

AutoPump Automatic Air-powered Pumps



Automatic air-powered pumps offer exceptional capabilities in the severe pumping conditions found at many landfill and remediation sites. QED's patented AutoPump originated the automatic air-powered pump concept in 1986 and have lead the industry ever since. AutoPumps were designed specifically to handle difficult conditions reliably and safely, including hydrocarbons, landfill lechates and condensates, solvents, suspended solids, silts, corrosives, and high viscosities, along with high temperatures and frequent starts and stops. Air-powered AutoPumps are proven worldwide at thousands of sites, which is why AutoPumps are the No. 1 choice of professionals based on reliability, durability, performance range and technical support.

The superiority of the AutoPump design is based on four key strengths:

- high clearance fluid pathways
- using air as the motive force
- materials of construction matched to site conditions
- a simple yet rugged operating mechanism

Unlike electric pumps, air-powered AutoPumps use no high-speed motors, bearings or impellers, so AutoPumps don't heat up, sieze up or get ground up. AutoPumps do not agitate the liquid which is typical of electric pumps. Air-powered also means eliminating the dangers and costs of electricity at and in the well. Finally, AutoPumps actually have a built-in control system - they pump when there is liquid present and shut down when the level is drawn down, without the need for any sensors in the well or controls at the surface.

Application Excellence

Remediation applications and landfill fluids pumping are very challenging. QED is dedicated to providing a comprehensive approach to meeting the specific needs of each site and well, taking into account many factors beyond just flow rate and depth, such as:

- Preferred inlet position- top or bottom
- Pump length to match water column and meet drawdown requirements
- A broad range of materials of construction to match fluid properties and temperature
- Jacketed tubing sets, bundled hose and quick-connect options to ease installation and service
- A wide variety of standard and custom wellhead completions to fit site needs

Experience and Expertise

The AutoPump specialists at QED have unsurpassed experience in both typical and special applications, providing the quality and care that makes a difference. Call us at 1-800-624-2026 for prompt, professional assistance, or visit our web site at www.gedenv.com to access product and application information.





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Air Intake [Fluid Outlet

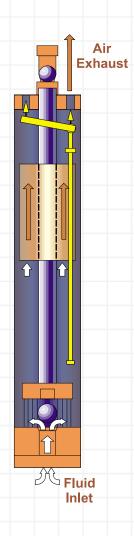
How AutoPumps Work

Fill Cycle

The fluid pushes the inlet check valve open and fluid enters the pump.

As the fluid level rises, air is expelled through the exhaust air valve and the internal float rises to the top of its stroke.

In this upper position, the float triggers a lever assembly, which closes the air exhaust valve and opens the air inlet allowing air to enter and pressurize the pump.



Discharge Cycle

With the air inlet open, air pressure builds up within the pump body. This causes the fluid inlet check valve to close and forces the fluid to be displaced up and out of the fluid outlet.

As the fluid level falls, the float moves downward to the bottom of its stroke.

In this lower position, the float triggers the lever assembly to close the air supply and open the air exhaust valve. And a new cycle begins.

Note: This illustration is for a bottom filling format. A top loader is also available with both the inlet and discharge at the top of the pump.

AutoPump Reliability

The AutoPump operating cycle diagrams and explanation above tell just part of the story of AutoPump technology. Engineering an automatic pump to function in clear water is just the start. The real secrets of AutoPump durability and reliability are based on over 18 years of site experience in difficult pumping applications. AutoPumps are designed to resist chemical attack, abrasive wear, mechanical wear, solids deposits, viscous fluids and elevated temperatures. The entire air valve control mechanism has been refined in many subtle ways to survive these severe pumping conditions, using special materials, tolerances, and safety factors to provide years of trouble-free cycling. AutoPumps are the first of their kind, first in design experience, and first in reliability and durability.



Why AutoPumps Are Better

Tubing and Hose Sets- Special jacketed nylon tubing sets, another QED first, provide the ultimate in chemical resistance, light weight, easy handling and small downwell profile. Hose bundles use high grade materials and provide flexibility advantages in many installations.

Fittings- Special AutoPump barbs provide massive pull-out strength with tubing and hose, and many quick-connect options are offered to ease installation and service

Discharge Check Valve- High flow, wear resistance, easy, complete disassembly and optional materials are additional examples of AutoPump design leadership

Discharge Head- All AutoPumps use Stainless Steel discharge heads for longterm wear and durability Patented, proven Air Control Mechanism-AutoPumps use the most proven air control mechanisms available to provide reliable cycling over many years, resisting solids buildup, chemical attack and wear

Float- Special float materials and metal end plates are designed to resist chemical attack, buoyancy changes and wear, to provide the power to drive the air control mechanism reliably

Casing- Fiberglass casings are lightweight and dent-proof; Stainless Steel options are available for special conditions

Intake Valve- Rugged, high-clearance inlet check valves provide high flow yet resist wear due to pumping abrasive solids. Careful material selection ensures durability

Inlet Screen- Different lengths and materials are available to handle site-specific requirements

Guide to AutoPump Selection

Quick Guide to AutoPump Selection

An important advantage of an AutoPump system is the wide range of choices to truly match site needs. Below is a quick guide to the major configurations and options offered in the AutoPump line, to help you determine which models are best for your project. Of course, you can just call us at 1-800-624-2026, or email us at info@gedenv.com, for fast, personal service by our application specialists.

As a general guideline, pump model selection is usually based on the following primary application criteria. They are presented in the common sequence of consideration, but special site needs may alter the priority.

- Maximum flow and depth- pump model, depth, submergence and drive pressure determine the maximum flow rate that can be achieved; see specific pump curves for detailed flow information
- Pump Diameter- to fit the well ID; also, larger diameter pumps deliver higher flow rates, all other factors being equal
- Inlet Position- top or bottom inlet; a top inlet enhances removal of LNAPLs, while bottom inlets provide the highest flow rates and greatest solids-handling capacity for DNAPL, dissolved and landfill fluids
- Actuation Level- minimum height of liquid needed to actuate the pump, also equal to the minimum drawdown level; low-drawdown models are optimized for maximum drawdown
- Materials of construction- many models are available in upgraded materials for special applications, such as extremes of pH, suspended solids, high temperatures and aggressive solvents

AutoPumps	Model	Pg#	Inlet Position	Out. Diameter in/cm	Overall Length in/cm	Max. Flow ¹ gpm/lpm	Max. Depth ft/m	Act. Leve in/cm
4" Bottom Inlet AP Pumps								
Long AP4-Bottom Inlet	Long AP4B	6	Bottom	3.5 / 8.9	53 / 135	14 / 53	425 / 130 ²	35 / 89
Short AP4-Bottom Inlet	Short AP4B	10	Bottom	3.5 / 8.9	41 / 104	13 / 49	425 / 130 ²	27 / 69
Low Drawdown AP4-Bottom Inlet	LD AP4B	14	Bottom	3.5 / 8.9	28 / 71	7 / 26.5	250 / 76	13 / 33.0 ³
4" Bottom Inlet HammerHead Pro Pur								
HammerHead Pro-Bottom Inlet	Long HHP4B	18	Bottom	3.5 / 8.9	51 / 130	13.5 / 51.1	250 / 76	33 / 83.8
4" Top Inlet AP Pumps								
Long AP4-Top Inlet	Long AP4T	22	Тор	3.5 / 8.9	57 / 145	10 / 38	425 / 130 ²	52 / 132
Short AP4-Top Inlet	Short AP4T	26	Тор	3.5 / 8.9	42 / 107	9 / 34	425 / 130 ²	37 / 94
Low Drawdown AP4-Top Inlet	LD AP4T	30	Тор	3.5 / 8.9	29 / 74	6.4 / 24	250 / 76	24 / 62
4" Top Inlet HammerHead Pro Pumps								
HammerHead Pro-Top Inlet	Long HHP4T	34	Тор	3.5 / 8.9	56 / 142.2	9.8 / 37.1	250 / 76	53 / 134.
3" Bottom Inlet AP Pumps								
Long AP3-Bottom Inlet	Long AP3B	38	Bottom	2.63 / 6.68	52 / 132	7.3 / 27.6	220 / 67	31 / 79
Short AP3-Bottom Inlet	Short AP3B	42	Bottom	2.63 / 6.68	42 / 107	6 / 22.7	175 / 53.3	22 / 56
3"Top Inlet AP Pumps								
Long AP3-Top Inlet	Long AP3T	46	Тор	3.4 / 8.644	57 / 145	5.4 / 20	220 / 67	53 / 135
Short AP3-Top Inlet	Short AP3T	50	Тор	3.4 / 8.644	47 / 119	4.8 / 18.1	175 / 53.3	42 / 107
2" Bottom Inlet AP Pumps								
Long AP2-Bottom Inlet	Long AP2B	54	Bottom	1.75 / 4.45	55 / 139	2.3 / 8.82	300 / 91.4	35 / 88.9
Short AP2-Bottom Inlet	Short AP2B	58	Bottom	1.75 / 4.45	33 / 85	2 / 7.57	300 / 91.4	20 / 51
2" Top Inlet AP Pumps								
Long AP2-Top Inlet	Long AP2T	62	Тор	1.75 / 4.45	57 / 144	1.9 / 7.2	300 / 91.4	52 / 132
Short AP2-Top Inlet	Short AP2T	66	Тор	1.75 / 4.45	35 / 89	1.6 / 6.0	300 / 91.4	31 / 77.2
10								

¹ Consult QED for higher flow requirements

² High Pressure Option for 4" AP pumps

 $^{^{3}}$ Optional radial inlet model provides 11.5" / 29 cm actuation level

⁴ Optional 2.63" (6.68cm) OD available

Complete Systems

Complete AutoPump® systems offer the greatest assurance of a smooth installation, dependable performance and easy maintenance. Common system components include:

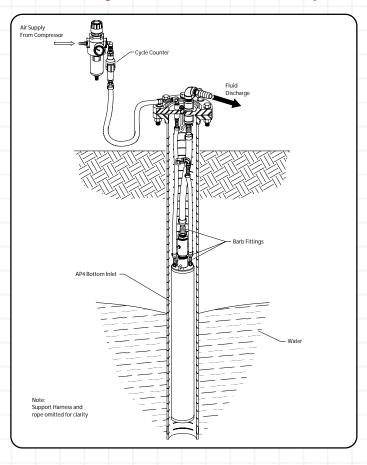
- In-well hose and tubing see page 70
- · Barbs, quick-connects and other fitting options see page 71
- Wellhead completion caps and flanges see page 71
- Cycle counters and flow meters see page 72
- Air system filter/regulators see page 73

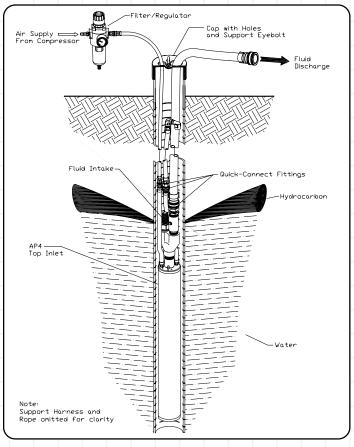
Call or visit www.qedenv.com for prompt assistance with all of the above.

Basic Pump Systems

Basic System Bottom Inlet Pump

Basic System Top Inlet Pump





AP4B Bottom Inlet, Long

Max. Flow 14 gpm (60 lpm)*

O.D. 3.5 in (8.9 cm)

Length 53 in. (135 cm)



- 1. The original automatic airpowered well pump, proven worldwide over 18 years
- 2. The highest flow rates and deepest pumping capabilities in the industry
- 3. Patented, proven design for superior reliability and durability, even in severe applications
- 4. Handles solids, solvents, hydrocarbons corrosive conditions, viscous fluids and high temperatures beyond the limits of electric pumps
- 5. Five-year warranty

Description

The AP4 Bottom Inlet Long AutoPump provides maximum capabilities and flow in a bottom inlet pump for 4" (100 mm) diameter and larger wells. The base model delivers flow rates up to 14 gpm (53 lpm)*, and optional versions are offered to handle even the most severe remediation and landfill pumping applications. The AP4 Long Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, noobligation assistance on your pumping project needs.

The AutoPump Heritage

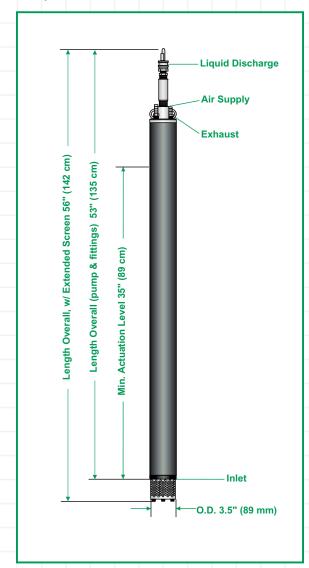
The AP4 Bottom Inlet Long AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as hydrocarbons, solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, wellhead caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.



Bottom Inlet, Long



Pump Dimensions



Specifications & Operating Requirements

Standard Pump

Model 4" - Long AP4 Bottom Inlet Bottom **Liquid Inlet Location** 3.5 in. (8.9 cm) Length Overall (pump & fittings) 53 in. (135 cm) Length Overall, w / Extended Screen 56 in. (142 cm) Weight 16 lbs. (7.3 kg) Max. Flow Rate 14 gpm (53 lpm) - See Flow Rate Chart* Pump Volume / Cycle 0.58 - 0.78 gal (2.2 - 3.0L) Min. Actuation Level 35 in. (89 cm)

Max. Depth Air Pressure Range Air Usage O.4-1.1 scf / gal. (3.0-8.5 liter of air / fluid liter) - See Air usage chart

 Max. Depth
 425 ft. (130 m)

 Air Pressure Range
 5 - 200 psi (0.4 - 14.1 kg/cm2)

Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials¹
Pump Body
Pump Ends
Pump Ends
Internal Components

Stainless Steel, UHMWPE³, Brass
Stainless Steel, Viton, Acetal, PVDF⁴

Tube & Hose Fittings Brass or Stainless Steel Barbs or Quick Connects

Tube & Hose Options
Tubing Material² Nylon

Sizes - Liquid Discharge 1 in. (25 mm) or 1.1/4 in. (32 mm) OD

Pump Air Supply 1/2 in. (13 mm) OD

Air Exhaust 5/8 in. (16 mm) OD

Hose Material Nitrile

Sizes Liquid Discharge 3/4 in. (19 mm) or 1 in. (25 mm) ID.

Sizes - Liquid Discharge Pump Air Supply 3/4 in. (19 mm) or 1 in. (25 mm) ID 3/8 in. (9.5 mm) ID 1/2 in. (13 mm) ID

¹ Material upgrades available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

³ UHMWPE - Ultra High Molecular Weight Polyethylene

⁴ PVDF - Polyvinylidene Fluoride

Application Limits (Base model)

AP4 AutoPumps are designed to handle the application ranges described below. For applications outside these ranges, consult QED about AP4 upgrades.

Maximum Temperature: 150°F (65°C)

pH Range: 4-9

Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

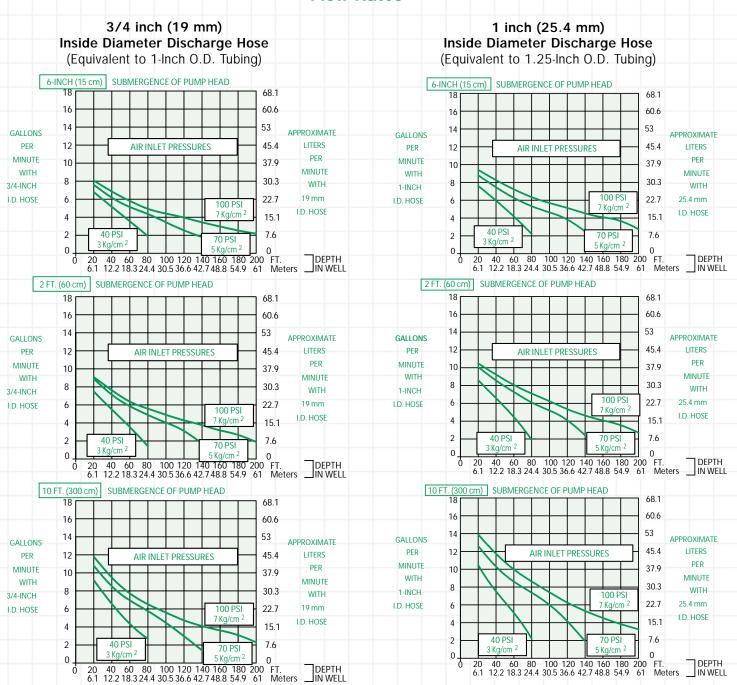
*Consult QED for higher flow requirements

Long and short AP-4 AutoPumps are warranted for five (5) years: 100% materials and workmanship first three (3) years; 50% materials and workmanship for the fourth (4th) and fifth (5th) years.

Low-Drawdown AutoPumps are warranted for one (1) year.



Flow Rates¹



1FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



Air Consumption



1.6 12 3/4 inch (19 mm) Inside Diameter Discharge Hose 1.5 (Equivalent to 1-Inch O.D. Tubing) 10.5 1.4 9.7 1.3 9.0 1.2 1.1 8.2 **APPROXIMATE** STANDARD 1.0 7.5 LITER OF AIR PER .9 6.7 LITER PUMPED (STD L/LITER) .8 6.0 5.2 .6 4.5 3.7 3.0 2.2 .3 200 FT. 61 Meters DEPTH IN WELL 140 160 180 42.7 48.8 54.9 100 120 30.5 36.6 80 12.2 18.3 24.4

Inside Diameter Discharge Hose 11.2 1.5 (Equivalent to 1.25-Inch O.D. Tubing) 10.5 1.4 9.7 1.3 1.2 9.0 1.1 APPROXIMATE STANDARD 7.5 LITER OF AIR 10 6.7 LITER PUMPED .9 (STD L/LITER) .8 6.0 5.2 7 4.5 .6 5 3.7 3.0 4 2.2 .3 2 1.5 200 FT. 61 Meters

42.7

48.8

STANDARD

STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED

36.6

54.9

1 inch (25.4 mm)

AP4B Bottom Inlet, Short

Max. Flow 13 gpm (49 lpm)

O.D. 3.5 in (8.9 cm)

Length 41 in. (104 cm)



- 1. The original automatic airpowered well pump, proven worldwide over 18 years
- 2. The highest flow rates and deepest pumping capabilities in the industry
- 3. Patented, proven design for superior reliability and durability, even in severe applications
- 4. Handles solids, solvents, hydrocarbons corrosive conditions, viscous fluids and high temperatures beyond the limits of electric pumps
- 5. Five-year warranty



The AP4 Bottom Inlet Short AutoPump provides maximum capabilities and flow in a bottom inlet pump for 4" (100 mm) diameter and larger wells with shorter water columns and/or the need to pump down to lower water levels, compared to full-length pumps. It is offered in optional versions to handle even the most severe remediation and landfill pumping applications, and delivers flow rates up to 13 gpm (49 lpm)*. The AP4 Short Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

The AP4 Bottom Inlet Short AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as hydrocarbons, solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/ stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, wellhead caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.

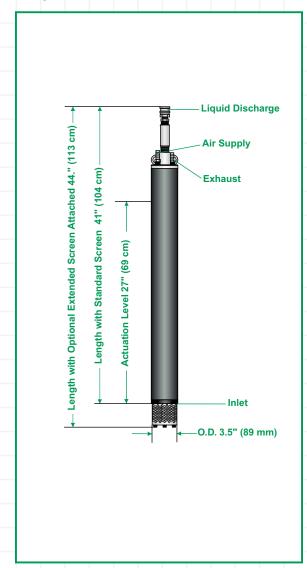




Bottom Inlet, Short



Pump Dimensions



Specifications & Operating Requirements

Model 4" - Short AP4 Bottom Inlet **Liquid Inlet Location Bottom** 3.5 in. (8.9 cm) Length Overall (pump & fittings) 41 in. (104 cm) Length Overall, w / Extended Screen 44 in. (112 cm) Weight 13 lbs. (5.9 kg) Max. Flow Rate 13 gpm (49 lpm)* - See Flow Rate Chart Pump Volume / Cycle 0.22 - 0.36 gal (.83 - 1.36L) Min. Actuation Level 27 in. (69 cm)

> Standard Pump Max. Depth

250 ft. (76 m)

Air Pressure Range 5 - 120 psi (0.4 - 8.4 kg/cm2) Air Usage

0.4-1.5 scf / gal. (1.5 - 5.7 liter of air /

fluid liter) - See air usage chart

High Pressure Pump

425 ft. (130 m) Max. Depth

Air Pressure Range 5 - 200 psi (0.4 - 14.1 kg/cm2)

Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials¹

Pump Body Fiberglass or Stainless Steel **Pump Ends** Stainless Steel, UHMWPE3, Brass **Internal Components** Stainless Steel, Viton, Acetal, PVDF4 Tube & Hose Fittings Brass or Stainless Steel

Fitting Type Barbs or Quick Connects

Tube & Hose Options Tubing Material² Sizes - Liquid Discharge

Nvlon 1 in. (25 mm) or 1-1/4 in. (32 mm) OD

Pump Air Supply 1/2 in. (13 mm) OD Air Exhaust Hose Material

5/8 in. (16 mm) OD Nitrile

Sizes - Liquid Discharge Pump Air Supply Air Exhaust

3/4 in. (19 mm) or 1 in. (25 mm) ID 3/8 in. (9.5 mm) ID 1/2 in. (13 mm) ID

¹ Material upgrades available ² Applies to QED supplied tubing: other tubing sources may not conform to QED fittings.

³ UHMWPE - Ultra High Molecular Weight Polyethylene ⁴ PVDF - Polyvinylidene Fluoride

Application Limits (Base model)

AP4 AutoPumps are designed to handle the application ranges described below. For applications outside these ranges, consult QED about AP4 upgrades.

Maximum Temperature: 150°F (65°C)

pH Range: 4-9

Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

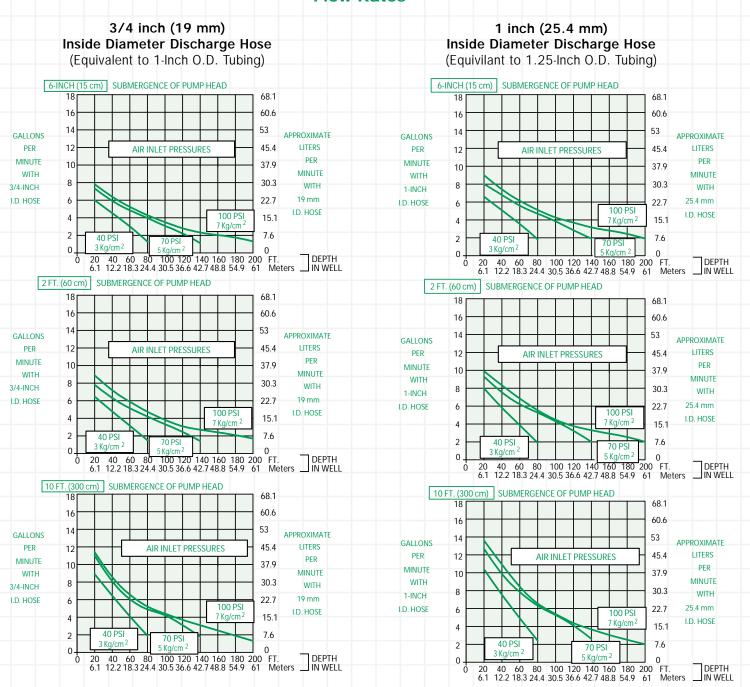
*Consult QED for higher flow requirements

Long and short AP-4 AutoPumps are warranted for five (5) years: 100% materials and workmanship first three (3) years: 50% materials and workmanship for the fourth (4th) and fifth (5th) years.

Low-Drawdown for the AutoPumps are warranted for one (1) year.



Flow Rates¹



1FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



Air Consumption



12 3/4 inch (19 mm) Inside Diameter Discharge Hose 1.5 (Equivalent to 1-Inch O.D. Tubing) 10.5 1.4 1.3 9.7 1.2 9.0 1.1 **APPROXIMATE** STANDARD 1.0 LITER OF AIR PFR 6.7 LITER PUMPED .9 (STD L/LITER) .8 6.0 .7 5.2 4.5 .6 3.7 .5 3.0 2.2 120 36.6 140 160 180 42.7 48.8 54.9 200 FT. DEPTH 61 Meters IN WELL

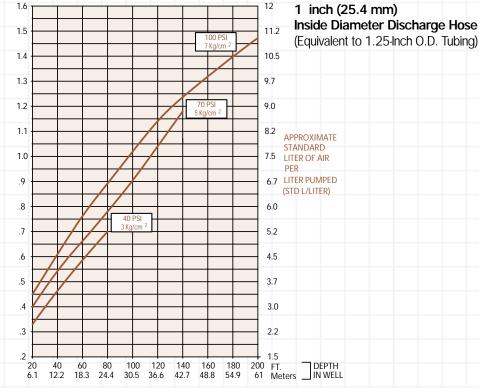
STANDARD **CUBIC FEET OF AIR** GALLON PUMPED (SCF/GAL)

STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED



LDAP4B Low-Drawdown, Bottom Inlet

Max. Flow 7.0 gpm (26.5 lpm)

O.D. 3.5 in (8.9 cm)

Length 25 in. (63.5 cm)

Advantages

- 1. The original automatic airpowered well pump, proven worldwide over 18 years
- 2. The highest flow rates and deepest pumping capabilities in the industry in a low drawdown top-fill pump
- 3. Patented, proven design for superior reliability and durability, even in severe applications
- 4. Handles solids, solvents, hydrocarbons corrosive conditions, viscous fluids and high temperatures beyond the limits of electric pumps
- 5. One-year warranty

Description

The AP4 Low-Drawdown Bottom Inlet AutoPump provides maximum capabilities and flow in a bottom inlet pump for 4" (100 mm) diameter and larger wells with very short water columns and/or the need to pump down to as low as 11.5 inches (29 cm) above the bottom. It is offered in optional versions to handle even the most severe remediation and landfill pumping applications, and delivers flow rates up to 7 gpm (26.5 lpm). The AP4 Low Drawdown Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

The AP4 Low-Drawdown Bottom Inlet AutoPump is part of the famous AutoPump family of original automatic airpowered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as hydrocarbons, solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, wellhead caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.





Low-Drawdown, Bottom Inlet



4" - Low-Drawdown AP4 Bottom Inlet

Pump Dimensions



Specifications & Operating Requirements

Model

IVIOUCI	T - LOW-DI AWAOWII AI T DOLLOIII IIIICL
Liquid Inlet Location	Bottom (standard plug type check valve)
OD	3.5 in. (8.9 cm)
Length Overall (pump & fittings)	25 in. (63.5 cm)
Length Overall, w / Extended Screen	28 in. (71.1 cm)
Weight	11 lbs. (5.0 kg)
Max. Flow Rate	7 gpm (26.5 lpm)
Pump Volume / Cycle	0.11 - 0.16 gal (.4261L)
Max. Depth	250 ft. (76 m)
Air Pressure Range	5 - 120 psi (0.4 - 8.4 kg/cm2)
Min. Actuation Level	13 in. (33.2 cm) standard outlet
	11.5 in. (29 cm) w/ radial inlet
Air Usage	.32 - 2.86 scf/gal (2.2 - 21.5 litres of air/fluid
	litres) See air usage chart
Min. Liquid Density	0.7 SpG (0.7 g/cm3)
Standard Construction Materials ¹	
Pump Body	Fiberglass or Stainless Steel
Pump Ends	Stainless Steel, UHMWPE ³ , Brass
Internal Components	Stainless Steel, Viton, Acetal, PVDF ⁴
Tube & Hose Fittings	Brass or Stainless Steel
Fitting Type	Barbs or Quick Connects
Tube & Hose Options	
Tubing Material ²	Nylon
Sizes - Liquid Discharge	1 in. (25 mm) or 1-1/4 in. (32 mm) OD
Pump Air Supply	1/2 in. (13 mm) OD
Air Exhaust	5/8 in. (16 mm) OD
Hose Material	Nitrile
Sizes - Liquid Discharge	3/4 in. (19 mm) or 1 in. (25 mm) ID
Pump Air Supply	3/8 in. (9.5 mm) ID
A: = 1 .	4 /0 ' /40 \ \ \ \ \ \

¹Material upgrades available ²Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

Air Exhaust

³ UHMWPE - Ultra High Molecular Weight Polyethylene

⁴ PVDF - Polyvinylidene Fluoride

1/2 in. (13 mm) ID

Application Limits (Base model)

AP4 AutoPumps are designed to handle the application ranges described below. For applications outside these ranges, consult QED about AP4 upgrades.

Maximum Temperature: 150°F (65°C)

pH Range: 4-9

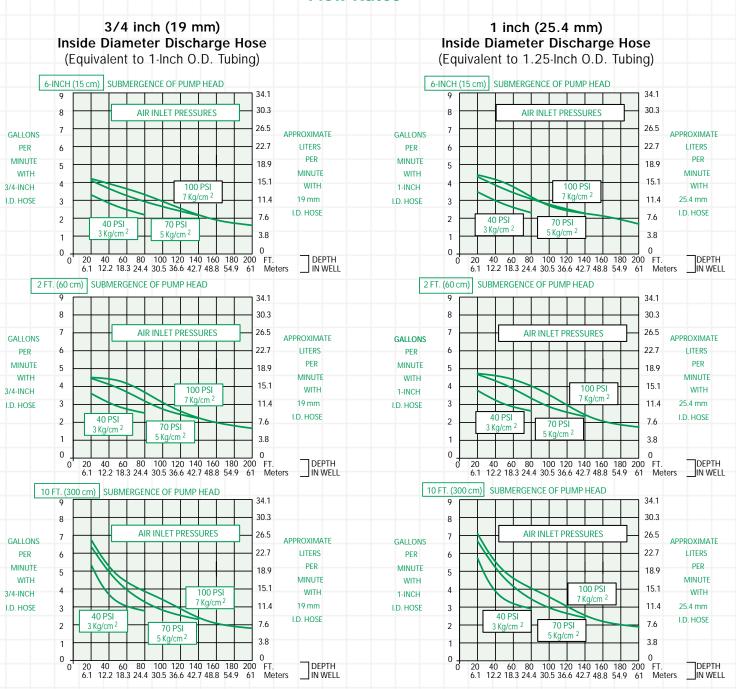
Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

Low-Drawdown AP-4 AutoPumps warranted for one (1) year: 100% materials and workmanship.



Low-Drawdown, Bottom Inlet

Flow Rates¹



1FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.

2.9

STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED

Low-Drawdown, Bottom Inlet



Air Consumption



2.8 100 PSI 7 Ka/cm 2.7 20.2 2.6 19.4 2.5 18.0 2.4 2.3 17.2 2.2 16.5 2.1 15.7 2.0 15 1.9 14.2 1.8 13.5 1.7 12.7 1.6 12 1.5 11.2 70 PSI 5 Kg/cm ² 10.5 1.4 1.3 9.7 1.2 9.0 1.1 8.2 1.0 7.5 .9 6.7 40 PSI 3 Kg/cm ² 8. 6.0 .7 5.2 .6 4.5 3.7 .5 .4 3.0 .3 2.2 1.5 20 140 160 200 FT. 18.3 24.4 30.5 36.6 42.7 48.8 54.9

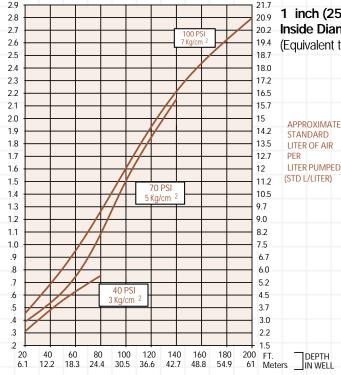
3/4 inch (19 mm) Inside Diameter Discharge Hose (Equivalent to 1-Inch O.D. Tubing)

APPROXIMATE STANDARD LITER OF AIR PFR LITER PUMPED (STD L/LITER)

DEPTH

1 inch (25.4 mm) 20.2 Inside Diameter Discharge Hose (Equivalent to 1.25-Inch O.D. Tubing)

STANDARD **CUBIC FEET OF AIR** PFR **GALLON PUMPED** (SCF/GAL)





Bottom Inlet HammerHead Pro

Max. Flow 13.5 gpm (51.1 lpm)

O.D. 3.5 in (8.9 cm)

Length 51 in. (129.5 cm)

Advantage

- 1. Delivers higher flow rates than all competitive pumps
- 2. Outstanding value in a high reliability, high durability pump
- 3. Easier to service and lighter weight than other 4" pumps
- Handles solids, solvents, hydrocarbons and landfill liquids
- 5. Three-year warranty

Description

The HHP4B Bottom Inlet HammerHead Pro AutoPump provides economy and high flow in a bottom inlet pump for 4" (100 mm) diameter and larger wells in most remediation and landfill pumping applications, and delivers flow rates up to 13.5 gpm (51 lpm). The HHPro Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

The HHP4B Bottom Inlet HammerHead Pro AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as hydrocarbons, solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, wellhead caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.

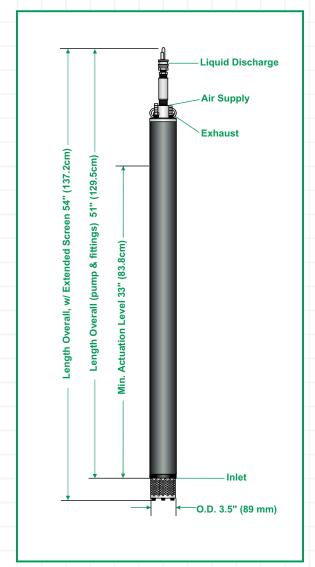




Bottom Inlet HammerHead Pro



Pump Dimensions



Specifications & Operating Requirements

Model	4" Bottom Inlet HammerHead Pro		
Liquid Inlet Location	Bottom		
OD	3.5 in. (8.9 cm)		
Length Overall (pump & fittings)	51 in. (129.5 cm)		
Length Overall, w / Extended Screen	54 in. (137.2 cm)		
Weight	15 lbs. (6.8 kg)		
Max. Flow Rate	13.5 gpm (51.1 lpm) - See Flow Rate Chart		
Pump Volume / Cycle	0.58 - 0.66 gal (2.2 - 2.5L)		
Max. Depth	250 ft. (76 m)		
Air Pressure Range	5 - 120 psi (0.35 - 8.4kg/cm2)		
Min. Actuation Level	33 in. (83.8 cm)		
Air Usage	0.4 - 1.1 scf / gal.		
•	(2.4 - 8.4 liter of air / fluid liter)		
	See Air Usage Chart		
Min. Liquid Density	0.7 SpG (0.7 g/cm3)		

Standard Construction Materials
Pump Body
Pump Ends
Internal Components
Tube & Hose Fittings

Fiberglass
Stainless Steel, UHMWPE²
Stainless Steel, UHMWPE, Viton, Acetal

Hose Fittings Brass or Stainless Steel Barb or Quick Connect

Tube & Hose Options
Tubing Material
Sizes¹ - Liquid Discharge
Pump Air Supply
Air Exhaust
Hose Material
Sizes - Liquid Discharge
Pump Air Supply
Air Exhaust

Nylon 1 in. (25 mm) or 1-1/4 in. (32 mm) OD 1/2 in. (12 mm) OD

5/8 in. (16 mm) OD Nitrile

3/4 in. (19 mm) or 1 in. (25 mm) ID 3/8 in. (9 mm) ID

t 1/2 in. (12 mm) ID

¹Applies to QED supplied tubing; other tubing sources may not conform to QED fittings. ² UHMWPE - Ultra-high Molecular Weight Polyethylene

Application Limits

The HHP4B Bottom, Inlet HammerHead Pro is designed to handle the application ranges described below. For applications outside this range, choose the appropriate AP4 model.

Maximum Temperature: 150° F (65° C)

pH Range: 4-9

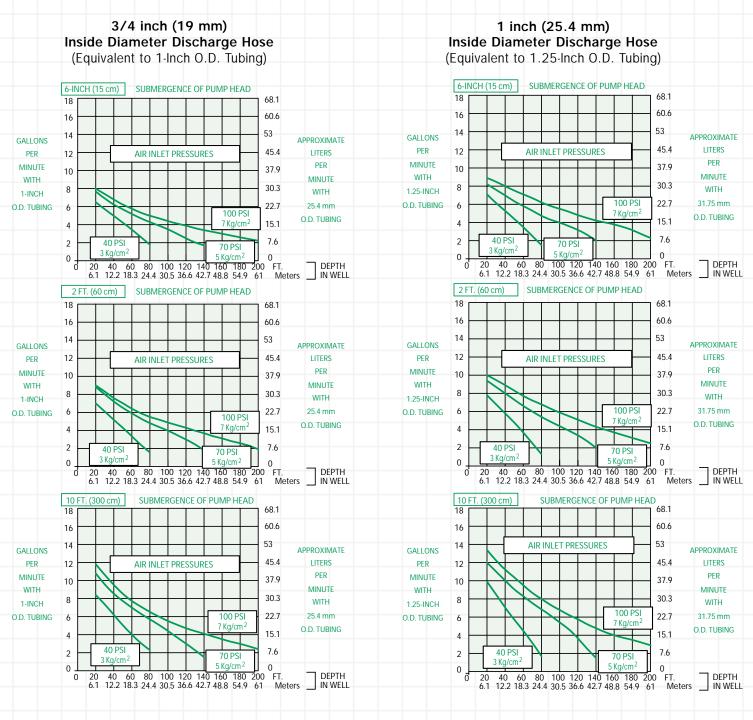
Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oil, BTEX, MTBE, landfill liquids

HammerHead Pro Pumps are warranted for three (3) years: 100% materials and workmanship.



Bottom Inlet HammerHead Pro

Flow Rates¹



¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.

Bottom Inlet HammerHead Pro



Air Consumption



1.6 1.00 inch (25.4 mm) O.D. 11.2 Fluid Discharge Tubing 1.5 (Equivalent to 3/4-inch I.D. 10.5 14 (19 mm) Hose) 9.7 1.3 1.2 9.0 100 PSI 1.1 **APPROXIMATE STANDARD** 1.0 LITER OF AIR PFR .9 LITER PUMPED 6.7 (STD L/LITER) 6.0 .8 .7 5.2 4.5 .6 40 PSI .5 3.7 .4 3.0 .3 2.2 .2 180 54.9 200 FT. DEPIH 61 Meters IN WELL 100 40 80 120 140 160 20 60 12.2 18.3 24.4 30.5 36.6 42.7 48.8 DEPTH IN WELL

1.1 1.0 .9

.8

.7 .6

.5

.3

.2

1.6

1.5

1.4

13 1.2

1.25 inch (32 mm) O.D. 11.2 Fluid Discharge Tubing (Equivalent to 1- inch I.D. (25.4 mm) Hose) 9.7 9.0 100 PS 7 Ka/cn 8.2 **APPROXIMATE** STANDARD LITER OF AIR PER LITER PUMPED 6.7 (STD L/LITER) 6.0 5.2 4.5 3.7 3.0 2.2 1.5 200 FT. 180 120 140 160 30.5 36.6 42.7 48.8 54.9

DEPTH IN WELL



Max. Flow 10 gpm (38 lpm)

O.D. 3.5 in (8.9 cm)

Length 57 in. (145 cm)

Advantages

- 1. The original automatic airpowered well pump, proven worldwide over 18 years
- 2. The highest flow rates and deepest pumping capabilities in the industry
- 3. Patented, proven design for superior reliability and durability, even in severe applications
- 4. Handles solids, solvents, hydrocarbons corrosive conditions, viscous fluids and high temperatures beyond the limits of electric pumps
- 5. Five-year warranty

Description

The AP4 Top Inlet Long AutoPump provides maximum capabilities and flow in a top inlet pump for 4" diameter and larger wells needing an elevated inlet, such as pumping total fluids from wells contaminated with LNAPLs. It is offered in optional versions to handle even the most severe remediation and landfill pumping applications, and delivers flow rates up to 10 gpm*. The AP4 Long Top Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, noobligation assistance on your pumping project needs.

The AutoPump Heritage

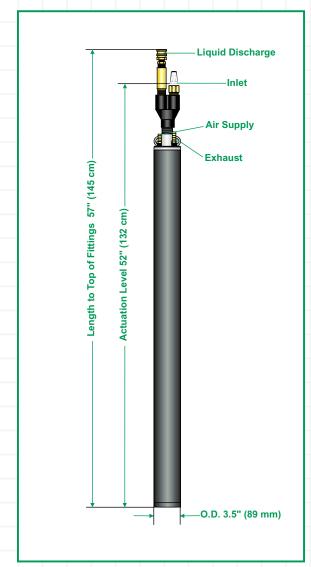
The AP4 Top Inlet Long AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as hydrocarbons, solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/ stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, wellhead caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.





4" - Long AP4 Top Inlet

Pump Dimensions



Specifications & Operating Requirements

Model

Liquid Inlet Location 3.5 in. (8.9 cm) OD Length Overall (pump & fittings) 57 in. (145 cm) OD Weight 18 lbs. (8.7 kg) Max. Flow Rate 10 gpm (38 lpm) - See Flow Rate Chart Pump Volume / Cycle 0.58 - 0.78 gal (2.2 - 3.0L) Min. Actuation Level 52 in. (132 cm) Standard Pump Max. Depth 250 ft. (76 m) Air Pressure Range 5 - 120 psi (0.4 - 8.4 kg/cm2) Air Usage 0.35-1.1 scf / gal. (3.0-8.4 liter of air / fluid liter) **High Pressure Pump** Max. Depth 425 ft. (130 m) Air Pressure Range 5 - 200 psi (0.4 - 14.1 kg/cm2) Min. Liquid Density 0.7 SpG (0.7 g/cm3) Standard Construction Materials¹ Pump Body Fiberglass or Stainless Steel Pump Ends Stainless Steel, Acetal, Brass

Stainless Steel, Viton, Acetal, PVDF3 **Internal Components** Tube & Hose Fittings Brass or Stainless Steel Fitting Type Barbs or Quick Connects **Tube & Hose Options**

Tubing Material² Nylon Sizes - Liquid Discharge 1 in. (25 mm) or 1-1/4 in. (32 mm) OD Pump Air Supply 1/2 in. (13 mm) OD Air Exhaust 5/8 in. (16 mm) OD Hose Material Nitrile Sizes - Liquid Discharge 3/4 in. (19 mm) or 1 in. (25 mm) ID **Pump Air Supply** 3/8 in. (9.5 mm) ID 1/2 in. (13 mm) ID Air Exhaust

¹ Material upgrages available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

³ PVDF - Polyvinylidene Fluoride

Standard Application Limits (standard model)

AP4 AutoPumps are designed to handle the application ranges described below. For applications outside these ranges, consult QED.

Maximum Temperature: 150°F (65°C)

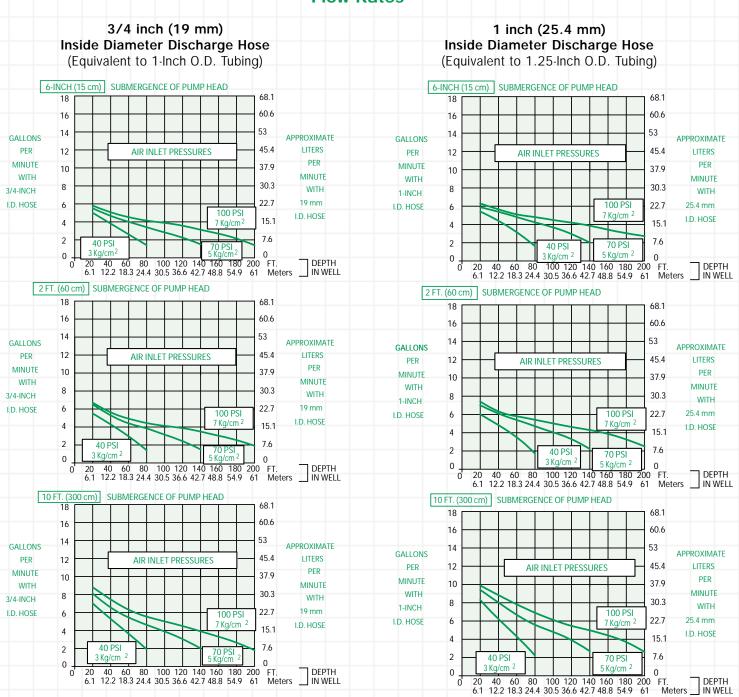
pH Range: 4-9

Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

AP-4 AutoPumps are warranted for five (5) years: 100% materials and workmanship for the first three (3) years; 50% materials and workmanship for the fourth (4th) and fifth (5th) years.



Flow Rates¹



1FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



Air Consumption



1.6 3/4 inch (19 mm) Inside Diameter Discharge Hose 15 (Equivalent to 1-Inch O.D. Tubing) 1.4 1.3 9.7 1.2 9.0 **APPROXIMATE** STANDARD 7.5 LITER OF AIR 1.0 PER 6.7 LITER PUMPED .9 (STD L/LITER) 8 .7 5.2 .6 4.5 .5 3.7 2.2 .3 1.5 100 120 160 200 36.6 42.7 48.8 54.9 18.3 24.4 30.5

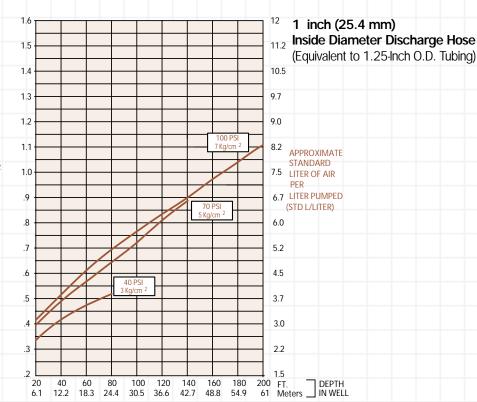
STANDARD CUBIC FEET OF AIR GALLON PUMPED (SCF/GAL)

STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED



AP4T Top Inlet, Short

Max. Flow 9 gpm (34 lpm)

O.D. 3.5 in (8.9 cm)

Length 42 in. (107 cm)



- 1. The original automatic airpowered well pump, proven worldwide over 18 years
- 2. The highest flow rates and deepest pumping capabilities in the industry
- 3. Patented, proven design for superior reliability and durability, even in severe applications
- 4. Handles solids, solvents, hydrocarbons corrosive conditions, viscous fluids and high temperatures beyond the limits of electric pumps
- 5. Five-year warranty

Description

The AP4 Top Inlet Short AutoPump provides maximum capabilities and flow in a top inlet pump for 4" (100 mm) diameter and larger wells with shorter water columns and the need for an elevated inlet, such as pumping total fluids from wells contaminated with LNAPLs. It is offered in optional versions to handle even the most severe remediation and landfill pumping applications, and delivers flow rates up to 9 gpm (34 lpm)*. The AP4 Short Top Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, noobligation assistance on your pumping project needs.

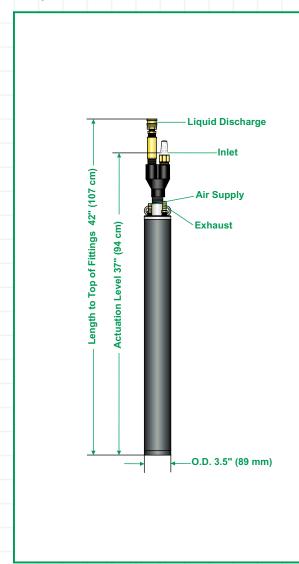
The AutoPump Heritage

The AP4 Top Inlet Short AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as hydrocarbons, solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/ stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, wellhead caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.





Pump Dimensions



Specifications & Operating Requirements

4" - Short AP4 Top Inlet **Liquid Inlet Location** 3.5 in. (8.9 cm) OD

Length Overall (pump & fittings) 42 in. (107 cm) Weight 17 lbs. (7.8 kg)

9 gpm (34 lpm) - See Flow Rate Chart Max. Flow Rate Pump Volume / Cycle 0.22 - 0.36 gal (.83 - 1.36L) Min. Actuation Level 37 in. (94 cm)

Standard Pump Max. Depth

250 ft. (76 m)

Air Pressure Range 5 - 120 psi (0.4 - 8.4 kg/cm2) Air Usage 0.35-1.5 scf / gal. (2.4-11.3 liter of air /

fluid liter) - See Air Usage Chart

High Pressure Pump Max. Depth Air Pressure Range

425 ft. (130 m)

5 - 200 psi (0.4 - 14.1 kg/cm2)

Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials¹

Pump Body Fiberglass or Stainless Steel Pump Ends Stainless Steel, Acetal, Brass Stainless Steel, Viton, Acetal, PVDF3 **Internal Components** Tube & Hose Fittings

Brass or Stainless Steel Fitting Type Barbs or Quick Connects

Tube & Hose Options Tubing Material² Sizes - Liquid Discharge Pump Air Supply Air Exhaust Hose Material

Nylon 1 in. (25 mm) or 1-1/4 in. (32 mm) OD

1/2 in. (13 mm) OD 5/8 in. (16 mm) OD Nitrile

3/4 in. (19 mm) or 1 in. (25 mm) ID Sizes - Liquid Discharge Pump Air Supply 3/8 in. (9.5 mm) ID Air Exhaust 1/2 in. (13 mm) ID

¹ Material upgrages available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

³ PVDF - Polyvinylidene Fluoride

Standard Application Limits (standard model)

AP4 AutoPumps are designed to handle the application ranges described below. For applications outside these ranges, consult QED.

Maximum Temperature: 150°F (65°C)

pH Range: 4-9

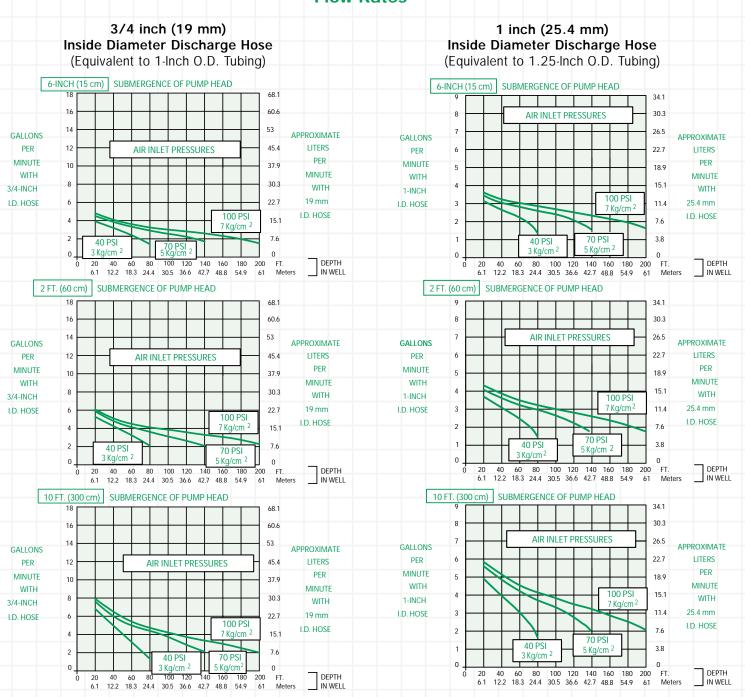
Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

AP-4 AutoPumps are warranted for five (5) years: 100% materials and workmanship for the first three (3) years; 50% materials and workmanship for the fourth (4th) and fifth (5th) years.

Low-Drawdown AutoPumps are warranted for one (1) year.



Flow Rates¹



1FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



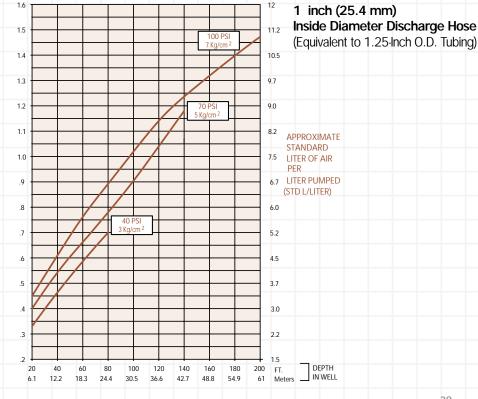
Air Consumption



STANDARD **CUBIC FEET OF AIR** GALLON PUMPED (SCF/GAL)



STANDARD **CUBIC FEET OF AIR** GALLON PUMPED (SCF/GAL)



LDAP4T Top Inlet, Low-Drawdown

Max. Flow 6.4 gpm (24 lpm)

O.D. 3.5 in (8.9 cm)

Length 29 in. (74 cm)



- 1. The original automatic airpowered well pump, proven worldwide over 18 years
- 2. The highest flow rates and deepest pumping capabilities in the industry in a low drawdown top-fill pump
- 3. Patented, proven design for superior reliability and durability, even in severe applications
- 4. Handles solids, solvents, corrosive conditions, viscous fluids and high temperatures beyond the limits of electric pumps
- 5. One-year warranty

Description

The Low-Drawdown AP4T Top Inlet AutoPump provides maximum capabilities and flow in a top inlet pump for 4" (100 mm) diameter and larger wells with very short water columns and/or the need to pump down to as low as 24 inches (62 cm) above the bottom. It is offered in optional versions to handle even the most severe remediation and landfill pumping applications, and delivers flow rates up to 6.4 gpm (24 lpm). The Low Drawdown AP4 Top Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, noobligation assistance on your pumping project needs.

The AutoPump Heritage

The Low-Drawdown AP4T Top Inlet AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.

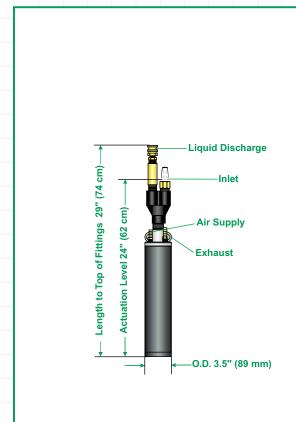




Top Inlet, Low-Drawdown



Pump Dimensions



Specifications & Operating Requirements

Model	4" - Low-Drawdown AP4 Top Inlet
Liquid Inlet Location	Тор
OD	3.5 in. (8.9 cm)
Length Overall (pump & fittings)	29 in. (74 cm)
Weight	11 lbs. (5.0 kg)
Max. Flow Rate	6.4 gpm (24 lpm)
Pump Volume / Cycle	0.11 - 0.16 gal (.4261L)
Max. Depth	250 ft. (76 m)
Air Pressure Range	5 - 120 psi (0.4 - 8.4 kg/cm2)
Min. Actuation Level	24 in. (62 cm)
Air Usage	.31-28.5 scf/gal (2.2-21.5 liters of air/fluid liter
	see air usage chart
Min. Liquid Density	0.7 SpG (0.7 g/cm3)

Standard Construction Materials¹

Pump Body
Pump Ends
Stainless Steel, Acetal, Brass
Internal Components
Tube & Hose Fittings
Fitting Type
Fitting Type
Fiberglass or Stainless Steel
Stainless Steel, Viton, Acetal, PVDF³
Brass or Stainless Steel
Barbs or Quick Connects

Nylon

Tube & Hose Options
Tubing Material²
Sizes - Liquid Discharge
Pump Air Supply
Air Exhaust
Hose Material
Sizes - Liquid Discharge
Pump Air Supply

1 in. (25 mm) or 1-1/4 in. (32 mm) OD 1/2 in. (13 mm) OD 5/8 in. (16 mm) OD Nitrile 3/4 in. (19 mm) or 1 in. (25 mm) ID 3/8 in. (9.5 mm) ID

¹ Material upgrages available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

Air Exhaust

³ PVDF - Polyvinylidene Fluoride

1/2 in. (13 mm) ID

Standard Application Limits (standard model)

AP4 AutoPumps are designed to handle the application ranges described below. For applications outside these ranges, consult QED.

Maximum Temperature: 150°F (65°)

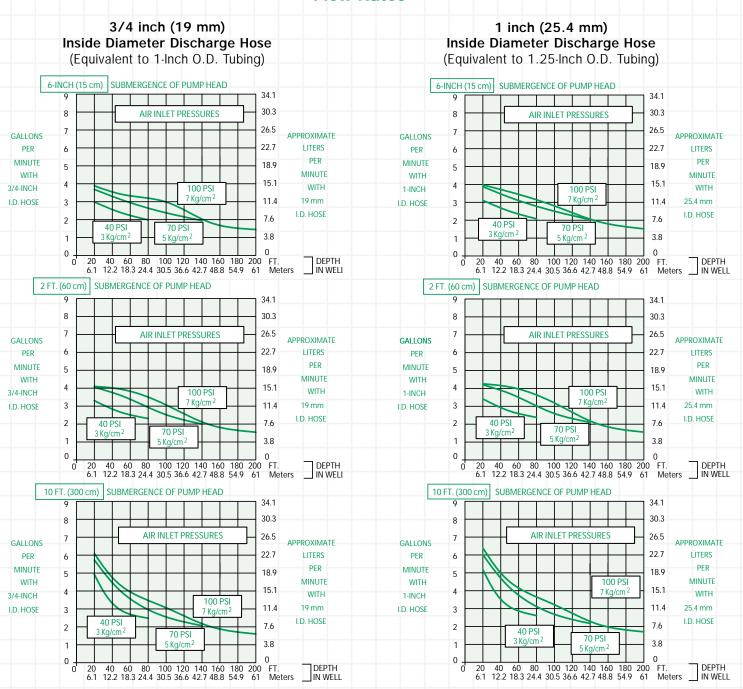
pH Range: 4-9

Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

Low-Drawdown AP-4 AutoPumps are warranted for one (1) year: 100% material and workmanship.



Flow Rates¹



¹ FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.

2.8

2.7

2.6

2.5

.8

.7

.6

.5

.4

.3

2

STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED

Top Inlet, Low-Drawdown



Air Consumption



2.4 2.3 2.2 2.1 2.0 1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2 1.1 1.0 .9

> 80 100 120

30.5 36.6

18.3 24.4

3/4 inch (19 mm) Inside Diameter Discharge Hose (Equivalent to 1-Inch O.D. Tubing)

APPROXIMATE STANDARD LITER OF AIR PFR LITER PUMPED (STD L/LITER)

20.9

20.2

19.4 18.7

18.0 17.2

16.5 15.7

15

14.2

13.5

12.7

12

11.2

10.5

9.7

9.0

8.2

7.5

6.7

6.0

5.2

4.5

3.7

3.0

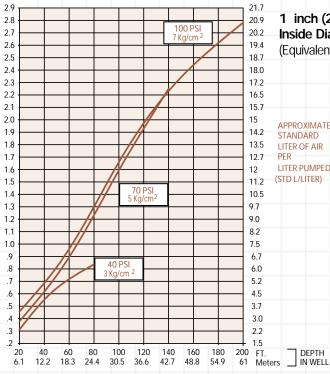
2.2

1.5

61 Meters

200 FT.

CUBIC FEET OF AIR **GALLON PUMPED** (SCF/GAL)



140 160 180

42.7 48.8

54.9

1 inch (25.4 mm) Inside Diameter Discharge Hose (Equivalent to 1.25-Inch O.D. Tubing)

APPROXIMATE STANDARD LITER OF AIR LITER PUMPED (STD L/LITER)



Max. Flow 9.8 gpm (37.1 lpm)

O.D. 3.5 in (8.9 cm)

Length 56 in. (142.2 cm)

Advantage

- 1. Delivers higher flow rates than all competitive pumps
- 2. Outstanding value in a high reliability, high durability pump
- 3. Easier to service and lighter weight than other 4" pumps
- 4. Handles solids, solvents, corrosive conditions, viscous fluids and high temperatures beyond the limits of electric pumps
- 5. Three-year warranty

Description

The HammerHead Pro HHP4T Top Inlet AutoPump provides economy and high flow in a top inlet pump for 4" (100 mm) wells for applications requiring an elevated inlet, such as pumping total fluids from wells contaminated with LNAPLs, and delivers flow rates up to 9.8 gpm (37.1 lpm). The HHPro Top Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

The HammerHead Pro HHP4T Top Inlet AutoPump is part of the famous AutoPump family of original automatic airpowered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as hydrocarbons, solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, wellhead caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.

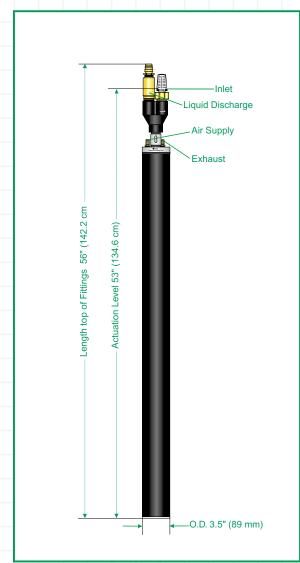




Top Inlet HammerHead Pro



Pump Dimensions



Specifications & Operating Requirements

Liquid Inlet Location
OD
Length Overall (pump & fittings)
Weight
Max. Flow Rate
Pump Volume / Cycle
Standard Model
Max. Depth
Air Pressure Range
Min. Actuation Level
Air Usage

4" HammerHead Pro Top Inlet Top 3.5 in. (8.9 cm) OD 56 in. (142.2 cm) OD 16.5 lbs. (7.5 kg)

9.8 gpm (37.1 lpm) - See Flow rate chart 0.58 - 0.66 gal (2.2 - 2.5L)

250 ft. (76 m) 5 · 120 psi (0.35 · 8.4kg/cm2) 53 in. (134.6 cm) 0.34-1.13 scf / gal. (2.24-8.23 liter of air / fluid liter) See air usage chart 0.7 SpG (0.7 g/cm3)

Standard Construction Materials

Min. Liquid Density

Pump Body Pump Ends Stainless Steel, Brass, Acetal Stainless Steel, Viton Brass Fitting Type Barb or Quick Connect

Tube & Hose Options
Tubing Material
Sizes¹ - Liquid Discharge
Pump Air Supply
Air Exhaust
Hose Material
Sizes - Liquid Discharge
Pump Air Supply

1 in. (25 mm) or 1-1/4 in. (32 mm) OD 1/2 in. (12 mm) OD

5/8 in. (16 mm) OD Nitrile 3/4 in. (19 mm) or 1 in. (25 mm) ID

3/8 in. (9 mm) ID 1/2 in. (12 mm) ID

¹ Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

Air Exhaust

Application Limits

The HHP4T Top Inlet HammerHead Pro AutoPump is designed to handle the application ranges described below. For applications outside this range, choose the appropriate AP4 model.

Maximum Temperature: 150° F (65° C)

pH Range: 4-9

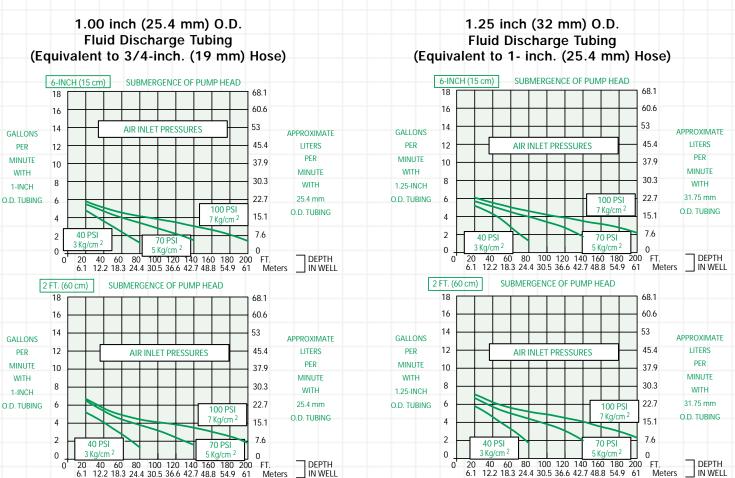
Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oil, BTEX, MTBE, landfill liquids

HammerHead Pro Pumps are warranted for three (3) years: 100% materials and workmanship.

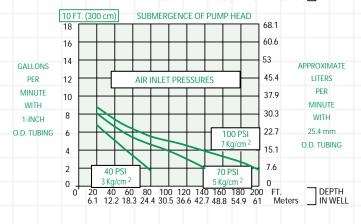


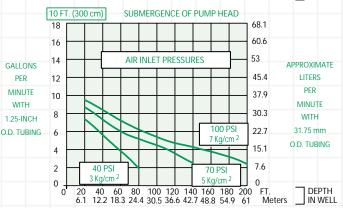
Top Inlet HammerHead Pro

Flow Rates¹



PER





¹ FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.

Top Inlet HammerHead Pro



Air Consumption



1.6 1.00 inch (25.4 mm) O.D. 11.2 Fluid Discharge Tubing 1.5 (Equivalent to 3/4-inch. 1.4 (19 mm) Hose) 9.7 1.3 1.2 9.0 1.1 **APPROXIMATE** STANDARD 1.0 7.5 LITER OF AIR PFR 6.7 LITER PUMPED .9 (STD L/LITER) .8 6.0 .7 5.2 4.5 .6 3.7 .5 3.0 2.2 .3 .2 1.5 200 FT. 61 Meters 40 60 80 100 120 140 160 180 20 30.5 36.6 42.7 48.8 54.9

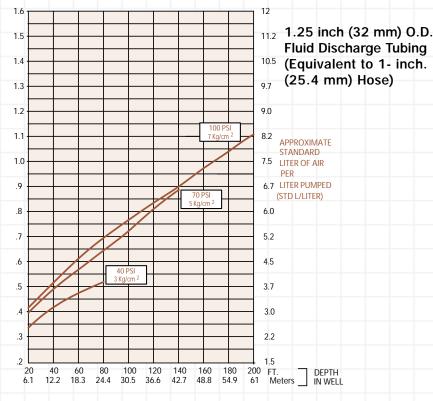
STANDARD **CUBIC FEET OF AIR GALLON PUMPED** (SCF/GAL)

STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED



AP3B Bottom Inlet, Long

Max. Flow 7.3 gpm (27.6 lpm)

O.D. 3.5 in (8.9 cm)

Length 52 in. (132 cm)



The AP3B Bottom Inlet Long AutoPump is designed for moderate-duty remediation pumping applications with well casings 3" (75 mm) diameter and larger. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

The AP3B Bottom Inlet Long AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.

Advantages

- 1. Based on the original automatic air-powered well pump, proven worldwide over 18 years
- 2. Competitive flow rates and pumping capabilities
- 3. Patented, proven design for superior reliability and durability
- 4. Handles solids, some solvents, hydrocarbons and corrosive conditions beyond the limits of electric pumps
- 5. Two-year warranty

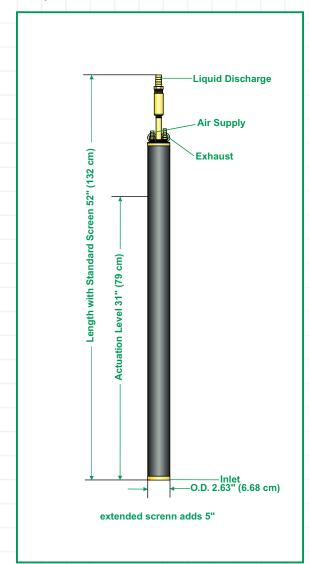




Bottom Inlet, Long



Pump Dimensions



Specifications & Operating Requirements

Model

3" - Long AP3 Bottom Inlet **Liquid Inlet Location Bottom** 2.63 in. (6.68 cm) Length Overall (pump & fittings) 52 in. (132 cm) Length Overall, w / Extended Screen 57 in. (145 cm) Weight 11 lbs. (5.0 kg) Max. Flow Rate 7.3 gpm (27.6 lpm) - See Flow Rate Chart Pump Volume / Cycle 0.23 - 0.32 gal (0.87 - 1.21L) Max. Depth Air Pressure Range 5 - 100 psi (0.4 - 7.0 kg/cm2) Min. Actuation Level 31 in. (79 cm) Air Usage 0.33-1.45 scf / gal. (2.5-10.8 liter of air / fluid liter) - See Air Usage Chart

> Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials Pump Body Fiberglass or Stainless Steel Pump Ends Stainless Steel, UHMWPE², Brass **Internal Components** Stainless Steel, Viton, Acetal, Nylon Tube & Hose Fittings Brass or Stainless Steel Fitting Type Barbs or Quick Connects

> **Tube Options Tubing Material** Nylon Sizes1 - Liquid Discharge Pump Air Supply Air Exhaust

3/4 in. (19 mm) or 1 in. (25 mm) OD

1/2 in. (13 mm) OD 5/8 in. (16 mm) OD

¹ Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

² UHMWPE - Ultra High Molecular Weight Polyethylene

Application Limits

AP3 AutoPumps are designed to handle the application range described below. For applications outside this range, consider the AP4, AP2, and HammerHead Pro models.

Maximum Temperature: 120°F (49°C)

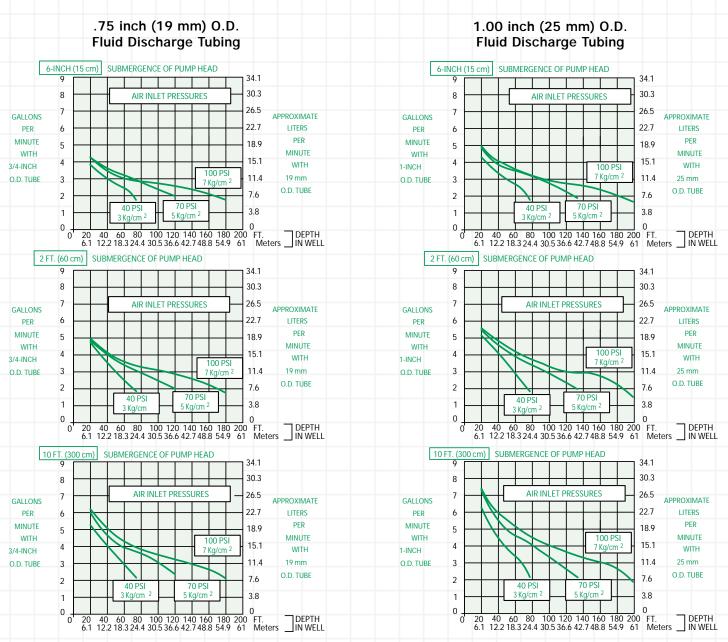
pH Range: 4-9

Some solvents and Fuels: gasoline, diesel fuel, BTEX, MTBE

AP-3 AutoPumps are warranted for two (2) years: 100% materials and workmanship.



Flow Rates¹



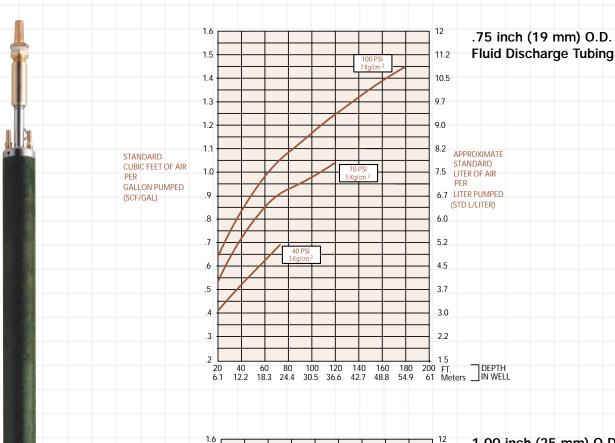
¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.

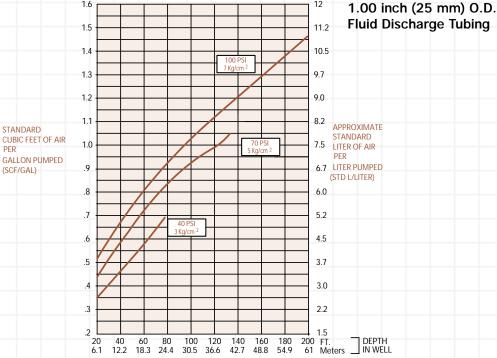






Air Consumption





AP3B Bottom Inlet, Short

Max. Flow 6.0 gpm (22.7 lpm)

O.D. 3.5 in (8.9 cm)

Length 42 in. (106.6 cm)

Advantages

- 1. Based on the original automatic air-powered well pump, proven worldwide over 18 years
- 2. Competitive flow rates and pumping capabilities
- 3. Patented, proven design for superior reliability and durability
- 4. Handles solids, some solvents, hydrocarbons and corrosive conditions beyond the limits of electric pumps
- 5. Two-year warranty

Description

The AP3 Bottom Inlet Short AutoPump is designed for moderate-duty remediation pumping applications with well casings 3" (75 mm) diameter and larger. It is dsigned for wells having shorter water columns and/or the need to pump down to lower water levels, compared to full-length pumps. Complete system components such as tubing and hose sets, well caps, and flow counters are available for the AP3 Long Bottom Inlet AutoPump. Call QED for prompt, noobligation assistance on your pumping project needs.

The AutoPump Heritage

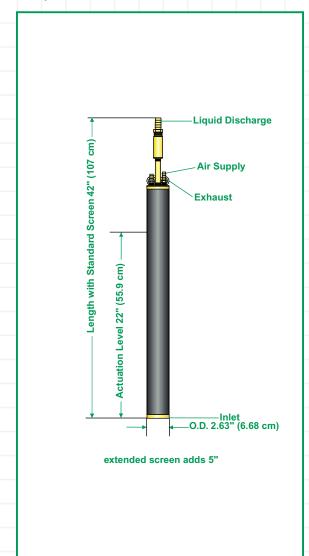
The AP3 Bottom Inlet Short AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.



Bottom Inlet, Short



Pump Dimensions



Specifications & Operating Requirements

Model 3" - Short AP3 Bottom Inlet **Liquid Inlet Location Bottom** 2.63 in. (6.68 cm) Length Overall (pump & fittings) 42 in. (107cm) Length Overall, w / Extended Screen 47 in. (117cm) Weight 10 lbs. (4.5 kg) Max. Flow Rate 6.0 gpm (22.7 lpm) - See Flow Rate Chart Pump Volume / Cycle 0.08 - 0.15 gal (.30 - 0.57L) Max. Depth 175 ft. (53.3 m) 5 -80 psi (0.4 - 5.6 kg/cm2) Air Pressure Range Min. Actuation Level 22 in. (56 cm) Air Usage 0.35 - 1.6 scf / gal. (2.6-12.0 liter of air / fluid liter) - See Air Usage Chart

> Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials Pump Body Fiberglass or Stainless Steel Stainless Steel, UHMWPE*, Brass Pump Ends **Internal Components** Stainless Steel, Viton, Acetal, Nylon Tube & Hose Fittings Brass or Stainless Steel Fitting Type Barbs or Quick Connects

> **Tube Options Tubing Material** Nylon Sizes1 - Liquid Discharge Pump Air Supply Air Exhaust 5/8 in. (16 mm) OD

other tubing sources may not conform to QED fittings.

3/4 in. (19 mm) or 1 in. (25 mm) OD 1/2 in. (13 mm) OD

¹ Applies to QED supplied tubing;

² UHMWPE - Ultra High Molecular Weight Polyethylene

Application Limits

AP3 AutoPumps are designed to handle the application ranges described below. For applications outside this range, consider the AP4, AP2, and HammerHead Pro models.

Maximum Temperature: 120°F (49°C)

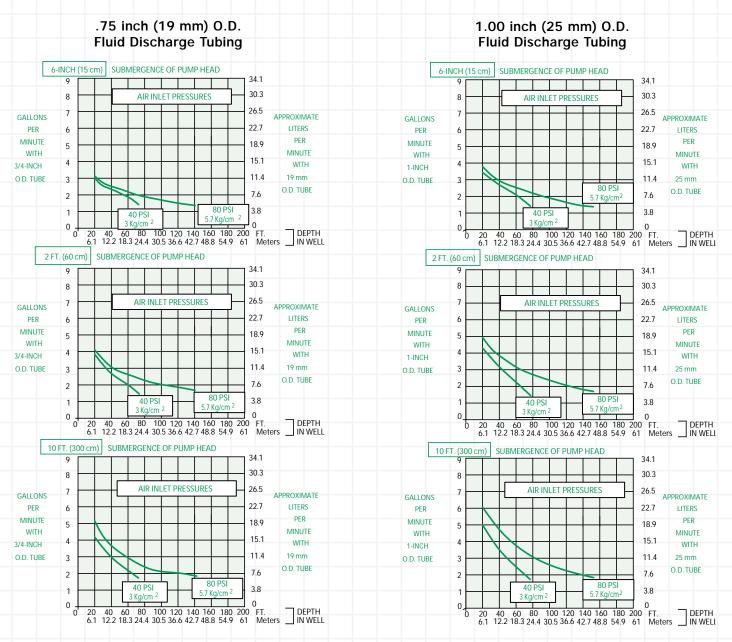
pH Range: 4-9

Solvents and Fuels: gasoline, diesel fuel, BTEX, MTBE

AP-3 AutoPumps are warranted for two (2) years: 100% materials and workmanship.

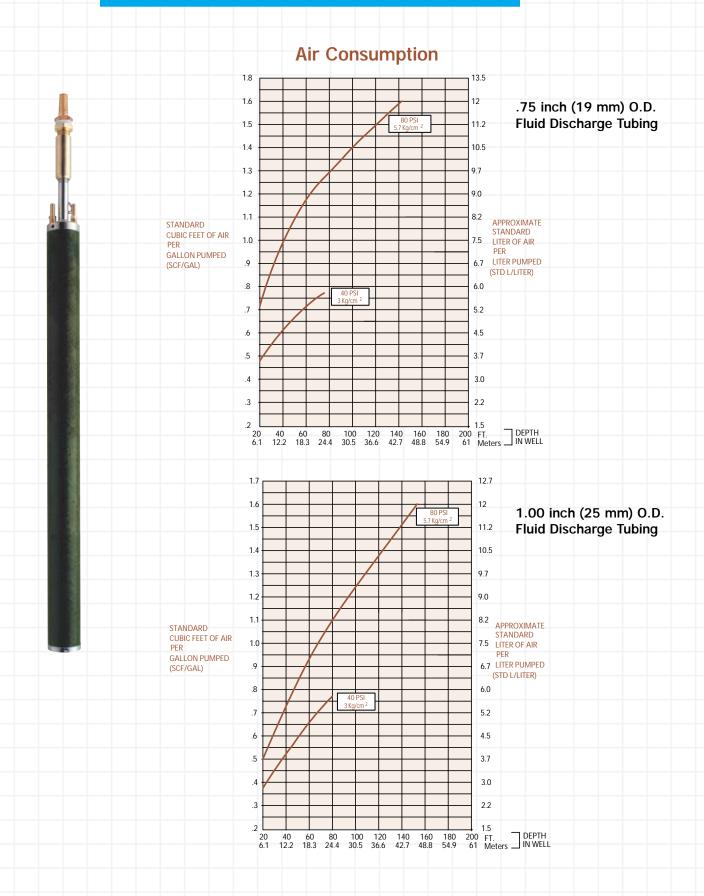


Flow Rates¹



¹ FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.





AP3T Top Inlet, Long

Max. Flow 5.4 gpm (20 lpm)

O.D. 3.4 in (8.64 cm)

Optional O.D. 2.6 in (6.68 cm)

Length 57 in. (145 cm)

Advantages

- 1. Based on the original automatic air-powered well pump, proven worldwide over 18 years
- 2. Competitive flow rates and pumping capabilities
- 3. Patented, proven design for superior reliability and durability
- 4. Handles solids, some solvents, hydrocarbons and corrosive conditions beyond the limits of electric pumps
- 5. Two-year warranty

Description

The AP3T Top Inlet Long AutoPump is designed for moderate-duty remediation pumping applications with well casings 3" (7.62 cm) diameter and larger using available 2.63 inch (6.68 cm) inlet. It is designed for applications requiring an elevated inlet, such as pumping total fluids from wells contaminated with LNAPLs. Call QED for prompt, no-obligation assistance on your pumping project needs.

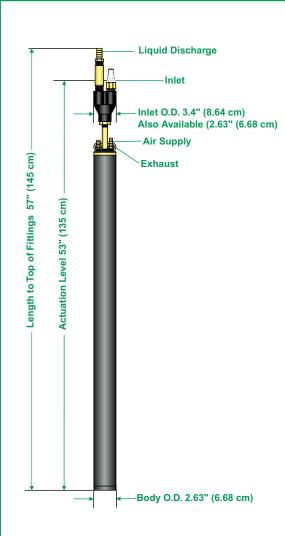
The AutoPump Heritage

The AP3T Top Inlet Long AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.





Pump Dimensions



Specifications & Operating Requirements

Model 3" - Long AP3 Top Inlet **Liquid Inlet Location** 3.4 in. (8.64 cm) (2.63 in. Available) Length Overall (pump & fittings) 57 in. (145 cm) Weight 11.5 lbs. (5.3 kg) Max. Flow Rate 5.4 gpm (21.2 lpm) - See Flow Rate Chart Pump Volume / Cycle 0.23 - 0.32 gal (0.87 - 1.21L) Max. Depth 220 ft. (67 m) Air Pressure Range 5 - 100 psi (0.4 - 7.0 kg/cm2) Min. Actuation Level 53 in. (135 cm) 0.41 -1.59 scf / gal.(3.0 - 11.9 liter of air / Air Usage fluid liter) - See Air Usage Chart

> Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials

Pump Body Fiberglass or Stainless Steel Pump Ends Stainless Steel, Acetal, Brass **Internal Components** Stainless Steel, Viton, Acetal, Nylon Brass or Stainless Steel **Tube & Hose Fittings** Barbs or Quick Connects Fitting Type

Nylon

5/8 in. (16 mm) OD

Tube Options Tubing Material Sizes¹ - Liquid Discharge **Pump Air Supply**

Air Exhaust

3/4 in. (19 mm) or 1 in. (25 mm) OD 1/2 in. (13 mm) OD

¹ Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

Application Limits

AP3 AutoPumps are designed to handle the application ranges described below. For applications outside this range, consider the AP4, AP2, and HammerHead Pro models.

Maximum Temperature: 120°F (49°C)

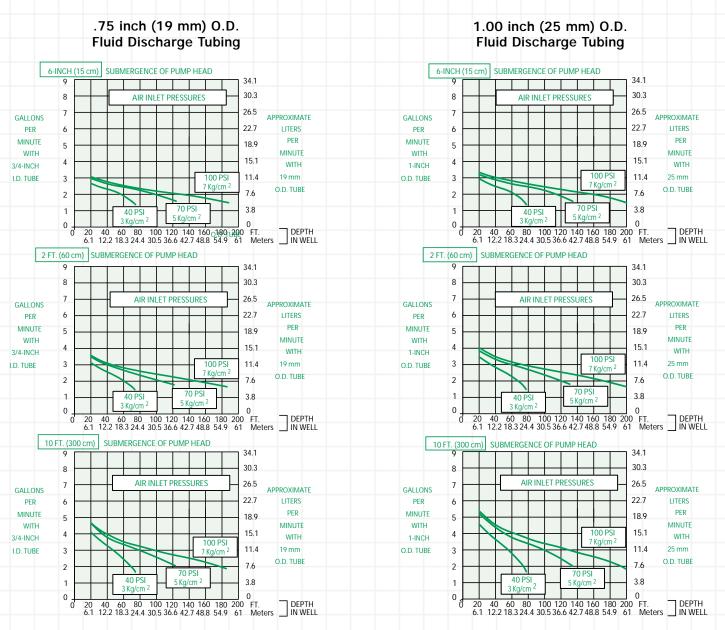
pH Range: 4-9

Solvents and Fuels: gasoline, diesel fuel, BTEX, MTBE

AP-3 AutoPumps are warranted for two (2) years: 100% materials and workmanship.



Flow Rates¹



¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



Air Consumption



1.6 .75 inch (19 mm) O.D. 11.2 Fluid Discharge Tubing 1.5 10.5 1.3 9.7 9.0 1.2 1.1 APPROXIMATE 70 PSI 5 Kg/cm **STANDARD** 1.0 7.5 LITER OF AIR 6.7 LITER PUMPED .9 (STD L/LITER) 8. 6.0 .7 5.2 .6 4.5 .5 3.7 .4 3.0 2.2 1.5 60 80 100 120 18.3 24.4 30.5 36.6 140 160 180 42.7 48.8 54.9 200 FT. DEPTH 61 Meters IN WELL

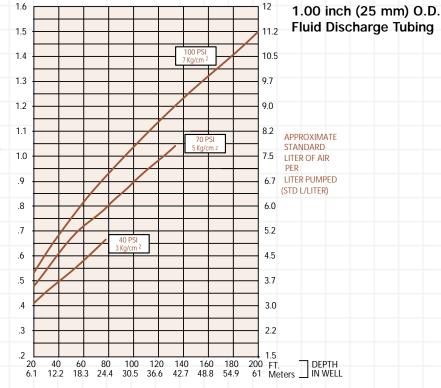
STANDARD CUBIC FEET OF AIR **GALLON PUMPED** (SCF/GAL)

STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED



AP3T Top Inlet, Short

Max. Flow 4.8 gpm (18.1 lpm)

O.D. 3.4 in (8.64 cm)

Length 47 in. (119 cm)

Advantages

- 1. Based on the original automatic air-powered well pump, proven worldwide over 18 years
- 2. Competitive flow rates and pumping capabilities
- 3. Patented, proven design for superior reliability and durability
- 4. Handles solids, some solvents, hydrocarbons and corrosive conditions beyond the limits of electric pumps
- 5. Two-year warranty

Description

The AP3T Top Inlet Short AutoPump is designed for moderate-duty remediation pumping applications with well casings 3" (7.62 cm) diameter and larger using available 2.63 inch (6.68 cm) inlet. It is designed for applications requiring an elevated inlet, such as pumping total fluids from wells contaminated with LNAPLs. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

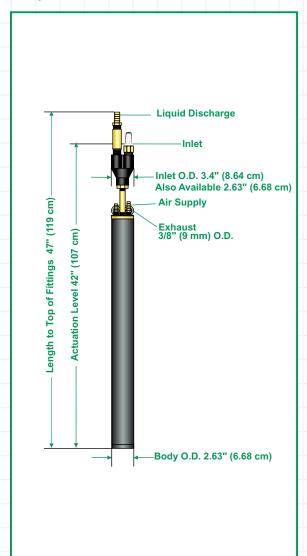
The AP3T Top Inlet Short AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.







Pump Dimensions



Specifications & Operating Requirements

Model 3" - Short AP3 Top Inlet **Liquid Inlet Location** 3.4 in. (8.64 cm) (2.63 in. Available) Length Overall (pump & fittings) 47 in. (119 cm) Weight 10 lbs. (4.5 kg) 4.8 gpm (18.1 lpm) - See Flow Rate Chart Max. Flow Rate Pump Volume / Cycle 0.08 - 0.15 gal (.30 - 0.57L) Max. Depth 175 ft. (53.3 m) Air Pressure Range 5 -80 psi (0.4 - 5.6 kg/cm2) Min. Actuation Level 42 in. (107 cm) 0.43 -1.6 scf / gal.(3.2 - 12.0 liter of air / Air Usage fluid liter) - See Air Usage Chart

> Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials

Pump Body Fiberglass or Stainless Steel Pump Ends Stainless Steel, Acetal, HDPE, Brass Internal Components Stainless Steel, Viton, Acetal, Nylon Brass or Stainless Steel **Tube & Hose Fittings** Barbs or Quick Connects Fitting Type

Tube Options Tubing Material Sizes¹ - Liquid Discharge

Nylon 3/4 in. (19 mm) or 1 in. (25 mm) OD

1/2 in. (13 mm) OD **Pump Air Supply** Air Exhaust 5/8 in. (16 mm) OD

¹ Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

Application Limits

AP3 AutoPumps are designed to handle the application ranges described below. For applications outside this range, consider the AP4, AP2, and HammerHead Pro models.

Maximum Temperature: 120°F (49°C)

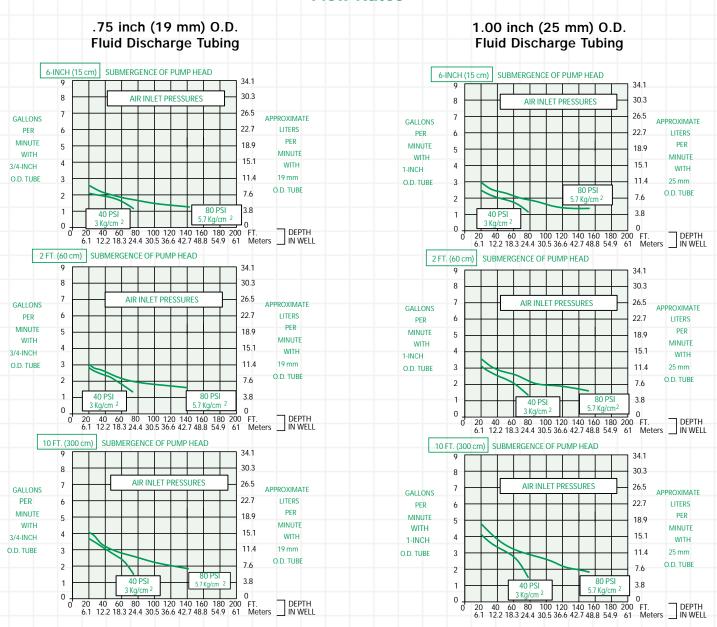
pH Range: 4-9

Solvents and Fuels: gasoline, diesel fuel, BTEX, MTBE

AP-3 AutoPumps are warranted for two (2) years: 100% materials and workmanship.



Flow Rates¹



¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



Air Consumption



STANDARD CUBIC FEET OF AIR

(SCF/GAL)

GALLON PUMPED

1.8

1.6

1.7 12.7 .75 inch (19 mm) O.D. Fluid Discharge Tubing 12 11.2 1.5 105 14 9.7 1.3 1.2 9.0 1.1 APPROXIMATE 1.0 LITER OF AIR .9 LITER PUMPED (STD L/LITER) .7 5.2 .6 4.5 .5 3.7 3.0 .4 .3 2.2 .2 1.5 120 36.6 140 160 42.7 48.8 200 FT. 61 Meters 20

11.2 1.5 10.5 1.4 1.3 9.7 1.2 9.0 1.1 8.2 **APPROXIMATE** STANDARD STANDARD **CUBIC FEET OF AIR** 1.0 LITER OF AIR GALLON PUMPED LITER PUMPED .9 (SCF/GAL) (STD L/LITER) .8 6.0 .7 5.2 .6 4.5 3.7 .4 3.0 .3 22

100 30.5 120 36.6 200 FT. 61 Meters -

140 160 180 42.7 48.8 54.9

13.5

12

1.00 inch (25 mm) O.D. Fluid Discharge Tubing

AP2B Bottom Inlet, Long

Max. Flow 2.3 gpm (8.8 lpm)

O.D. 1.75 in (4.45 cm)

Length 55 in. (139 cm)

Advantages

- 1. The original 2" automatic airpowered well pump, proven worldwide over 15 years
- 2. The industry leader in reliability, durability, flow rate and depth capability in an automatic pump for 2-inch wells
- 3. Handles solids, hyrocarbons, solvents, corrosive conditions, viscous fluids and land fill liquids
- 4. One-year warranty

Description

The AP2 Bottom Inlet Long AutoPump provides maximum capabilities and flow in a bottom inlet pump for 2" (50 mm) diameter wells. It is offered in optional versions to handle even severe remediation and landfill pumping applications, and delivers flow rates up to 2.3 gpm (8.8 lpm). The AP2 Long Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

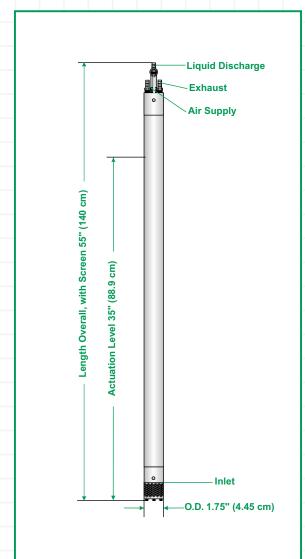
The AP2 Bottom Inlet Long AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.



Bottom Inlet, Long



Pump Dimensions



Specifications & Operating Requirements

Model 2" - Long AP2 Bottom Inlet **Liquid Inlet Location** Bottom 1.75 in. (4.45 cm) Length Overall (pump & fittings) 55 in. (139 cm) Length Overall, w / Extended Screen 57 in. (144 cm) Weight 7.8 lb (3.6 Kg) Max. Flow Rate 2.3 gpm (8.8 lpm) - See Flow Rate Chart 0.14 - 0.17gal (0.53 - 0.64 L) Pump Volume / Cycle Max. Depth 300 ft (91.4 m) Air Pressure Range 5 - 130 psi (0.4 - 9.2 kg/cm2) 35 in. (89 cm) Min. Actuation Level 0.38 -1.45 scf / gal.(2.8 - 10.8 liter of air / fluid liter) Air Usage See Air Usage Chart Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials¹
Pump Body Stainless Steel
Pump Ends Stainless Steel

Internal Components
Tube & Hose Fittings
Fitting Type
Stainless Steel, Viton, PVDF³
Brass or Stainless Steel
Barbs or Quick Connects

Tube & Hose Options
Tubing Material
Sizes² - Liquid Discharge
Pump Air Supply
Air Exhaust
Hose Material
Sizes - Liquid Discharge
1/2 in. (13 mm) ID
Sizes - Liquid Discharge
1/2 in. (13 mm) ID

Sizes - Liquid Discharge 1/2 in. (13 mm) ID 1/4 in (6.4 mm) ID Air Exhaust 3/8 in. (9.5 mm) ID

¹ Material upgrades available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings. ³ PVDF - Polyvinylidene Fluoride

Application Limits (base model)

Base model AP2 AutoPumps are designed to handle the application ranges described below. For applications outside this range, consult QED about AP2 upgrades.

Maximum Temperature: 150°F (65°C)

pH Range: 4-9

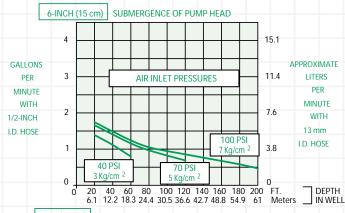
Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

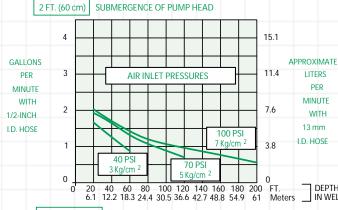
AP-2 AutoPumps are warranted for one (1) year: 100% materials and workmanship.

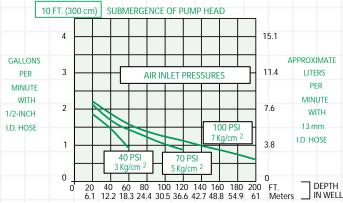


Flow Rates¹

1/2 inch (13 mm) Inside Diameter Discharge Hose (Equivalent to 5/8-Inch O.D. Tubing)



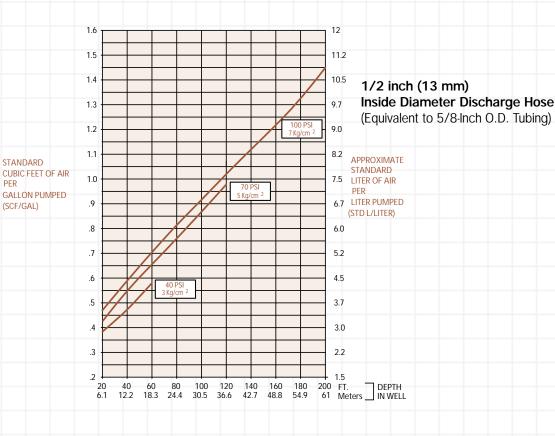




¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



Air Consumption





Max. Flow 2.0 gpm (7.6 lpm)

O.D. 1.75 in (4.45 cm)

Length 33 in. (85 cm)

Advantages

- 1. The original 2" automatic airpowered well pump, proven worldwide over 15 years
- 2. The industry leader in reliability, durability, flow rate and depth capability in an automatic pump for 2-inch wells
- 3. Handles solids, hyrocarbons, solvents, corrosive conditions, viscous fluids and land fill liquids
- 4. One-year warranty

Description

The AP2 Bottom Inlet Short AutoPump provides maximum capabilities and flow in a bottom inlet pump for 2" (50 mm) diameter wells. It is offered in optional versions to handle even severe remediation and landfill pumping applications, and delivers flow rates up to 2.0 gpm (7.6 lpm). The AP2 Short Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

The AP2 Bottom Inlet Short AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.



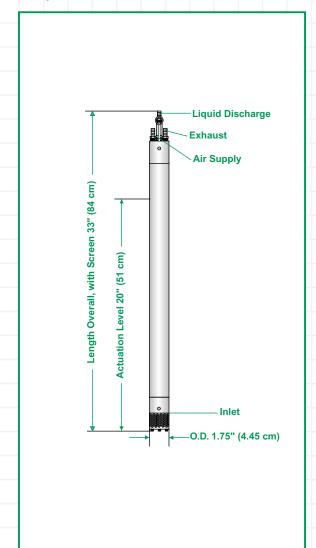


Bottom Inlet, Short



Model 2" - Short AP2 Bottom Inlet

Pump Dimensions



Specifications & Operating Requirements

Liquid Inlet Location	Bottom
OD	1.75 in. (4.45 cm)
Length Overall (pump & fittings)	33 in (85 cm)
Length Overall, w / Extended Screen	35. in (89cm)
Weight	5.4 lb (3.6 Kg)
Max. Flow Rate	2.0 gpm (7.6 lpm)
Pump Volume / Cycle	0.05 - 0.08 gal (0.19 - 0.30 L)
Max. Depth	300 ft (91.4 m)
Air Pressure Range	5 - 130 psi (0.4 - 9.2 kg/cm2)
Min. Actuation Level	20 in. (51 cm)
Air Usage	.39-2.58 scf/gal (2.9-19.3 li ters fo air/fluid liter
	See air usage chart
Min. Liquid Density	0.7 SpG (0.7 g/cm3)
Standard Construction Materials ¹	
Pump Body	Stainless Steel
Pump Ends	Stainless Steel
Internal Components	Stainless Steel, Viton, PVDF ³
Tube & Hose Fittings	Brass or Stainless Steel
Fitting Type	Barbs or Quick Connects
Tube & Hose Options	
Tubing Material	Nylon

Tubing Material Sizes² - Liquid Discharge Nylon 5/8 in. (16 mm) OD Pump Air Supply 3/8 in. (9.5 mm) OD Air Exhaust 1/2 in. (13 mm) OD Hose Material Nitrile Sizes - Liquid Discharge 1/2 in. (13 mm) ID Pump Air Supply 1/4 in (6.4 mm) ID Air Exhaust 3/8 in. (9.5 mm) ID

¹ Material upgrades available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

³PVDF - Polyvinylidene Fluoride

Application Limits (base model)

Base model AP2 AutoPumps are designed to handle the application ranges described below. For applications outside this range, consult QED about AP2 upgrades.

Maximum Temperature: 150°F (65°C)

pH Range: 4-9

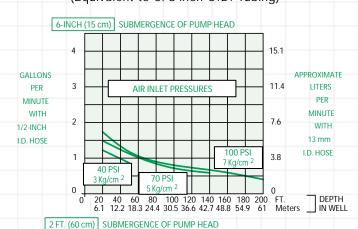
Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

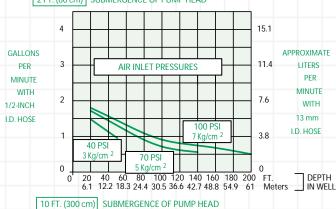
AP-2 AutoPumps are warranted for one (1) year: 100% materials and workmanship.





1/2 inch (13 mm) Inside Diameter Discharge Hose (Equivalent to 5/8-Inch O.D. Tubing)







¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.



Air Consumption



CUBIC FEET OF AIR

GALLON PUMPED

(SCF/GAL)

20.9 2.8 2.7 20.2 2.6 19.4 18.7 100 PSI 2.4 18.0 2.3 17.2 2.2 16.5 2.1 15.7 2.0 15 1.9 14.2 1.8 13.5 1.7 12.7 1.6 12 1.5 11.2 1.4 10.5 1.3 9.7 70 PSI 1.2 9.0 1.1 8.2 1.0 7.5 .9 6.7 .8 6.0 .7 5.2 40 PSI 3 Kg/cm 4.5 .6 .5 3.7 .4 3.0 .3 2.2 .2 1.5 200 FT. 61 Meters 80 100 120 140 160 180 20 60

1/2 inch (13 mm) Inside Diameter Discharge Hose (Equivalent to 5/8-Inch O.D. Tubing)

APPROXIMATE STANDARD LITER OF AIR LITER PUMPED (STD L/LITER)

AP2T Top Inlet, Long

Max. Flow 1.9 gpm (7.2 lpm)

O.D. 1.75 in (4.45 cm)

Length 57 in. (144 cm)

Advantages

- 1. The original 2" automatic airpowered well pump, proven worldwide over 15 years
- 2. The industry leader in reliability, durability, flow rate and depth capability in an automatic pump for 2-inch wells
- 3. Handles solids, hyrocarbons, solvents, corrosive conditions, viscous fluids and land fill liquids
- 4. One-year warranty

Description

The AP2 Top Inlet Long AutoPump provides maximum capabilities and flow in a top inlet pump for 2" (50 mm) diameter wells requiring an elevated inlet, such as pumping total fluids from wells contaminated with LNAPLs. It is offered in optional versions to handle even severe remediation and landfill pumping applications, and delivers flow rates up to 1.9 gpm (7.2 lpm). The AP2 Long Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

The AutoPump Heritage

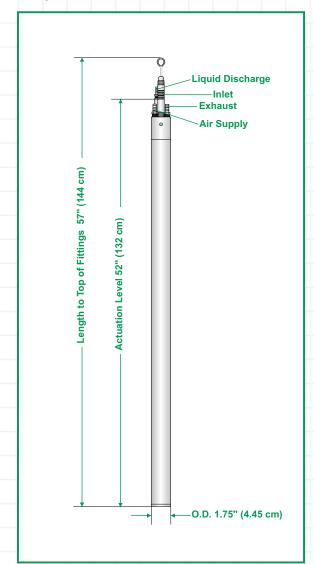
The AP2 Top Inlet Long AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.



Top Inlet, Long



Pump Dimensions



Specifications & Operating Requirements

Model	2" - Long AP2 Top Inlet
Liquid Inlet Location	Тор
OD	1.75 in. (4.45 cm)
Length Overall (pump & fittings)	57 in. (144 cm)
Weight	7.8 lbs. (3.6 kg)
Max. Flow Rate	1.9 gpm (7.2 lpm) - See Flow Rate Chart
Pump Volume / Cycle	0.14 - 0.17 gal (0.53 - 0.64l)
Max. Depth	300 ft (91.4 m)
Air Pressure Range	5 - 130 psi (0.4 - 9.2 kg/cm2)
Min. Actuation Level	52 in. (132 cm)
Air Usage	0.38 -1.57 scf / gal.(2.8 - 11.7 liter of air /
	fluid liter) - See Air Usage Chart
	•

Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials¹

Pump Body Stainless Steel **Pump Ends** Stainless Steel

Internal Components Stainless Steel, Viton, PVDF3 Brass or Stainless Steel **Tube & Hose Fittings** Barbs or Quick Connects Fitting Type

Tube & Hose Options

Tubing Material Nylon

Sizes² - Liquid Discharge 5/8 in. (16 mm) OD **Pump Air Supply** 3/8 in. (9.5 mm) OD 1/2 in. (13 mm) OD

Air Exhaust Hose Material Nitrile

Sizes - Liquid Discharge 1/2 in. (13 mm) ID **Pump Air Supply** 1/4 in (6.4 mm) ID Air Exhaust 3/8 in. (9.5 mm) ID

¹ Material upgrages available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

³ PVDF - Polyvinylidene Fluoride

Application Limits (base model)

Base model AP2 AutoPumps are designed to handle the application ranges described below. For applications outside this range, consult QED about AP2 upgrades.

Maximum Temperature: 150°F (65°C)

pH Range: 4-9

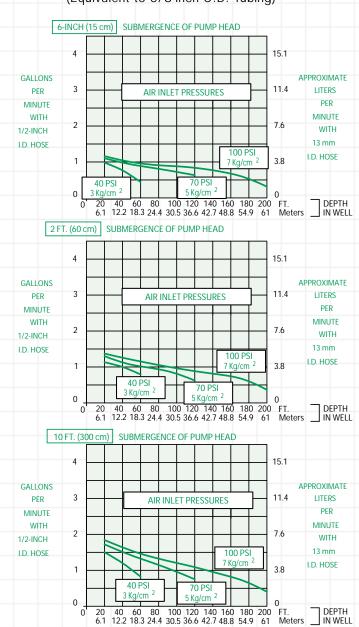
Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

AP-2 AutoPumps are warranted for one (1) year: 100% materials and workmanship.



Flow Rates¹

1/2 inch (13 mm) Inside Diameter Discharge Hose (Equivalent to 5/8-Inch O.D. Tubing)

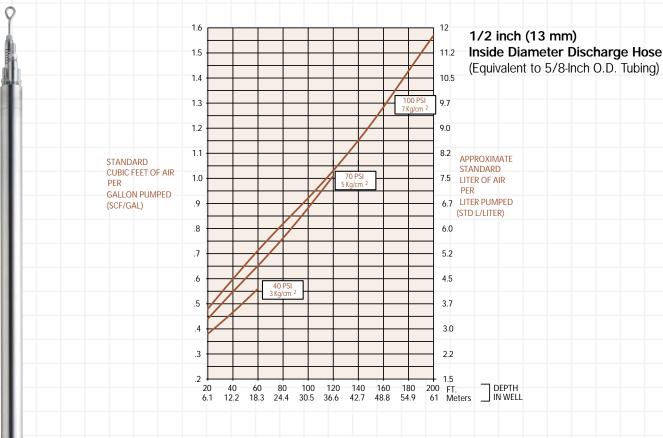


¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.





Air Consumption



AP2T Top Inlet, Short

Max. Flow 1.6 gpm (6 lpm)

O.D. 1.75 in (4.45 cm)

Length 35 in. (89 cm)

Advantages

- 1. The original 2" automatic airpowered well pump, proven worldwide over 15 years
- 2. The industry leader in reliability, durability, flow rate and depth capability in an automatic pump for 2-inch wells
- 3. Handles solids, hyrocarbons, solvents, corrosive conditions, viscous fluids and land fill liquids
- 4. One-year warranty

Description

The AP2 Top Inlet Short AutoPump provides maximum capabilities and flow in a top inlet pump for 2" (50 mm) diameter wells having shorter water columns and/or the need to pump down to lower water levels, compared to full-length pumps. It is designed for applications requiring an elevated inlet, such as pumping total fluids from wells contaminated with LNAPLs. It is offered in optional versions to handle even the most severe remediation and landfill pumping applications, and delivers flow rates up to 1.6 gpm (6 lpm). The AP2 Long Bottom Inlet AutoPump is complemented by the most comprehensive selection of accessories to provide a complete system to meet site specific requirements. Call QED for prompt, no-obligation assistance on your pumping project needs.

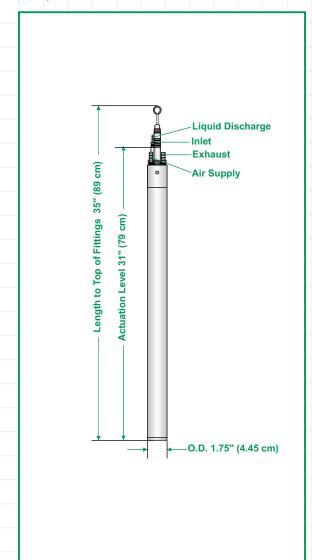
The AutoPump Heritage

The AP2 Top Inlet Short AutoPump is part of the famous AutoPump family of original automatic air-powered pumps, developed in the mid 1980s specifically to handle unique pumping needs at remediation and landfill sites. Over the years they've proven their durability at thousands of sites worldwide. AutoPumps are designed to handle difficult pumping challenges that other pumps can't, such as solvents, suspended solids, corrosives, temperature extremes, viscous fluids and frequent start/stop cycles. Beyond just the pump, AutoPump systems offer the most complete range of tubing, hose, connectors, caps and accessories to help your installation go smoothly. This superior pumping heritage, application experience and support back up every AutoPump you put to work on your project.





Pump Dimensions



Specifications & Operating Requirements

Model 2" - Short AP2 Top Inlet **Liquid Inlet Location** 1.75 in. (4.45 cm) Length Overall (pump & fittings) 35 in. (89 cm) Weight 5.7 lbs (2.6 kg) 1.6 gpm (6.0 lpm) .05 - .08 gal (.19 - .30 l) Max. Flow Rate Pump Volume / Cycle Max. Depth 300 ft (91.4 m) Air Pressure Range 5 - 130 psi (0.4 - 9.2 kg/cm2) Min. Actuation Level 31 in. (79 cm)

0.39 - 2.59 scf/gal (2.9 - 19.3 liters/fluid liter) Air Usage See air usage chart

Min. Liquid Density 0.7 SpG (0.7 g/cm3)

Standard Construction Materials¹ Pump Body Stainless Steel Pump Ends Stainless Steel

> **Internal Components** Stainless Steel, Viton, PVDF³ Tube & Hose Fittings Brass or Stainless Steel Fitting Type Barbs or Quick Connects

Tube & Hose Options Tubing Material Nylon Sizes² - Liquid Discharge 5/8 in. (16 mm) OD Pump Air Supply 3/8 in. (9.5 mm) OD Air Exhaust 1/2 in. (13 mm) OD Hose Material Nitrile Sizes - Liquid Discharge 1/2 in. (13 mm) ID **Pump Air Supply** 1/4 in (6.4 mm) ID Air Exhaust 3/8 in. (9.5 mm) ID

¹ Material upgrages available ² Applies to QED supplied tubing; other tubing sources may not conform to QED fittings.

³ PVDF - Polyvinylidene Fluoride

Application Limits (base model)

Base model AP2 AutoPumps are designed to handle the application ranges described below. For applications outside this range, consult QED about AP2 upgrades.

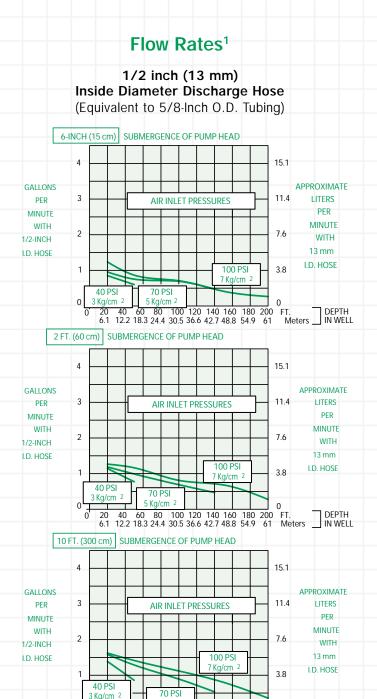
Maximum Temperature: 150°F (65°C)

pH Range: 4-9

Solvents and Fuels: diesel, gasoline, JP1-JP6, #2 heating oils, BTEX, MTBE, landfill liquids

AP-2 AutoPumps are warranted for one (1) year: 100% materials and workmanship.





20 40 60 80 100 120 140 160 180 200 FT. 6.1 12.2 18.3 24.4 30.5 36.6 42.7 48.8 54.9 61 Meters IN WELL

¹FLOW RATES MAY VARY WITH SITE CONDITIONS. CALL QED FOR TECHNICAL ASSISTANCE.





Air Consumption



STANDARD

(SCF/GAL)

CUBIC FEET OF AIR

GALLON PUMPED

2.8 20.9 2.7 2.6 19.4 2.5 18.7 18.0 2.4 2.3 17.2 2.2 16.5 2.1 15.7 2.0 15 **APPROXIMATE** 1.9 14.2 STANDARD 1.8 13.5 1.7 12.7 1.6 12 1.5 10.5 1.4 1.3 9.7 9.0 1.2 1.1 8.2 10 7.5 .9 6.7 .8 6.0 5.2 4.5 .6 .5 3.7 .4 3.0 .3 2.2 1.5 200 FT. 61 Meters 100 120 140 160 180 12.2 18.3 24.4 30.5 36.6 42.7 48.8 54.9

1/2 inch (13 mm) Inside Diameter Discharge Hose (Equivalent to 5/8-Inch O.D. Tubing)

LITER OF AIR LITER PUMPED (STD L/LITER)

IN WELL

Tubing & Hose





Model	Туре	Material	Liquid Discharge Size	Air Suppy Size	Exhaust Size	Maximun Pressure	Maximun Depth	Minimum Bend Radius
HIFLOTUBE	Jacketed 3-Tube set	Nylon 12	1.25" OD	1/2″ OD	5/8"OD	200 PSI	400 feet	8"
		,	(32 mm)	(13 mm)	(16 mm)	(14 kg/cm ²	(122 m)	(20 cm)
STDTUBE	Jacketed 3-Tube set	Nylon 12	1" OD	1/2″ OD	5/8"OD	200 PSI	400 feet	7"
			(25.4 mm)	(13 mm)	(16 mm)	(14 kg/cm ²)	(122 m)	(18 cm)
AP2TUBE	3-Tube set	Nylon 12	5/8" OD	3/8″OD	1/2"OD	200 PSI	400 feet	2.5"
			(16 mm)	(9.5 mm)	(13 mm)	(14 kg/cm ²)	(122 m)	(6.5 cm)
HIPSIHOSE	3-hose set	Nitrile	1" ID	3/8″ID	1/2″OD	300 PSI	600 feet	8″
			(25.4 mm)	(9.5 mm)	(13 mm)	(21 kg/cm ²)	(183 m)	(20 cm)
HIFLOHOSE	3-hose set	Nitrile	1" ID	3/8″ID	1/2″OD	100 PSI	200 feet	8″
			(25.4 mm)	(9.5 mm)	(13 mm)	(7 kg/cm ²)	(61 m)	(20 cm)
STDHOSE	3-hose set	Nitrile	3/4" ID	3/8″ID	1/2"OD	300 PSI	600 feet	7"
			(13 mm)	(9.5 mm)	(13 mm)	(21 kg/cm ²)	(122 m)	(18 cm)
AP2HOSE	3-hose set	Nitrile	1/2" ID	1/4″ID	3/8"ID	300 PSI	600 feet	5″
			(13 mm)	(6 mm)	(9.5 mm)	(21 kg/cm ²)	(122 m)	(13 cm)

Advantages

- All dimensions of QED tube, hose and fittings are carefully designed and controlled to ensure high flow capacity, easy assembly, high pullout strength and leak-tight connections
- Innovative jacketed nylon tubing is highly regarded by experienced users for its light weight, smooth profile and ease of handling
- QED offers an unmatched range of connector fitting options to make installation and maintenance easier and more efficient

QED offers the choice of jacketed nylon tubing or hose sets for downwell use, and single tubes and hoses for surface runs to fit each project's needs. The jacketed nylon tubing is an exclusive developed by QED that encloses all of the nylon tubes inside a strippable nylon outer cover, a convenient package designed to provide lighter weight, increased chemical resistance, smoother handling and a smaller profile in the well. For applications where the tighter bend radius of hose is preferred, hose sets are offered in several sizes. Other hose and tube materials are available for special applications.

The choice of hose and tube connection fittings used on pumps, caps and other components can make an important difference in the ease and quality of installation and service on your project. That's why QED offers a variety of connecting fitting types and materials, including barbs and quick-connects in both brass and stainless steel.

Note: All QED tube, hose and fitting combinations are engineered specifically to provide user safety, high pullout strength, ease of installation, and leak tight connections for maximum assurance that the pumping system goes in right and stays trouble-free. It is especially important that the mating diameters and the tolerances of fittings, tubes and hoses be carefully controlled to ensure a fit that is snug yet doesn't damage the hose or tube due to excessive stretching. Don't trust your project to general purpose tubing, hose, and fittings that weren't specifically designed to work together.

AutoPump Well Caps

Vacuum seal well cap with brass quick connects, filter regulator and pump cycle counter

Hundreds of wellhead cap and flange combinations are available from QED on a standard and custom basis to fit site needs and ease installation and maintenance. The table below lists some of our most commonly chosen wellhead assemblies. Our assemblies are based on the know-how gained through our 20 years experience and thousands of installations. Besides connecting to the pump tubing or hose, wellhead assemblies have to be designed for safety, equipment support strength, pump level adjustment, access for data and sample collection, and durability. Call us for more detailed information.



Barb fittings on slip cap (no vacuum). Barb fitting available in brass or stainless steel



Compression fitting for pass-through hose or tubing. Available in nylon

Open-



Quick connect fitting available in brass or stainless steel



Custom flange

liquid discharge lines

discharge lines

Sealing flange with fittings for

connection to air supply and liquid



Pump Cycle counter see page 72

Vacuum Cap Seal

Wellhead Assembly	Description	Fitting Types (hose & tubing)	Fitting Materials	Well Diameters
pen-hole cap	Non-sealing cap with open pass- through holes for hoses; allows easy pump height adjustment with support rope/cable	No fittings		2", 4", 6", custom (50, 100, 150 mm)
Slip	Non-sealing cap with fittings for connection to air supply and liquid discharge lines	Barbs, quick-connects, compression fittings	Brass, SS, poly	2", 4", 6", custom (50, 100, 150 mm)
Vacuum Seal	Sealing cap with fittings for connection to air supply and	Barbs, quick-connects,	Brass, SS, poly	2", 4", 6", custom (50, 100, 150 mm)

compression fittings

compression fittings

quick-connects,

Custom

Flange

Barbs,

Brass, SS, poly

Flow Counters

QED offers two unique ways to measure flow from AutoPumps: the Cycle Counter and the Severn Trent Smart Meter. Specialzed totalizers are also available for free phase hydrocarbons.

Cycle Counter

The Cycle Counter detects and displays each AutoPump cycle via the pulse of air that occurs in the supply line. Since the liquid volume delivered by each pump cycle is relatively consistent for a given well condition, the total liquid volume delivered can be monitored with these cycle counts. An important advantage of the Cycle Counter method is its long term reliability and low maintenance, since it requires no contact with the pumped fluid and no extra components in the liquid flow path. Cycle counters can also be ordered with an electronic pulse output to support automated flow data collection.



Cycle Counter Specifications

Type: Magnetic piston/spring

Readout: Direct digital (remote option), non-resettable

Maximum Pressure: 200psi (14 kg/cm²) End options: NPT, barb, quick connect

Smart Meter

To measure liquid flow directly, the Severn Trent Smart Meter delivers advanced technology at an attractive price for a rugged, self-powered, "no moving parts" flow totalizer. The Smart Meter uses a unique electronic flow sensor without any moving parts in the flowstream to avoid the wear, binding, and inaccuracies that conventional mechanical flow sensors are subject to. A digital display shows total volume pumped. The Smart Meter measures flow at rates up to 30 gpm, and is more accurate at low flow rates than conventional meters. It has been applied successfully at landfills on leachate and condensate. This flow meter is intended for use only on flows that are primarily water, not free-phase organics. The Smart Meter is also available with an electronic pulse output to support automated flow data collection.



Meter Data	Meter Size 5/8" x 3/4"	Meter Size 5/8"
Weight approx.	4.2 lbs.	4.2 lbs.
Materials	Brass and Engineered Polymer	Brass and Engineered Polymer
Pressure rating	150 psi (10 bar)	150 psi (10 bar)
Pressure loss at 10 gal/min	<3 psi (0.21 bar)	4.2 psi (0.29 bar)
Pressure loss at 20 gal/min	<9 psi (0.62 bar)	<15 psi (1.03 bar)
Pressure loss at 30 gal/min	<15 psi (1.03 bar)	N/A
Maximum display indication	9,999,999.999 gallons	9,999,999.999 gallons
Battery life	>10 years	>10 years



Air Supply

Filter regulators

Filter regulators are recommended for each pump at the wellhead to economize on system air consumption, allow control of pump flow rate, and reduce service needs caused by air system debris and contaminants. These high quality filter regulators are coated on the inside to prevent corrosion from condensed moisture. All QED well caps and flanges include mounting provisions for these filter regulators, and other mounting options are available.

Compressor Sizing

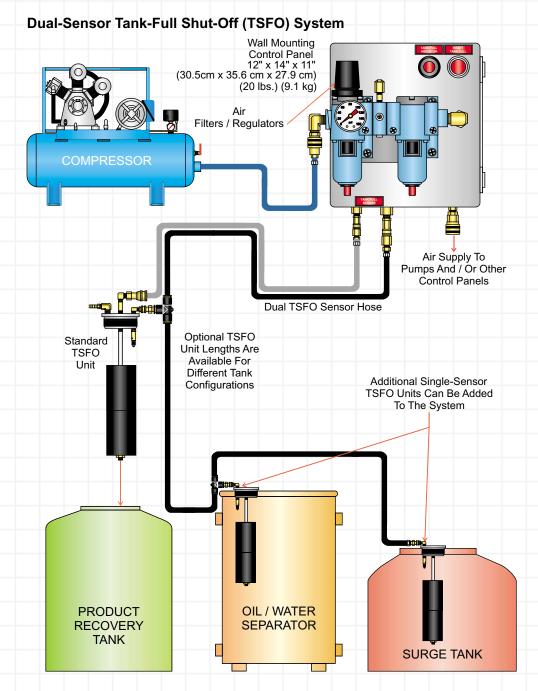
A compressed air supply is required to power AutoPumps. Estimation of the fluid flow rates and air consumption of the AutoPumps and sizing the fluid lines, air lines, and air compressor involves a number of factors. Our application specialists are ready to assist you.

The flow rates and air consumption for the AutoPumps can be compared by using the charts provided in this catalog for each model. The flow rate and air use curves in this catalog are based on pumping to atmospheric pressure at the wellhead, and do not take into account any liquid piping system backpressures due to elevation changes or fluid friction.

Finally, there are some initial guidelines for air compressors. Most importantly, follow all application quidelines of the compressor manufacturer. A piston compressor may be a start / stop type or a constant run type. The tank (receiver) must be large enough, particularly for the start / stop type. The motor should not turn on more times an hour than recommended by the manufacturer. And start/stop compressors are typically assigned a 50% maximum duty cycle, meaning that the compressor is sized to provide twice the maximum air demand of the entire AutoPump system.

Rotary screw compressors are designed for constant operation, and so are sized to just slightly exceed the maximum air supply requirement; it is recommended that rotary screw compressors not be grossly oversized because some types may be damaged by continued operation at low partial capacity.

Tank Full Shutoffs



QED's Tank Full Shutoff senses when your recovery tank is full and automatically shuts off the pump air supply. It is all pneumatic for safety, and includes two independent level detection methods for failsafe operation. The Tank Full Shutoff threads into standard 2" NPT fittings on drums and tanks.

Tank Full Shutoff Specifications:

Power Supply: Fully pneumatic

Level Sensor Type: Dual; Bubbler tube and float switch Air Usage: 0.7 scfm @ 80 psi (19.8 lpm @ 5.6 kg/cm²)

Tank Connection: 2-inch male NPT

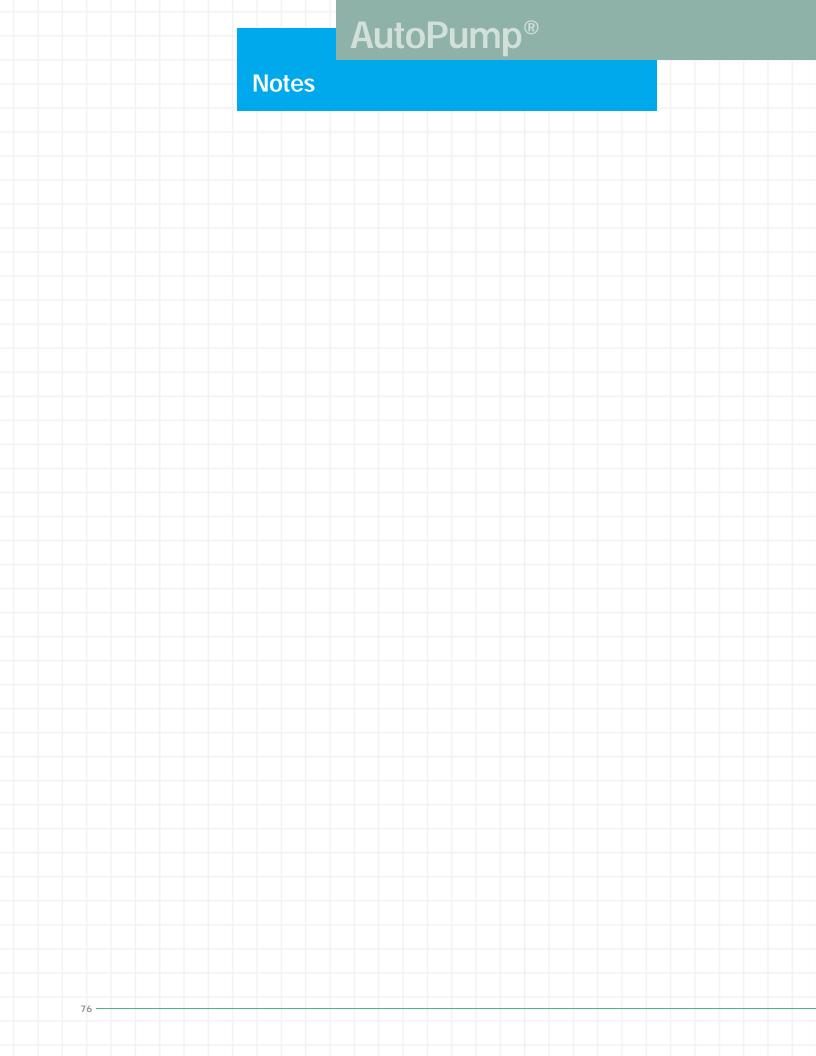




Application Data Sheet

SEVERN OF	D	Site In	formati	on Form
TRENT Environmental System	ms Inc		Today's Da	te
D. Box 3726 * Ann Arbor, MI * 48106-3726 * USA 800-624-2026 * FAX (734) 995-1170 * info@qedenv.com * www.qec		QED USE ONL	Quote Numb Sales Order Numb	
CUSTOMER INFORMA	ATION	S	TE INFORMATION	
Name:Title:		Site Name:		
Company:		Project Ref:		
Address:		Company:		
		Address:		
Email:				
Phone: FAX:		Phone:	FAX: _	
SENSORS REQUIRED		APPLICAT	ON TYPE	
☐ Tank-Full Shut-Off ☐ Fluid Level	Total Flu	_	· =	ondensate
☐ High-Water Shut-Off ☐ Pump Cycle Counte		☐ LNAPL	Le	achate
	APPLICATION	DESCRIPTION		
Pumping Objectives (attach additional information a	and diagrams).			
Properties of pumped fluids -contaminants/viscos	sity/concentrations/pH/t	emperature/specific gravity/ I	DS (attach additional in	formation).
Please attach sketch of site, well and equipmen	it layout.			
	WELL	. DATA		
← E→ <u>T</u>		ITIFICATION NUMBER		
	A Well casing C			
Λ Λ ←B→ ↓ Λ Λ	B Well casing II	o at location of equipment		
	 	top of outer / vault casing		
	F Vault Dimensi	ons		
	-	om of the well		
1 (om of the screen		
K	J Sump length	on the screen		
	K Depth to station	r water level		
		of LNAPL layer (if present)		
		ess (if present)		
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<u> </u>		oumping rate		
M LINAPL B	Desired fluid			
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M LINAPL	Desired fluid Final drawdow LNAPL remov Water / Leach DNAPL remov	vn level val rate (if present) nate removal rate		
M LINAPL	Desired fluid Final drawdow LNAPL remov Water / Leach DNAPL remov	wn level val rate (if present) nate removal rate val rate (if present) ly water table fluctuation		
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The information provided on this form will be kept confidential by QED.





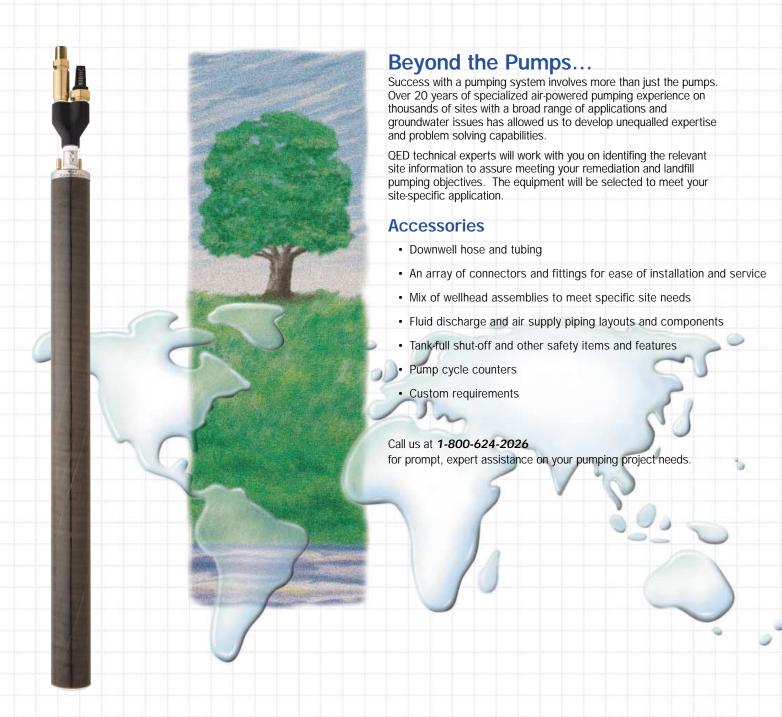
Warranty

QED AutoPump Warranty Period Summary

Following is a summary of the warranty periods only for QED AutoPumps and accessories; this IS NOT the complete warranty. Contact QED for a copy of the complete warranty

- 1. AP-4 AutoPumps (Long and Short lengths; Top- and Bottom-Inlets) warranted for five (5) years: 100% materials and workmanship for the first three (3) years; 50% materials and workmanship for the fourth (4th) and fifth (5th) years. AP-4 Low-Drawdown AutoPumps® warranted for one (1) year: 100% materials and workmanship.
- 2. HammerHead Pro Pumps (Top- and Bottom-Inlets) warranted for three (3) years: 100% materials and workmanship.
- 3. AP-3 AutoPumps (Long and Short lengths; Top- and Bottom-Inlets) warranted for two (2) years: 100% materials and workmanship.
- 4. AP-2 AutoPumps (Long and Short lengths; Top- and Bottom-Inlets) warranted for one (1) year: 100% materials and workmanship.
- 5. Hoses, Tubing, Fittings, Well Caps and Flanges warranted for one (1) year: 100% materials and workmanship. There will be no warranty for application or material compatibility.
- 6. Pneumatic Data Modules / Logic Control Panels warranted for one (1) year: 100% materials and workmanship.
- 7. Parts and Repairs

warranted for ninety (90) days: 100% materials and workmanship; when repairs are performed by QED or its appointed agent; from date of repair or for the full term of the original warranty, whichever is longer. Separately sold parts are warranted for ninety (90) days: 100% materials and workmanship.



The World Leader in Air-Powered Pumps

For Remediation, Landfills and Ground Water Sampling





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