



Enviro-Equipment Inc.
10120 Industrial Drive
Pineville NC 28134

Stock #1531

CEE AP4 Long Top Loading Pneumatic Total Fluids Pump

Serial # 3-6249

10 GPM Max, 250' Max Depth



**LANDFILL LEACHATE & CONDENSATE
SKIMMING (LNAPL)
TOTAL/DISSOLVED FLUIDS
SINKERS (DNAPL)**

AP-4

4-INCH CONTROLLERLESS PNEUMATIC PUMP

**FIRST OF ITS KIND, FIRST IN PERFORMANCE,
AND FIRST IN WARRANTY COVERAGE**

When it was introduced back in 1986, the AP-4 AutoPump was the industry's first controllerless pneumatic pump. It revolutionized the industry. Since then other manufacturers have tried to copy it, but with over 10 years of proven field performance and evolutionary improvements, the AP-4's lead is hard to overcome. In fact, when it comes to actual controllerless pump experience, CEE has more years in the field than all the competition combined.

The AP-4 AutoPump with its patented design is the industry's most reliable and proven pump. The benefit of our pump experience brings you unparalleled reliability and unique features such as flowrates over 16 gpm and an industry leading 5-year warranty.

The AP-4's warranty is not only the industry's best because of its five-year timespan, but also because of the real field experience we base it upon. Before offering this extensive warranty, we analyzed the service data of thousands of AutoPumps over a twelve-year span (some of which were the very first AutoPumps ever made that are still working today). After reviewing the empirical evidence, it was easy to see that the AP-4 has had no problem withstanding the tough test of time. No other warranty has such a solid foundation. So when it comes to unparalleled performance, reliability, and warranty coverage, specify the AP-4 AutoPump, the industry leader.



In order from left to right:
Low-Drawdown AP-4/BL, Short AP-4/TL, Long AP-4/BL,
Long AP-4/TL, Short AP-4/BL, Low-Drawdown AP-4/TL



Clean Environment Equipment

FEATURES AND BENEFITS

1. OVER 10 YEARS DOWNWELL

Back in 1986, AutoPumps were the first controllerless pumps. Since then, they have pumped billions of cycles on tough sites worldwide, including landfills, refineries, gas stations, petrochemical factories, military sites, and others. This proven field performance reduces problems commonly associated with newer, unproven designs.

2. UNPARALLELED 5-YEAR WARRANTY

The AP-4 AutoPump has an industry-leading 5-year parts and labor warranty.

3. CUSTOM CONFIGURATIONS FOR JUST ABOUT EVERY SITE REQUIREMENT

With our extensive custom manufacturing experience, we can offer proven configurations to handle just about any application. Special float materials and other site specific materials of construction are available to allow pumping of aggressive liquids such as leachate with wide ranges of pH (1-12), solvents (such as MEK, Butylacetate, Acetone, Toluene, etc.), fuels (gasoline, diesel, jet fuels, etc.), and boiling water and diesel at steam injection sites with temperatures up to 212°F (100°C).

4. INDUSTRY-LEADING 16-GPM OUTPUT

The AP-4's proven design can pump over 16 gpm—the industry's highest flowrate. The AP-4 pumps over 23,000 GPD.

5. PATENTED CONTROLLERLESS DESIGN

The AP-4 uses an internal float and lever design to turn itself on and off. It requires no timers, bubblers, pilots, or

other external controls. This design allows near freezing temperature operation, reduced air consumption, and guards against unwanted adjustment or damage.

6. DIRTY AIR IS OKAY

Durable stainless steel air valves pass liquids as thick as 90 weight gear oil without fouling, so water in the air line is no problem.

7. THE AP-4 PUMPS SUSPENDED SOLIDS

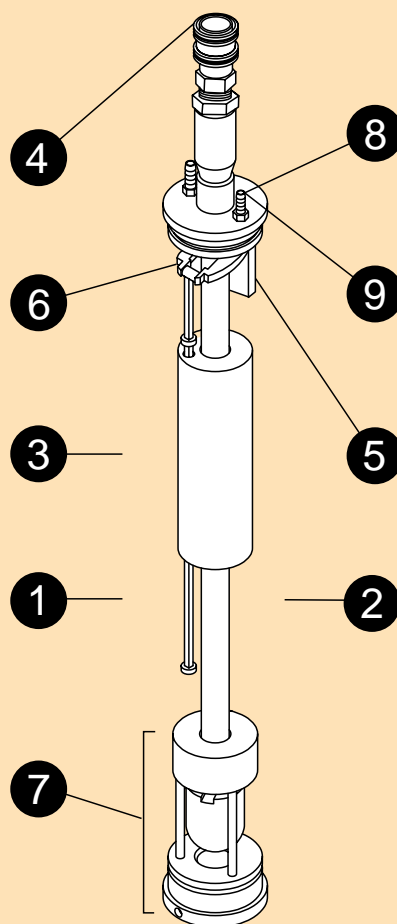
The AP-4's self cleaning fluid intake and discharge check valves can pass particles as large as 1/8 inch in diameter with no problems. This means leachate and other fluids with high particulate content can be pumped through the AP-4 without jamming.

8. SAFE PNEUMATIC OPERATION

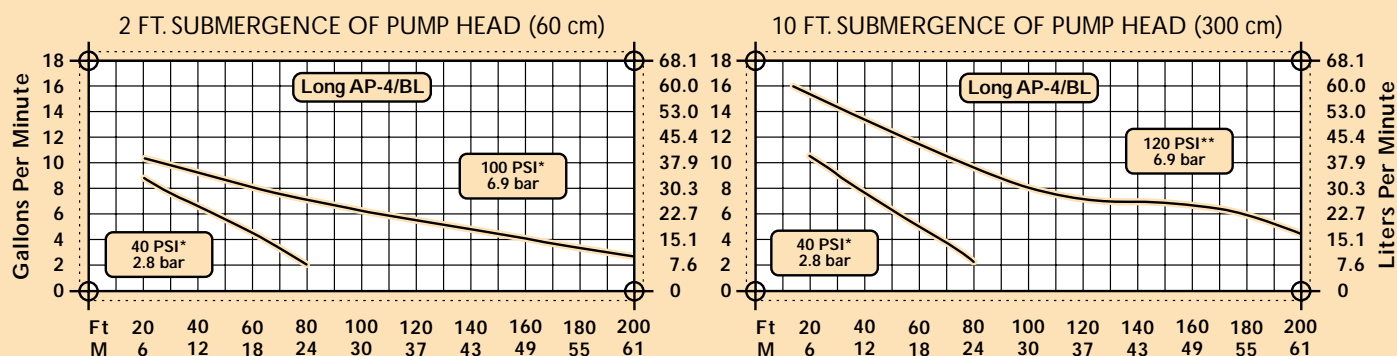
Pneumatics are intrinsically safer than electric systems that can shock, spark, or ignite fires. The AP-4's pneumatic operation means safer and easier installation because it is not subject to the strict electrical codes for explosion-proof designs.

9. LOW AIR CONSUMPTION

The AP-4 does not depressurize the supply line and only uses air when cycling. This reduces air, power consumption, filter, and operating costs.



PERFORMANCE CURVES



* ONE INCH (25mm) I.D. HOSE.

** ONE AND ONE QUARTER INCH (32mm) I.D. HOSE.

OTHER CURVES AVAILABLE FOR AP-4 AND OTHER MODELS.

AUTOPUMP TECHNOLOGY IN ACTION

The AP-4 AutoPump was first introduced in 1986. It was the first of its kind that revolutionized the industry.

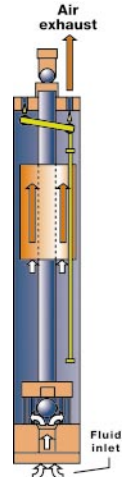
FILL CYCLE - Pump begins to fill

The fluid intake check valve opens, allowing fluid to enter the pump.

As the fluid level in the pump 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 to open the air inlet valve, allowing air to enter the pump body and closing the air exhaust valve.

Note: No air is used during the fill cycle.

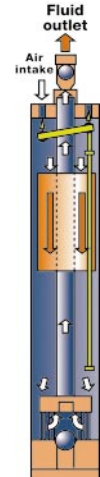


DISCHARGE CYCLE - Pump begins to empty

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

As the fluid level in the pump 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.



* Simplified schematic of bottom-loader shown. The top-loader has the same method of operation as the bottom loader except its fluid inlet is on top.

When the AutoPump “catches up” with the well recharge, the fluid level in the well is maintained roughly at a point two thirds up the casing length (for bottom-loaders) or at the top inlet (for top-loaders).

SPECIFICATIONS AND OPERATING REQUIREMENTS

Long AP-4/BL			Long AP-4/TL		Short AP-4/BL		Short AP-4/TL	
Pump Type	Controllerless air displacement		Controllerless air displacement		Controllerless air displacement		Controllerless air displacement	
Fluid Inlet	Bottom-loading, Fixed Intake		Top-loading, Fixed Intake		Bottom-loading, Fixed Intake		Top-loading, Fixed Intake	
O.D.	3.5 in.	8.9 cm	3.5 in.	8.9 cm	3.5 in.	8.9 cm	3.5 in.	8.9 cm
Length**	52 in.	132 cm	57 in.	145 cm	39 in.	99 cm	42 in.	107 cm
Weight	18 lb.	8.2 kg	19 lb.	8.7 kg	16 lb.	7.3 kg	17 lb.	7.8 kg
Volume/Cycle Range	0.58-0.78 gal	2.19-2.95 L	0.58-0.78 gal	2.19-2.95 L	0.23-0.34 gal	0.87-1.29 L	0.23-0.34 gal	0.87-1.29 L
Volume/Cycle Avg.	0.65 gal	2.46 L	0.65 gal	2.46 L	0.25 gal	0.95 L	0.25 gal	0.95 L
Max. Flowrate	16 gpm	60 lpm	10 gpm	38 lpm	13 gpm	49 lpm	9 gpm	34 lpm
Drawdown Level**	35 in.	89 cm	52 in.	132 cm	27 in.	69 cm	37 in.	94 cm
Min. Well ID	3.75 in.	9.53 cm	3.75 in.	9.53 cm	3.75 in.	9.53 cm	3.75 in.	9.53 cm
Operating press. range	5-120 (200*) psi 0.3-8.3 (13.8*) bar				5-120 (200*) psi 0.3-8.3 (13.8*) bar			
Min. Operating Pressure	2 psi (0.1 bar) above static head				2 psi (0.1 bar) above static head			
Air consumption	0.3-1.6 scf/gallon				0.3-2.0 scf/gallon			
	2.5-11.6 liter of air/fluid liter				2.5-15.3 liter of air/fluid liter			
Maximum Depth	250 (425*) ft. 76 (130*) m				250 (425*) ft. 76 (130*) m			
Minimum Liquid density	0.7 SpG or g/cc				0.7 SpG or g/cc			
Materials of Construction	Site Specific consisting of: Stainless Steel, Teflon, Acetal, Viton, Brass, Fiberglass, Polyethylene, Kynar, and other materials.							
Fittings	TYPE: Standard Barbs, Optional Quick Connects STANDARD SIZES: Fluid Discharge 5/8, 3/4, and 1 in.; Air Supply 3/8 in.; Air Exhaust 1/2 in.							
Warranty	5 years, Parts and Labor							

* High pressure, deep-well configuration

** Special or extended intake screens may alter listed specifications.

SPECIFICATIONS AND OPERATING REQUIREMENTS

Low-Drawdown AP-4/BL			Low-Drawdown AP-4/TL	
Pump Type	Controllerless air displacement		Controllerless air displacement	
Fluid Inlet	Bottom-loading, Fixed Intake		Top-loading, Fixed Intake	
O.D.	3.5 in.	8.9 cm	3.5 in.	8.9 cm
Length	25 in.	64 cm	29 in.	74 cm
Weight	11 lb.	5.0 kg	12 lb.	5.4 kg
Volume/Cycle Range	0.11-0.16 gal	0.42-0.61 L	0.11-0.16 gal	0.42-0.61 L
Volume/Cycle Avg.	0.135 gal	0.511 L	0.135 gal	0.511 L
Max. Flowrate	4 gpm	15 lpm	3.5 gpm	13 lpm
Drawdown Level	11.5 in.	29.2 cm	24 in.*	61 cm
Min. Well ID	3.75 in.	9.53 cm	3.75 in.	9.53 cm
Operating press. range	5-60 psi	0.3-4.1 bar	5-60 psi	0.3-4.1 bar
Min. Operating Pressure	2 psi above static head		2 psi above static head	
Air consumption	0.4-1.0 scf/gallon		0.4-1.0 scf/gallon	
	3.0-7.5 liter of air/fluid liter		3.0-7.5 liter of air/fluid liter	
Maximum Depth	130 ft.	40 m	130 ft.	40 m
Minimum Liquid density	0.78 SpG or g/cc (0.74 available)		0.78 SpG or g/cc (0.74 available)	
Materials of Construction	Site Specific consisting of: Stainless Steel, Teflon, Acetal, Viton, Brass, Fiberglass, Polyethylene, Nylon, and other materials.			
Fittings	TYPE: Standard Barbs, Optional Quick Connects STANDARD SIZES: Fluid Discharge 5/8, 3/4, & 1 in.; Air Supply 3/8 in.; Air Exhaust 1/2 in.			
Warranty	2 year, Parts and Labor			

* Drawdown can be less. Call factory.

OPTIONS AND ACCESSORIES

Contact a CEE representative for information on the following options and accessories:

- A. Various materials of construction for site specific applications.
- B. Numerous well caps in slip, flange, vacuum, landfill and other configurations.
- C. Hose and tubing made of nylon,

- polyethylene, Teflon, and other materials.
- D. Barbs, quick-connects, compression, PushLok®, and other fittings.
- E. Filter/Regulators with 35 or 60 SCFM ratings.
- F. Cycle Counters for well yield and maintenance statistics.
- G. Data Modules that show pump submersion depth, well fluid depth,

- pump & level sensor air supply pressure, pump cycle counter, and more.
- H. Special Intakes include Leachate Adapters, Float-Activated Intakes, Extended Screens, and more.
- I. TFSO dual-sensor safety overflow feature turns off the pumping system when the fluid storage tank becomes full.

ENGINEERING SPECIFICATIONS

The pump shall:

- Have a five-year warranty based on twelve years of field performance and service data.
- Be purchased from a manufacturer that utilizes a mechanical, float-operated air valve mechanism that has been in service for at least 12 years.
- Have a casing made of fiberglass reinforced engineering plastic for increased durability, dent resistance, and weight reduction.
- Have an air inlet and air exhaust

valves located on opposite sides of the pump on a center pivot to prevent harmful, excessive magnet impacts during normal operation.

- Be capable of pump rates of over 16 gpm based on 120 psi maximum air pressure; 10 ft. inlet head above pump head; 1 1/4 in. ID by 20 ft. long discharge hose; and static fluid discharge pressure of 6.1 psi or 14 ft. water column.
- Only use air during discharge cycling (pumping fluid from the well).

- Have air valves that can pass pure 90 weight oil and/or other like fluids for extended periods of time without damage or fouling; and shall not require oil- or water-free compressed air.
- Weigh less than 19 lb.



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