

WSP™ Self-Primer Pump

WSP Self-Primer Pumps Replace Vertically Suspended Pumps



WEMCO®
WSP™

Weir Specialty Pumps

Case Study



Above: WSP Self-Primer 10 inch pump

Right: Rusted and worn impeller from the existing pump within the waste-water drain



INDUSTRY:

Petrochemical

APPLICATION:

Utility drain pump

EQUIPMENT:

The WSP Self-Primer pump is a rugged, dependable, self-priming, solids handling, trash pump.

WSP Self-Primer Pumps - Proven Performance

Understanding Our Customers

We strive to provide customers with quality products that achieve maximum efficiency—it's an integral part of our mission. A quality product is not only efficient but proves to outperform other and current options.

Our customer, a petrochemical plant in Saudi Arabia, had been dealing with under-performing processes within their facility. They have several waste-water drain sump pumps which utilized the VS1 type of cantilever pumps and had been in operation since the inception of the facility. Most of these pumps experience severe reliability and operational issues due to the pump casing and bearings being submerged in dirty process fluids. This harsh environment caused frequent pump failures and high operational costs, necessitating the search for a reliable, proven, pumping solution.

Accepting the Challenge

The nature of the drains caused significant challenges for pumping when utilizing their existing VS1 vertically suspended shaft pumps. The VS1 offered a solution to counter the negative suction that sump pumps presented, however, failure from the dirty process fluids and the submerged pump design caused frequent strainer clogging and was a major operational issue causing considerable down time and high cost of ownership.

There are few options available in the market other than the vertically suspended shaft designs to resolve these pumping issue, so it was a challenge to find a reliable and cost effective pumping solution.

The challenging issues with the existing pumps presented an opportunity for **Weir Specialty Pumps** to propose a solution, and the solution was readily implemented.

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The Solution

Considering the issues created by the current application, it was imperative we provided an efficient, reliable solution that did not continue to contribute to existing problems.

Weir Specialty Pumps offered the WSP 10 inch Self-Primer pump assisted by WSP Buzzsaw technology. This solution was recommended due to the pumps simplicity and reliability which would ultimately provide an improved cost of ownership.

The **WSP Self-Primer pump** was positioned at ground level where it lifted liquids with solids from the sumps nearly seven meters (23 feet) deep. This pump design offers a simple function and is appropriately effective, avoids submergence, does not require a strainer, and will not clog while maintaining flow and production.

As a result of implementing **WSP Self-Primer pump** technology, downtime was considerably reduced at each drain.

The Results

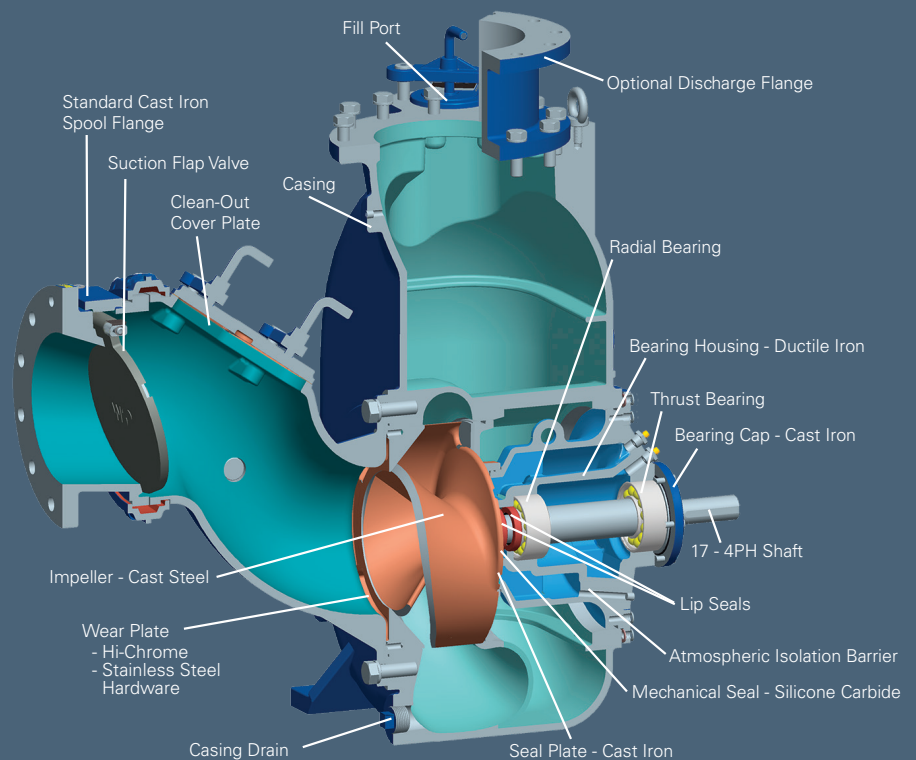
Since **WSP Self-Primer pumps** were new to the petrochemical plant, they agreed for two units to be installed on a trial basis. The first unit was installed in December 2016 and has been working extremely well, leaving the client satisfied with the pumps performance and reliability. There are plans to eventually replace all of the suspended shaft drain waste water pumps with **WSP Self Primer pumps** at this facility.

This decision is due largely to the simplicity of installation, ease of operation and maintenance, and lower cost of ownership, which is approximately 20 percent of what the plant used to spend on existing vertically suspended type pumps.

Several new applications have been quoted for this plant and we were delighted to provide an effective, proven solution, and continue to build upon their system with **WSP Self Primer pumps**.

WSP Self-Primer Pump Advantages:

- Ease of maintenance
- Shim-less impeller clearance adjustment
- Durable iron casing
- High-alloy material options
- Two-piece bearing housing



Weir Flow Control

Weir Specialty Pumps
440 West, 800 South
Salt Lake City, UT 84101
USA

T +1 801 359 8731
F +1 801 530 7828
www.global.weir
rotojet@mail.weir

Follow us on social media

Twitter: @weirgroup
Facebook: www.facebook.com/weirgroup
LinkedIn: www.linkedin.com/company/the-weir-group
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