

Appalachian 40

Self-Priming Surface Pump



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Appalachian 40 – Self-Priming Surface Pumps

The pump system consists of a centrifugal pump and a separator, which enables air to be separated from the liquid and be sucked by a vacuum pump - making automatic priming possible. Even with suction heights of several meters the machine rapidly evacuates the air from the suction pipe and starts to pump. Additionally, thanks to the semi-open impeller, the Appalachian range is also suitable for pumping liquids with solids in suspension.

Applications

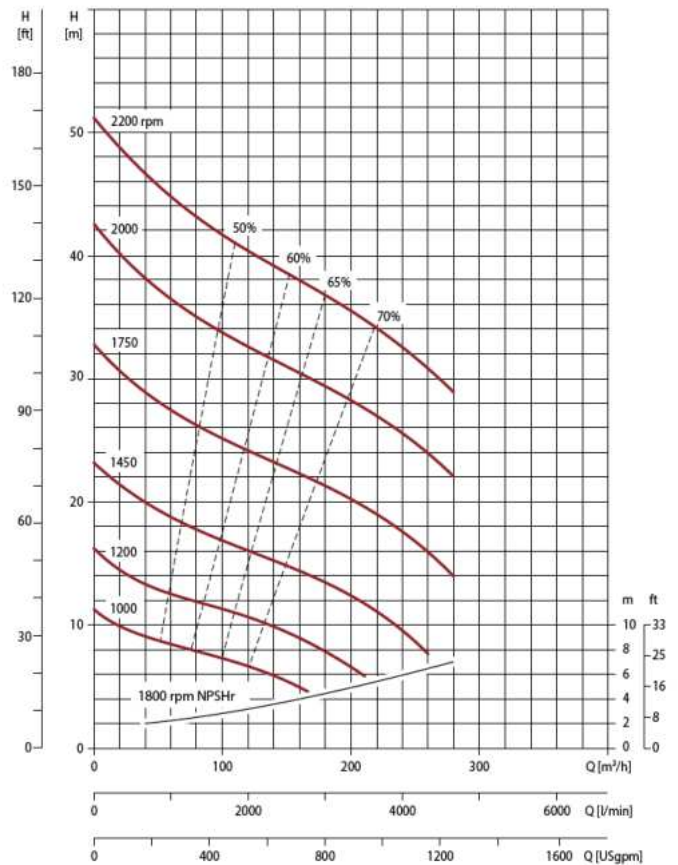
DAE Pumps has decades of experience in designing and producing pumps. We have put those years of expertise into providing a solutions portfolio that works across multiple applications. The Appalachian range is packed with features that not only meet but exceed the needs of the market. We are focused on an efficient, extremely versatile pump that is suitable for many industries, including construction, general dewatering and emergency applications, such as flood clean up.

Test according to UNI EN ISO 9906 standard - level 2
 Priming time: 30 s from 4.9 ft (1.5 m)
 Test liquid: clean water, density 1,000 kg/m³
 Max absorbed power: 29.0 kW - 38.9 HP (2,200 rpm)
 Spherical solids handling: D. 3" (76 mm)

Benefits

- Pump:** High efficiency: 70% (B.E.P.)
- Rapid "dry" priming:** Up to a height of 24.6 ft (7.5 m)
- High resistance:** To abrasive liquids and turbid sandy waters
- Semi-open impeller:** Solids handling up to 3" (76 mm)
- Diaphragm vacuum pump:** Oil free suitable for dry running: no contamination of the environment
- Mechanical shaft seal in oil bath:** It allows the "dry running" operation of the pump
- Wear plate:** Cast iron wear plate that is easily replaceable
- Easy maintenance:** Hinged cover for direct access to the impeller (without lifting devices). Link belt quick to replace on the field.

Performance Curve



Technical data

Pump

Model	Appalachian 40
Qmax	280 m ³ /h – 4,670 l/min (1,230 GPM)
Hmax	50 m (164 ft)
Q max eff.	220 m ³ /h – 3,670 l/min (1,000 GPM)
Eff. max	70 %
Suction port	Flanged - ANSI 100
Delivery port	Flanged - ANSI 100
Impeller type	Semi-Open, 2 vane
Solids handling	76 mm (3.0")
Material	G11
Casing	EN-GJL-200 cast iron
Impeller	EN-GJS-500 ductile iron
Wear plates	EN-GJL-200 cast iron
Number of plates	1
Shaft	39NiCrMo4 steel
Flushing	Yes
Mechanical seal	Tungsten carbide / Tungsten carbide
Elastomers	VITON
Lubrication	Oil

Priming system

Vacuum pump	V20
Vacuum pump type	Diaphragm
Nominal air capacity	50 m ³ /h (29.4 cfm)
Max vacuum	0.9 bar
Separator type	-
Separator material	EN-GJL-200 cast iron
Drives	Link belt

Engine

Make	Kohler					
Model	KDI 1903TCR					
Type	Diesel turbo common rail					
Displacement	1,861 cm ³ (114 in ³)					
No. cylinders	3					
Cooling	Liquid with radiator					
Rpm type	Variable					
Standard speed	2,200 rpm					
US emissions	EPA Tier 4F					
Starting	Electric					
Starting voltage	12 V					
Oil change interval	500 h					
Speed [rpm]	1200	1400	1600	1800	2000	2200
Power [kW]*	22	27.7	31.7	33.6	34	34.9
Power [HP]	29	37.2	42.5	45.1	45.6	46.8

* continuous power ISO 3046 ICXN

Control panel

Model	PW 750
Manual operation	
Automatic operation: start-stop with transducers or floats	
Digital display with 6 languages (EN, SV, FR, DE, ES, IT) with:	
Hour meter, Rev counter, Liquid temperature, Oil pressure and temperature	
Battery voltmeter, Fuel Level (%) and consumption (l/h)	
Automatic engine shutdown in case of:	
- low oil pressure	
- engine overheating	
- low battery voltage	
(engine failure alarms with LED lights and display message)	
Service time (hours)	
Emergency stop button	
Push-button accelerator (up/down)	
(PW1 FleetLink control as option)	

Arrangement

Technical data	
Material	ASTM A36 steel
Coatings	Polyester powder, average thickness of 3 MIL
Features	Lifting beam
Battery	Acid charge Pb-Ca maintenance free, 12 V - 1100 CCA
Tank	27 USG
Locking keys	Fuel cap
Fuel consumption	1.8 US Gal/hr @2200 rpm @BEP
H suction port	29 in (2.4 ft)
Dry weight	3105 lbs

Dimensional

