

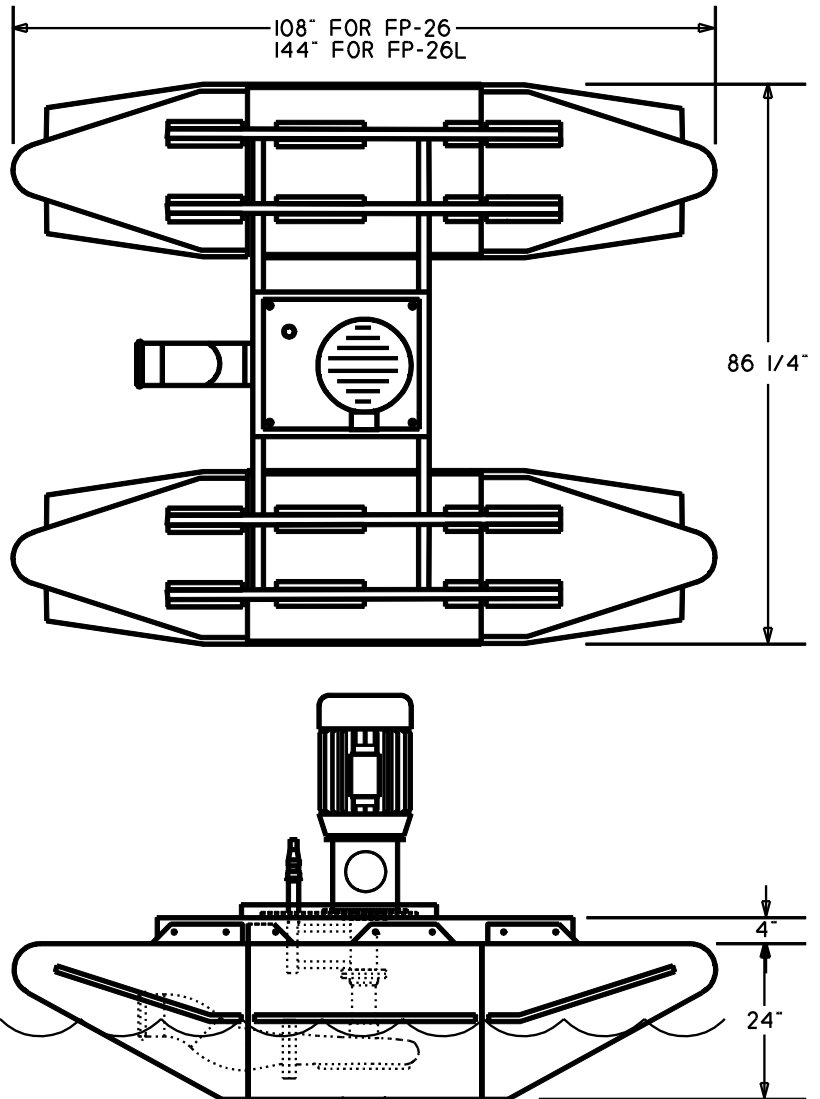


Unmanned Platform FP26 & FP26L

Materials of Construction:

Frame: Carbon steel.
Pontoons: Foam-filled polyethylene.
Pump: Ductile iron and steel.
Paint: Stainless epoxy.

DRAWINGS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE. DO NOT USE FOR CONSTRUCTION PURPOSES. CONTACT VAUGHAN FOR CERTIFIED CONSTRUCTION PRINTS.



FP26							
HP	RPM	V3F V3G	V3L V3M	V3V V3W	V4K V4L	V4P V4R	V6U
5	1170				✓	✓	
	1750	✓	✓				
7.5	1170				✓	✓	✓
	1750	✓	✓		✓		
10	1170					✓	✓
	1750		✓		✓		
15	1170					✓	✓
	1750				✓	✓	
	3510			✓			
20	1170					✓	✓
	1750				✓	✓	✓
	3510			✓			
25	1750				✓	✓	✓
	3510			✓			
30	1750					✓	✓
	3510			✓			
FP26L							
25	1170					✓	✓
30	1170					✓	✓
40	1750					✓	✓
	3510			✓			
50	1750					✓	✓
	3510			✓			
60	1750					✓	✓



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CURRENT U.S. PATENTS: No. 5,460,482; No. 5,460,483; No. 5,456,580; No. 5,256,032; No. 5,076,757; No. 4,840,384; No. 4,842,479.

CURRENT FOREIGN PATENTS: No. 2 371 834; No. 2 188 138; No. 1,290,981; No. 276224; No. 0 774 045.

OTHER PATENTS PENDING.

SPECIFICATIONS – UNMANNED PLATFORM FP26 & FP26L

The unmanned pumping platform shall be a floating all-electric unit, complete with pump and motor on a floating platform. Unit shall include a Vaughan chopper pump, specifically designed to pump waste solids at heavy consistencies. Materials shall be macerated and conditioned by the pump as an integral part of the pumping action. The pump must have demonstrated the ability to chop through and pump high concentrations of solids such as plastics, heavy rags, grease and hair balls, wood, paper products and stringy materials without plugging, both in tests and field applications. Complete unit shall be manufactured by Vaughan Co., Inc.

PLATFORM CONSTRUCTION

- A. Flotation: Flotation shall be provided by 26" diameter foam-filled polyethylene pontoons. Tapered pontoon ends shall provide easy movement through crusted sludge. Special polyethylene formulation shall provide the high strength necessary to prevent cracking at attachment points and the stability for long life in extreme heat and cold. No more than 50% of flotation shall be utilized for platform weight. Floats shall be attached to the frame with stainless steel fasteners. NO features shall be provided for manned usage.
- B. Frame: Shall be structural steel, complete with lifting and towing eyes.

PUMP CONSTRUCTION

- A. Casing: Shall be of semi-concentric design, with the first half of the circumference being cylindrical beginning after the pump outlet, and the remaining circumference spiraling outward to the 150 lb. flanged discharge. Casing shall be ductile cast iron with all water passages to be smooth, and free of blowholes and imperfections for good flow characteristics.
- B. Impeller: Shall be semi-open type with pump out vanes to reduce seal area pressure, and to draw lubricant down from the reservoir should seal leakage occur. Chopping/maceration of materials shall be accomplished by the action of the cupped and sharpened leading edges of the impeller blades moving across the cutter bar at the intake openings, with a set clearance between the impeller and cutter bar of 0.010" to 0.015". Impeller shall be cast steel heat treated to minimum Rockwell C 60 and dynamically balanced. The impeller shall be keyed to the shaft and shall have no axial adjustments or set screws required.
- C. Cutter bar: Shall be recessed into the pump bowl, with a funnel shaped inlet opening, and shall extend diametrically across entire pump suction opening. Cutter bar shall be cast steel heat treated to minimum Rockwell C 60.
- D. Cutter nut: Shall secure the impeller to the shaft, designed to cut stringy materials and prevent binding. The cutter nut shall be ASTM A148 cast alloy steel heat treated to minimum Rockwell C 60.
- E. Upper cutter: Shall be designed to cut against the pump-out vanes and the impeller hub, reducing and removing stringy materials from the mechanical seal area. Upper cutter shall be cast steel heat treated to minimum Rockwell C 60.
- F. Pump Shafting: Shall be heat treated. Upper shaft extension shall be turned, ground and polished. The shaft column shall be minimum 4" inch O.D. precision steel tubing welded to steel flanges and machined with piloted bearing fits for concentricity of all components. All support column tubes shall be leak tested. Distance between shaft bearings shall not exceed critical speed dimensions.
- G. Pump Shaft Ball Bearings: Shall be oil bath lubricated by I.S.O. Grade 46 turbine oil, with the exception of the top bearing, which shall be greased packed. The bearings shall have a minimum B-10 life rated 100,000 hours. Shaft thrust shall be taken up by either a double row angular contact ball bearing or two back-to-back mounted single row angular contact ball bearings, which bear against a machined shoulder on one side and the seal sleeve on the other side. Overhang from the centerline of the lower thrust bearing to the seal faces shall be a maximum of 1.2", with a mechanical seal to isolate the bearings from the pumped media at up to 250 F.
- H. Mechanical seal: Shall be cartridge type, and fitted with silicon carbide seal faces to provide long life expectancy in the presence of grit and abrasive solids. The seal shall include a 316 stainless steel shaft sleeve, with the seal tension held integral to the cartridge assembly. Seal shall be tested for flatness within 2 helium light bands under a helium light source and optical flat. All elastomers shall be Viton®. Remaining pump elastomers shall be Buna N.
- I. Automatic Oil Level Monitor: Shall be located above the mounting plate and be fitted with an internal oil level switch to detect oil level and shut off the motor in event of low oil level.
- J. Pump Discharge Pipe: The pump assembly shall be mounted vertically on a common steel base plate with a below-deck quick-disconnect galvanized steel Gheen fitting.
- K. Shaft Coupling: Shall be T.B. Woods Sureflex elastomeric type with a minimum 1.5 service factor based on the drive rated horsepower, and shall be protected with a guard meeting OSHA requirements.
- L. Motor Stool: Shall be a fabricated carbon steel weldment machined with piloted fits to positively align the C-flanged motor and pump shaft, with no adjustments.
- M. Pump Base Plate: Shall be fabricated carbon steel, 1/2" minimum thickness, and shall include lifting lugs.
- N. Stainless Steel Nameplates: Shall be attached to the pump and drive motor giving the manufacturer's pertinent data.
- O. Motor Requirements: Drive motor shall be ___ HP, ___ RPM, ___ volts, ___ phase, ___ hertz, ___ service factor, ___ enclosure. The motor shall be sized for non-overloading conditions.
- P. Surface Preparation: Degreased and coated with 5-8 MDFT epoxy (except motor).
OPTIONAL ADDER Surface Preparation: SSPC-SP5 commercial sandblast (except motor), primed with 5-8 MDFT epoxy primer and finish coated with 5-8 MDFT epoxy (except motor).