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## Firepumps

We are pleased to announce a special focus on our vertical turbine firepumps for 2011. In the coming months we will release updated catalogs, selection charts, and pricing. Therefore we'd like to take a moment to highlight our current line of Aurora vertical turbine firepump (previously listed as Layne & Bowler).

250, 300, 400 GPM	10FEM
500 GPM	11FGM
750, 1000 GPM	12FCM
1250, 1500 GPM	13FGH
2000, 2500 GPM	15FGH
3000, 3500 GPM	19FGM
4000, 4500 GPM	19FGH

We've also maintained listings on older models from the Layne & Bowler Memphis era, which allows us to provide duplicate drop-in replacements for existing installations. Available models include:

500 / 750 GPM	12FRKLC / 12FRKMC
1000 GPM	12FTLC
1500 GPM	13FCEH
2000 GPM	14FTHC
2500 GPM	17FDRHC / 17FDROHC



The original Verti-Line (Layne & Bowler California) models are no longer available as listed firepumps, which include:

500 GPM	F12ELH
750 GPM	F12EHM/H
1000 GPM	F14TMH
1500 GPM	F14RL/M
2000 GPM	F16EHM/H
2500 GPM	F18EHL/M
3000 GPM	F18EHXH
3500 GPM	F20KM/H
4000 / 4500 GPM	F20KH

In some cases such as the 14R and 18EH models, we still have patterns to duplicate construction as non-listed units. When you encounter an existing Verti-Line installation that needs to be replaced, a current firepump model must be used if a UL or FM nameplate is required.

Don't hesitate to contact us for more information!

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**Regional Managers (Domestic)**

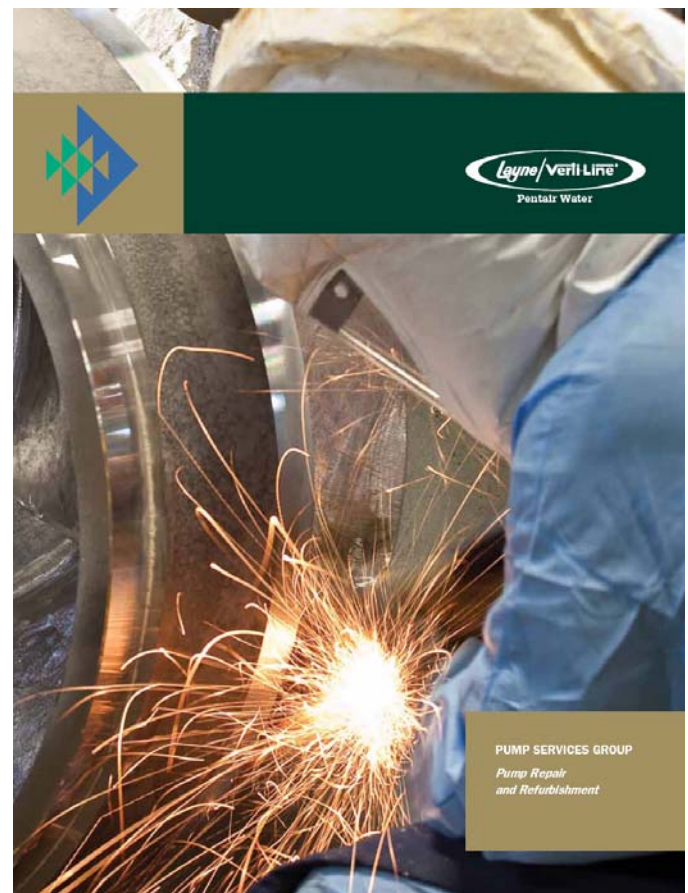
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**Pump Services Group**

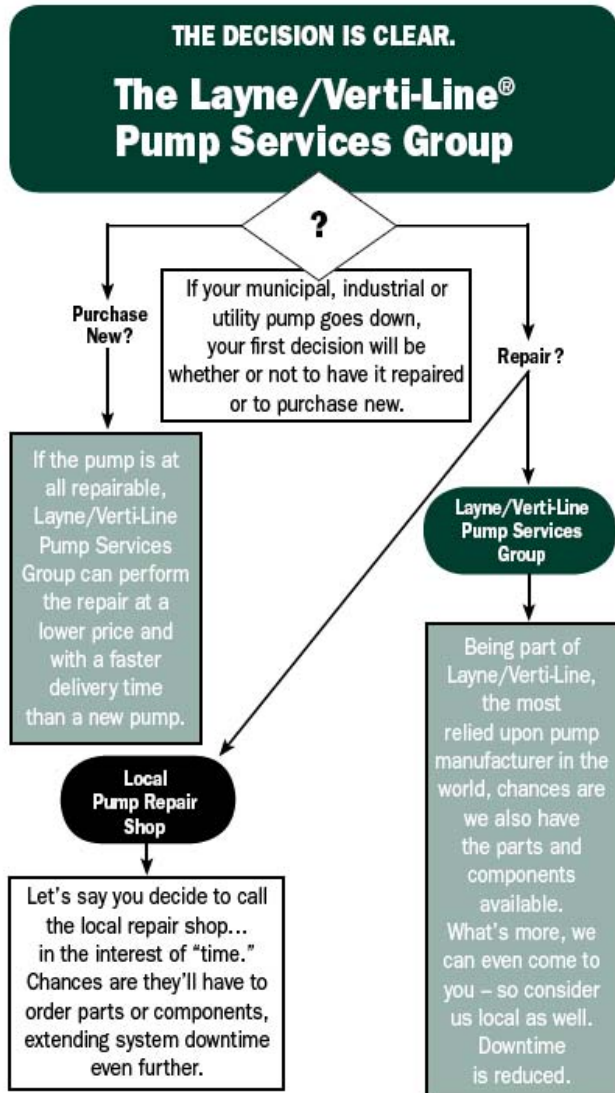
Often customers will inquire about rebuilding their pumps, however not all distributors have the capabilities or facilities to perform such a rebuild. We can help with our factory rebuild center, Pump Services Group!

Located at our plant is a building dedicated to pump overhaul. We can repair pumps ranging from a small 6” vertical turbine pumping jet fuel, up to 152” diameter horizontal propeller pumps in the Florida Everglades. We offer factory performance testing on rebuilt pumps. Our test facility can handle up to 5000 HP and 100,000 GPM. Finally, our rebuilt pumps come with the same 1 year warranty as a newly manufactured pump.

For more information, see page 3 & 4 of this month’s newsletter.



# WHEN YOUR PUMP SYSTEM GOES DOWN WHAT ARE YOU GOING TO DO?



The Layne/Verti-Line Pump Services Group can restore the performance and reliability of your existing centrifugal, submersible, vertical turbine, propeller or multi-stage pump, *regardless of pump manufacturer*, with lower prices and shorter delivery times. Keeping your pump running at peak efficiency helps reduce energy costs.

## PUMP SYSTEM UP AND RUNNING NO MATTER WHAT?

**YES.** In addition to downtime avoidance during the initial repair process, you'll have assurance that future downtime will be avoided as well because your pump will be repaired, rebuilt or re-engineered by the most highly skilled professionals in the industry.

## PUMP SYSTEM TESTING & QUALITY ASSURANCE?

**YES.** The Pump Services Group will make the repair with...

- A fully staffed Quality Assurance Department
- A QA program that meets the requirements of 10CFR50 Appendix B and MIL I 45208A
- Certified pump performance testing, if desired



### We Serve All Major Markets

- For municipalities, we offer repair services on pumps for solids handling, sludge, slurry, storm water, flood control, water service, and water conservation applications.
- We also serve the demanding requirements of the industrial and utility markets, including pulp and paper, chemical, petroleum, steel, mining, building and food industries.
- We understand pumps from the inside out and have been building quality pumping equipment for the municipal, industrial, and utility markets for over 100 years.
- This experience makes us the foremost experts in pump repair and service.



### The Layne/Verti-Line Pump Services Group Offers:

- Complete machining capabilities
- Restorative metals and metalizing
- Special coatings
- Welding and fabrication services
- Rebuild pumps of all sizes from 2" to 144" discharge
- Pump testing and certification
- 1-year warranty standard and extended warranties available
- Submersible pump repair
- The ability to re-engineer your pump to meet changing demands

### Rest Easy

Your pump will be repaired at the Layne/Verti-Line Kansas City Manufacturing Facility – the most trusted and respected manufacturer in the industry!



### We'll Go Anywhere To Support You

Whether we come to you or your pump is repaired in our facility, the Pump Services Group delivers the same quality and excellence that has put Layne/Verti-Line at the pinnacle of the pump manufacturing industry.

- Our comprehensive pump repair services meet the exacting demands of today's leading municipal, industrial and utility customers.
- Our technical service personnel are responsive to your specific needs and we are available 24/7.

### Full Service Support

In addition to furnishing the highest quality pump repair, we can also meet your needs for removal, installation, field supervision, start-up and/or station rehabilitation.

- We will take responsibility for the entire system, pump, driver, coupling, shaft and controls.

### Quality

Whether we come to you or your pump is repaired in our facility, it will be rebuilt to factory approved specifications. Our staff of qualified experienced pump engineers is always available for technical consultation on your repair.

- OEM quality is our performance standard. Being part of Layne/Verti-Line the Pump Services Group is on a level with any original equipment manufacturer.
- Layne/Verti-Line is ISO 9001:2000 Certified.



### Testing

Very few facilities in the U.S. have the capability to perform **Certified Pump Performance tests** on repaired units.

- Our controlled lab conditions utilizing certified instruments will assure that head pressure, flow rate, horsepower and efficiency all meet specified requirements after the rebuild.
- In applications where energy consumption is a primary consideration, certification is essential.



Our test floor has a 400,000 gallon pit, a full range of test drivers, as well as complete instrumentation.

### Delivery

A pump repair can usually be accomplished in less time than it takes to procure new parts. We will respond to emergency situations via our 24/7 emergency service.

### Control

Our broad range of capabilities ensures that complete control is maintained throughout the repair process.

### Warranty

Parts and labor furnished by the Pump Services Group carry a full 12-month warranty, same warranty as newly-manufactured pumps. Extended warranties are available.

## Installations around the World



### Terminal Riobamba, Ecuador

19FGM – 3 stage Firepumps  
3000 GPM @ 146 PSI @ 1800 RPM

The diesel unit is driven by a 650 HP Caterpillar engine, while the electric unit is powered by a 400 HP TEFC VHS motor. Installed at 10,600 ft above sea level, these pumps are located near Mount Chimborazo, which is the second highest mountain in South America.

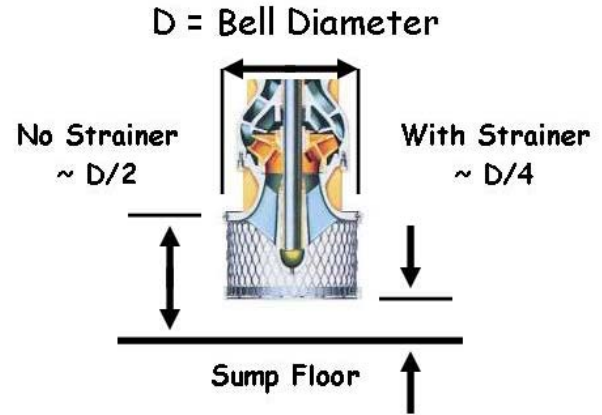
Sold by LEVO, our long time Aurora Firepump Distributor in Ecuador.



## Technical Q&A

*Question: What is the recommended clearance to set a vertical turbine off the bottom in a wet well or canned pump application?*

The guideline used throughout the industry is:



If no strainer is used, then distance from the lip of the suction bell to the sump floor is  $D/2$ . Hydraulic Institute 9.8.1 recommends a range of  $0.3D$  to  $0.5D$ . Note that some suction bell designs have a very long tail bearing which may require increased clearance, otherwise the pump will hit the sump floor.

If a basket strainer is used, then distance from bottom of the strainer to the sump floor is  $D/4$ . The exception to this is when the application is a firepump. Per NFPA 20, there must be a minimum 12" clearance from the bottom of the strainer to the sump floor.

## Factory Contact Information

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