

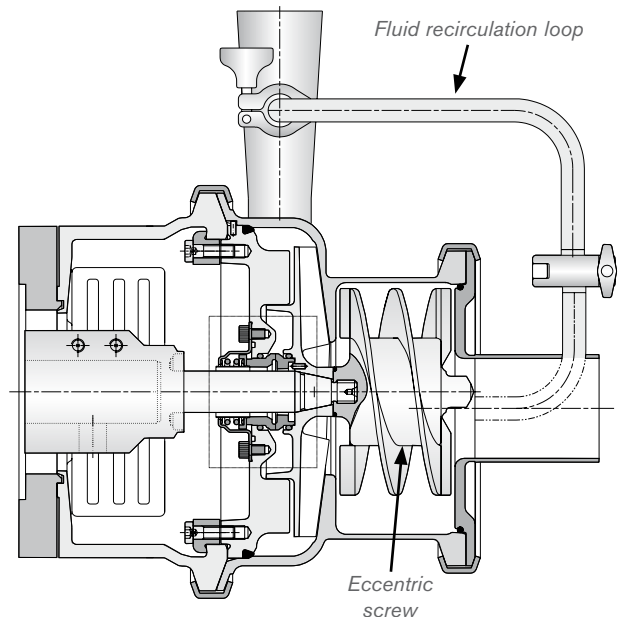


# Ws+ Series Self Priming Centrifugal Pumps

## New Revolutionary Technology

The APV Ws+ uses a unique design that combines the abilities of most liquid ring pumps with the efficiencies of the W+ centrifugal series. As a result customers can now handle entrained air and lift requirements with lower horsepower, less noise and at lower cost.

The Ws+ employs a unique eccentric screw and recirculation loop to generate the liquid ring required to handle aerated product and produce a vacuum. The design allows the use of standard centrifugal components to match the pump to a specific duty point to produce efficiencies previously unobtainable with liquid rings. Impellers can be trimmed to further reduce horsepower requirements. The result is higher efficiency, decreased power consumption, simpler components and less noise.



## Features and Benefits

- **Higher Efficiency**  
*The Ws+ is the most efficient sanitary liquid ring pump*
- **Smaller Motor/Less Horsepower**  
*Higher efficiency drops horsepower requirements*
- **Lower Initial Cost**  
*Relative simplicity and use of W+ components makes Ws+ economical*
- **Lower Life Cycle Costs**  
*Reduces on-going power requirements. Simpler components cost less*
- **Reduced Noise**  
*Smoother product flow makes the Ws+ quieter than comparable liquid rings*
- **Less Susceptible to Damage**  
*More open design minimizes the damage caused by the wrong items in the CIP stream*
- **Approved for Both Product and CIP**  
*Meets 3-A and EHEDG sanitary standards for product and CIP*
- **Performance of a W+ standard centrifugal**  
*Based on the W+ design, the Ws+ has the efficiency and pumping characteristics of the standard centrifugal pump. Allows the same pump to be used for product and CIP applications*
- **Impeller Can Be Trimmed to Duty**  
*The use of a standard centrifugal impeller means it can be trimmed to match process requirements. No wasted pumping capacity.*



## Maintenance Friendly

- **Parts Interchangeability with W+**

*Reduces inventory and training requirements.*

- **Front-Loading Single Seal**

*Easy and fast maintenance. Eliminates need to remove pump from process*

- **Self-Aligning Impeller Shaft**

*Insures impeller and air screw are running true. Simplifies shaft installation.*

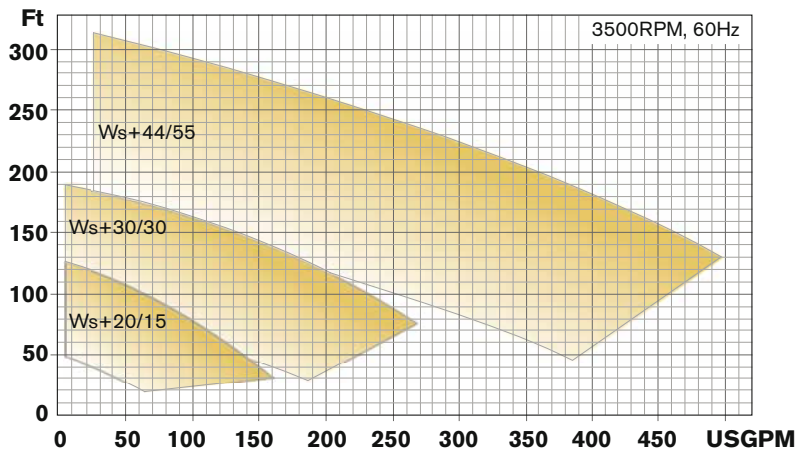
- **Internal Mechanical Seal**

- *Seal is cooled and lubricated by process for longer life.*

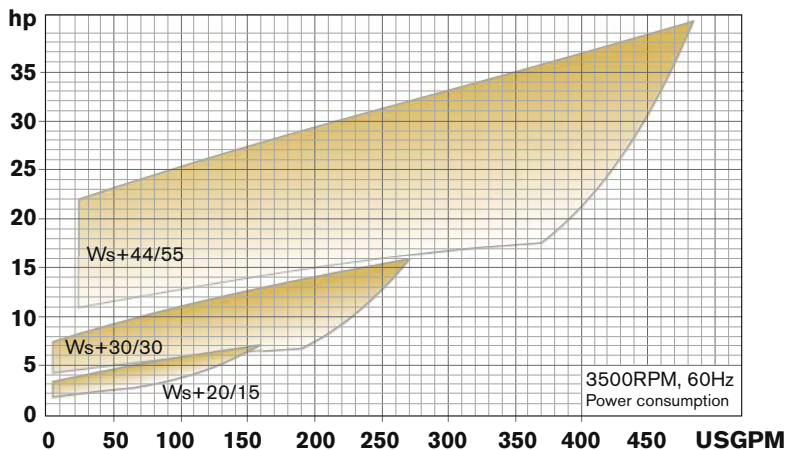
## Applications

- **CIP Return** - Ability to resist air binding and to pump entrained air makes this the solution for tough CIP return applications
- **Pumping foamy and aerated products** - The Ws+ will handle foam and products whose entrained air would stop standard centrifugals.
- **Lift** - The Ws+ can lift water and water like products.
- **Self-Priming** - With minimal water in casing the Ws+ will prime an empty line.

## Ws+ Performance Curves – Flow and Pressure



## Ws+ Performance Curves – Flow and Horsepower



SPX Flow Technology

611 Sugar Creek Road

Delavan, WI 53115

Phone: (262) 728-1900 or (888) 278-4321 Fax: (262) 728-4904 or (800) 252-5045

Email: [answers.us@spx.com](mailto:answers.us@spx.com)

[www.apv.com](http://www.apv.com)

[www.spxft.com](http://www.spxft.com)

For more information about our worldwide locations, approvals, certifications, and local representatives, please visit [www.spxft.com](http://www.spxft.com).

SPX Corporation reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing.

Issued: 03/2011 7023-01-03-2011-US Copyright © 2011 SPX Corporation

**SPX**<sup>®</sup>  
WHERE IDEAS MEET INDUSTRY