.4 Bar 20 psi
Max Suction Lift*	1 m 3 ft	1 m 3 ft
Fluid Path Materials	PTFE, PFA	PTFE, PFA
Non-Fluid Path Materials	PTFE, PFA, Ceramic	PTFE, PFA, Ceramic
Warranty	1 Year	2 Years

All AP FM & PSH Series Models	
Stroke Detection	Fiber optic with or without D10 sensor, or solid state pressure switch (NPN or PNP)
Leak Detection	Fiber optic with or without sensor, or conductivity
Electronic Control	CPC, CPT, or custom. Call for details.

**May vary by configuration. Suction lift diminishes over time. Recommended installation level less than 3 ft above source. **dB at 60 psi 50 CPM (top) and 60 psi max. CPM (bottom). Sound levels measured in accordance with ISO9614-2:1997.*

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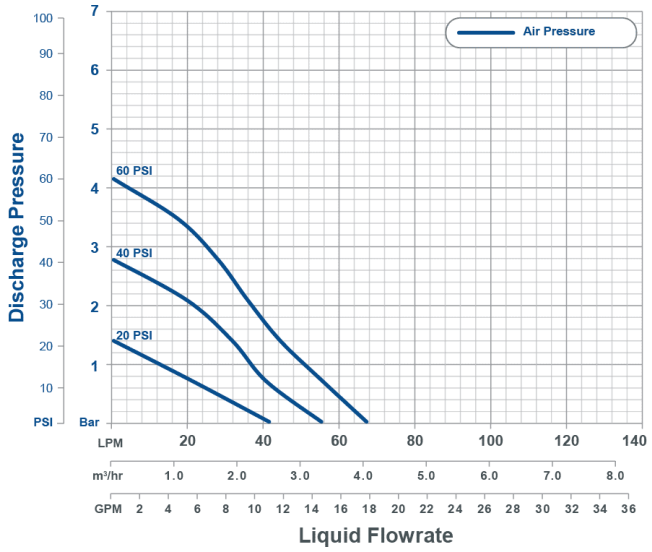
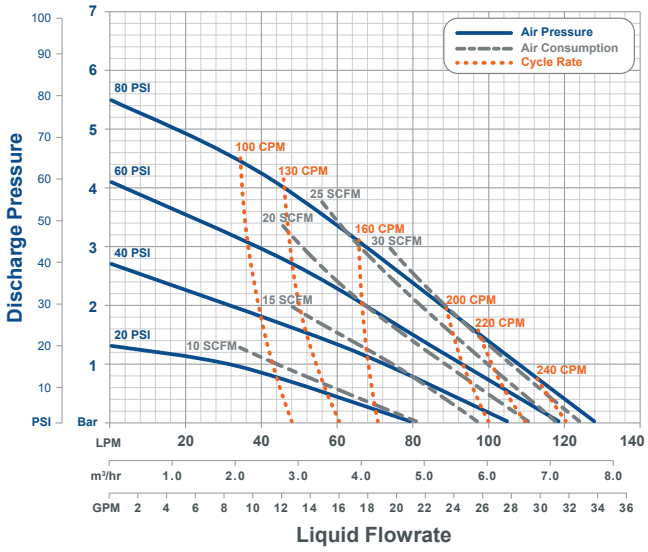
AP200FM - PSH140 COMPARISON

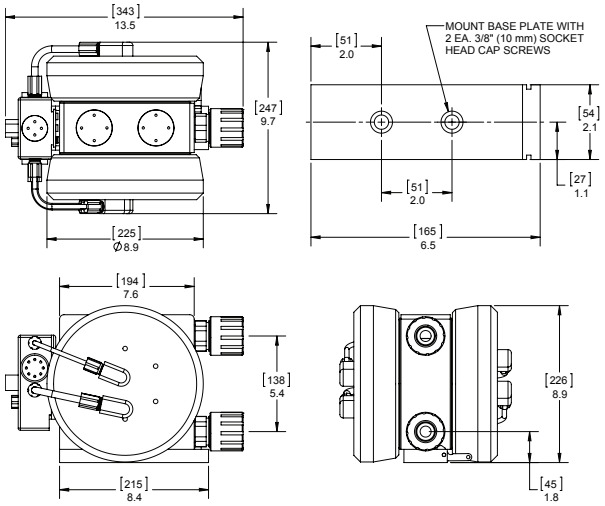
AP200FM Performance



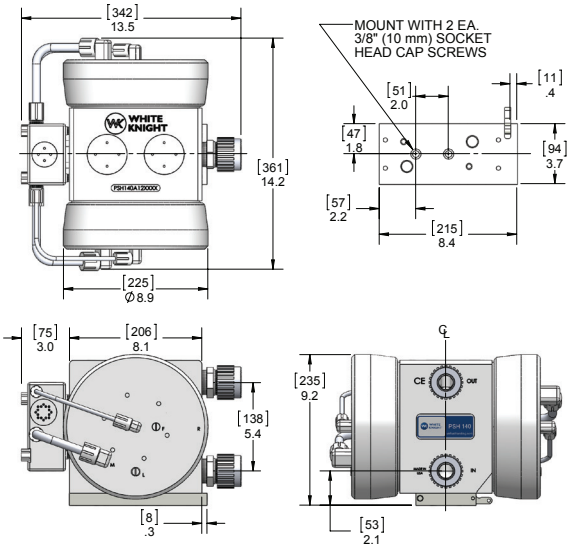
PSH140 Performance



AP200FM Dimensions *[mm] in*



PSH140 Dimensions *[mm] in*



Specifications

Model		AP200FM	PSH140
Max Flow Rate*		68 lpm 17 gpm	118 lpm 31.3 gpm
Displacement Per Cycle*		0.454 liters 0.12 gal	0.500 liters 0.132 gal
Cycles per min		≤ 150	≤ 254
Air Connection		1/2 or 3/8 in FNPT	3/8 in FNPT
Weight		16.2 kg 35.8 lb	18.5 kg 40.9 lb
Sound	Pressure**	74.80 dB(a) 82.31 dB(a)	71.73 dB(a) 75.42 dB(a)
	Power**	69.24 dB(a) 77.17 dB(a)	70.46 dB(a) 75.27 dB(a)

Model	AP200FM	PSH140
Max Fluid Temperature	100°C 212°F	145°C 293°F
Max Supply Air Pressure	4 Bar 60 psi	5.5 Bar 80 psi
Min Startup Air Pressure	1.4 Bar 20 psi	1.4 Bar 20 psi
Max Suction Lift*	1 m 3 ft	1 m 3 ft
Fluid Path Materials	PTFE, PFA	PTFE, PFA
Non-Fluid Path Materials	PTFE, PFA, Ceramic	PTFE, PFA, Ceramic
Warranty	1 Year	2 Years

All AP FM & PSH Series Models	
Stroke Detection	Fiber optic with or without D10 sensor, or solid state pressure switch (NPN or PNP)
Leak Detection	Fiber optic with or without sensor, or conductivity
Electronic Control	CPC, CPT, or custom. Call for details.

**May vary by configuration. Suction lift diminishes over time. Recommended installation level less than 3 ft above source. **dB at 60 psi 50 CPM (top) and 60 psi max. CPM (bottom). Sound levels measured in accordance with ISO9614-2:1997.*

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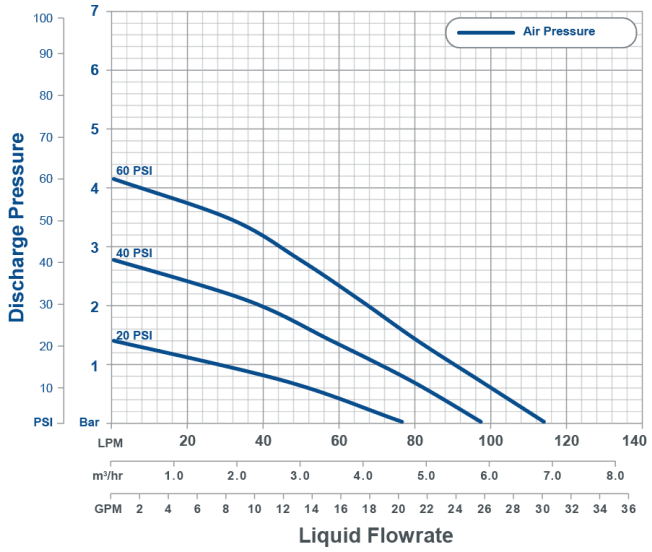
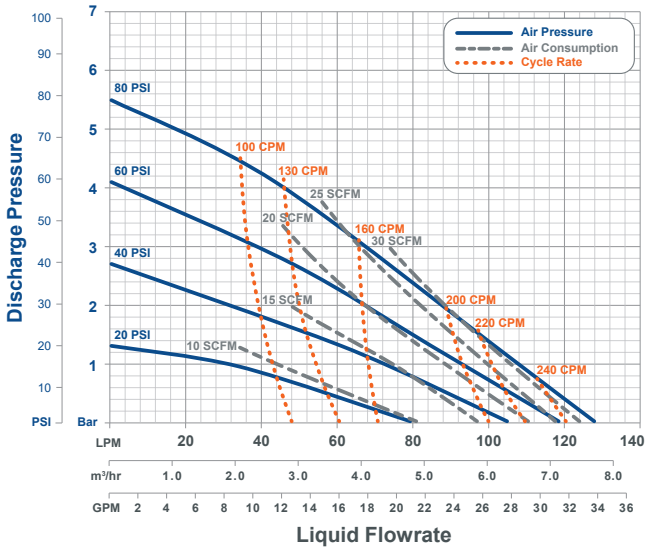
AP300FM - PSH140 COMPARISON

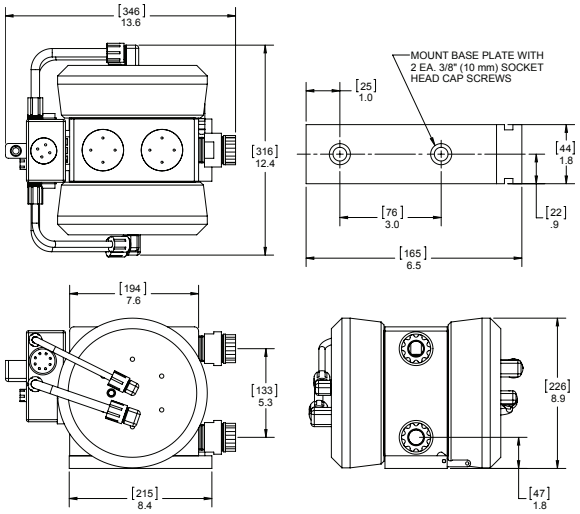
AP300FM Performance



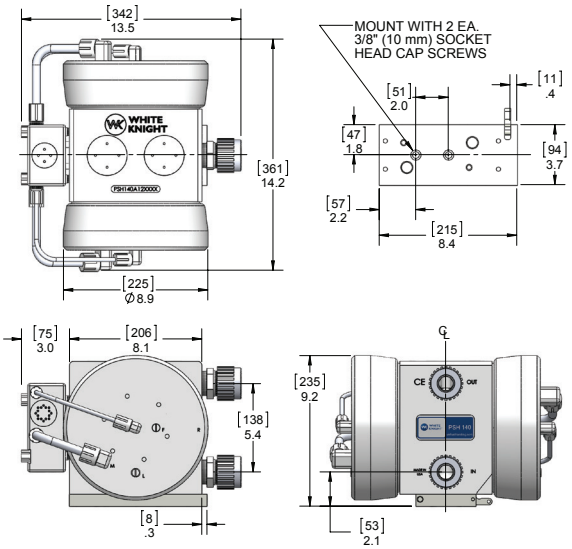
PSH140 Performance



AP300FM Dimensions *[mm] in*



PSH140 Dimensions *[mm] in*



Specifications

Model		AP300FM	PSH140
Max Flow Rate*		115 lpm 30 gpm	118 lpm 31.3 gpm
Displacement Per Cycle*		0.719 liters 0.19 gal	0.500 liters 0.132 gal
Cycles per min		≤ 160	≤ 254
Air Connection		1/2 or 3/8 in FNPT	3/8 in FNPT
Weight		19.0 kg 41.8 lb	18.5 kg 40.9 lb
Sound	Pressure**	74.80 dB(a) 82.31 dB(a)	71.73 dB(a) 75.42 dB(a)
	Power**	69.24 dB(a) 77.17 dB(a)	70.46 dB(a) 75.27 dB(a)

Model	AP300FM	PSH140
Max Fluid Temperature	100°C 212°F	145°C 293°F
Max Supply Air Pressure	4 Bar 60 psi	5.5 Bar 80 psi
Min Startup Air Pressure	1.4 Bar 20 psi	1.4 Bar 20 psi
Max Suction Lift*	1 m 3 ft	1 m 3 ft
Fluid Path Materials	PTFE, PFA	PTFE, PFA
Non-Fluid Path Materials	PTFE, PFA, Ceramic	PTFE, PFA, Ceramic
Warranty	1 Year	2 Years

All AP FM & PSH Series Models	
Stroke Detection	Fiber optic with or without D10 sensor, or solid state pressure switch (NPN or PNP)
Leak Detection	Fiber optic with or without sensor, or conductivity
Electronic Control	CPC, CPT, or custom. Call for details.

**May vary by configuration. Suction lift diminishes over time. Recommended installation level less than 3 ft above source. **dB at 60 psi 50 CPM (top) and 60 psi max. CPM (bottom). Sound levels measured in accordance with ISO9614-2:1997.*

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