

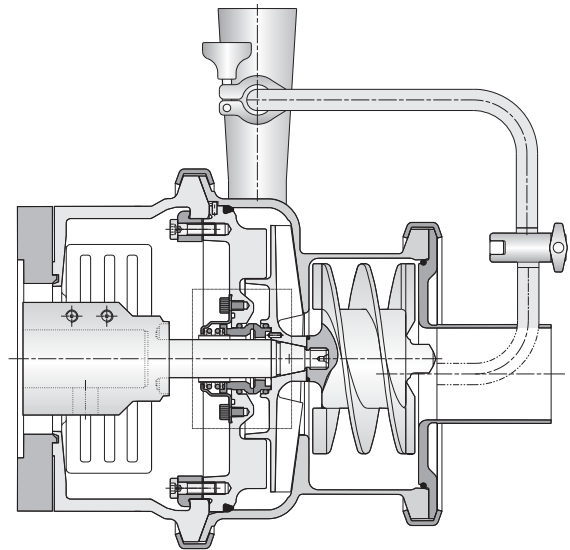


Ws+ Pumps

One of a kind



New revolutionary technology



SPX is a leading innovator of solutions with decades of experience in centrifugal pump design, covering premium brands such as APV and WCB. From the supply of engineered components to complete process engineering and design, we specialise in helping our customers improve their plant's performance and profitability. Years of intensive product development on a worldwide scale, has enabled SPX to offer a complete range of hygienic pumps in the brewery, dairy, food, beverage, chemical, health care and pharmaceutical industries.

The Ws+ is based on a unique technology applied exclusively by SPX, showing substantial improvements over traditionally designed self-priming pumps. The pump is built upon the acknowledged W+ pump, which has a proven record of over a decade.

Working principles

The Ws+ pump works according to the water ring principle. However, unlike traditional self-priming pumps, the Ws+ is equipped with a conventional open impeller ensuring a flexible flow range and enabling you to adjust performance to application. The self-priming effect is obtained by means of an air screw mounted on the pump inlet.

Efficient handling of mixed fluids

The Ws+ is designed to handle air or foam mixed fluids significantly better and with greater efficiency than standard self-priming pumps.



Top flexibility

Noise reduction

The noise level of the Ws+ is substantially lower than for traditionally designed self-priming pumps. A before and after test at a Danish cheese factory showed a 75% noise reduction when replacing a traditional self-priming pump with the Ws+ pump. A major advantage to the working environment.

Easy maintenance

The Ws+ pump design focuses on efficiency - including efficiency in maintenance and repairs. The shaft seal can be visually inspected for leaks, and replaced from the front.

The pump housing has a clamp ring that can be mounted at any angle to facilitate dismantling and reassembly. The motor shroud is also easy to remove and refit, and larger shrouds are supplied with handles so that they can be removed and replaced by a single person.

Product range

The Ws+ range consists of three models - Ws+ 20/15, Ws+ 30/30, and Ws+ 44/50. The name of each pump refers to its best efficiency point. Because of the efficiency of the three models they cover a large operational area.

Energy saving motors

All Ws+ pumps are supplied with high-efficient IEC motors in either 50 Hz or 60 Hz.

The IEC motors use as little energy as possible helping our customers to reduce energy costs and contributing to less global heating.

At 50 Hz the pump operates at a maximum pressure of 6.5 bar and a flow capacity of 90 m³/hour, whereas the values for a pump with a 60 Hz motor is 9.5 bar and 110 m³/hour.

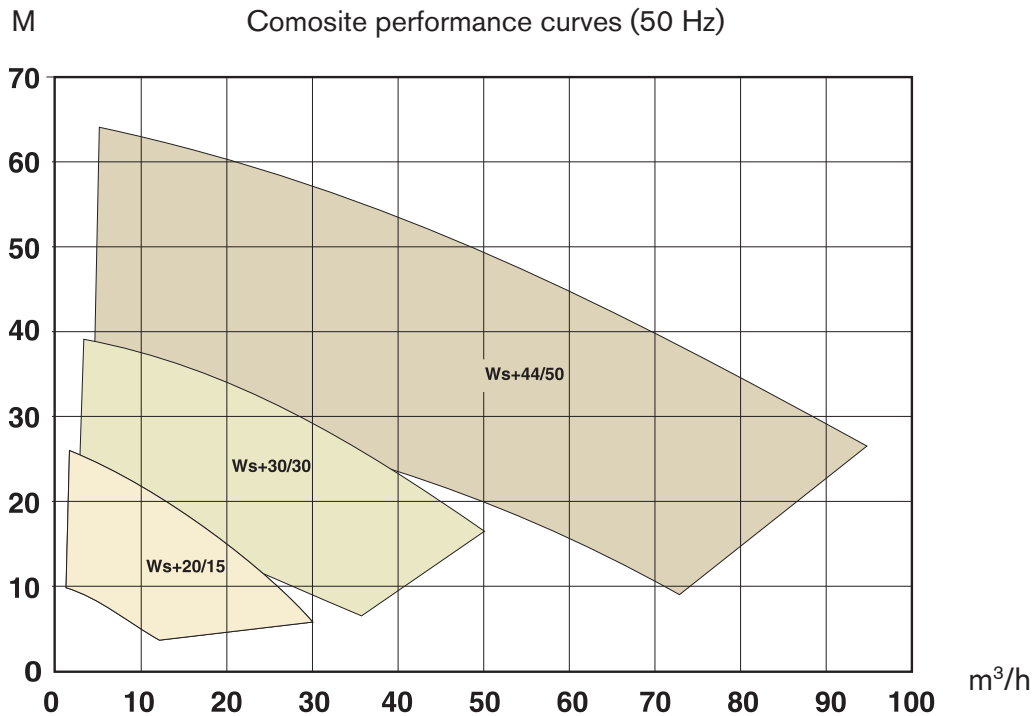


Optimisation possibilities

Because of the conventional impeller design a Ws+ pump can be optimized the same way as a W+ for "tailor made" pump performance.

Higher efficiency

Depending on the exact duty point, the efficiency of the pump is increased by 25-90% compared to traditional liquid ring pumps providing a significant impact on life cycle costs.



Design and performance

High standards of hygiene

The pump is approved by the European Hygienic Equipment & Design Group as a hygienic pump and is also available according to the American 3A standard. Consequently the pump can be used as a CIP as well as a first class hygienic product pump.

- Shaft seals in Carbon/Silicon Carbide or Silicon Carbide/Silicon Carbide
- Elastomers in EPDM or FPM
- Single or double mechanical shaft seal prepared for water flush
- IEC or NEMA motor
- Drain valves

Reduced inventory costs

The Ws+ series is based on the W+ design, which means that most commonly used spare parts are the same e.g. shaft seals, impellers, back plates, O-rings, etc. i.e. no extra costs for stock keeping.

Furthermore the pump is available with all standard welding unions and pipe couplings as well as ISO and DIN flanges.

Low installation costs

Due to the horizontal inlet, money is saved on installation. The piping loops that are required for conventional pumps (vertical inlets) are avoided. This is particularly useful in CIP applications. (Self-priming pumps typically have vertical inlets).

Particle-friendly design

Because of the open impeller design, small objects can pass through the pump with minimal damage.

Options

The following optional features are available:

- Electropolished versions
- Motor shroud
- Adjustable legs or bracket





Industries and product applications

The Ws+ pumps have been installed in numerous applications all over the world.

Many pumps started out as field test pumps and were never returned as our customers were so pleased with the pumps they decided to keep them.

Applications

The Ws+ pumps have been successfully installed in the following industries:

- Dairies
- Breweries
- Butter plants
- Cheese factories
- Wineries
- Food factories
- Egg plants
- Enzymes production
- Colourings
- Bio-pharma industry
- Fishing industry
- Waste water applications



The Ws+ pump series is ideal for all hygienic applications in the dairy, brewery and food industries as well as in the pharmaceutical and chemical industries - now and well into the future!



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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

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