



W+ Pumps

Minimize Life Cycle Costs



Prepared for the future

Designed for efficiency

The W+ pump series is based on a unique hydraulic design which combines maximum efficiency with the highest hygiene standards. A critical design feature is the APV-patented spiral volute, which is positioned in the back plate of the pump. The volute increases the efficiency and reduces the turbulence which ensures gentle product handling. The pump is extremely energy efficient and has very low noise and vibration levels, which deliver improved product integrity.



Innovative thinking

A striking innovation within the W+ pump is the greater operating range achieved as a result of design improvements of impeller and outlet. In addition, the W+ is very easy to maintain so that hygiene standards can be optimized at all times.



The W+ 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!

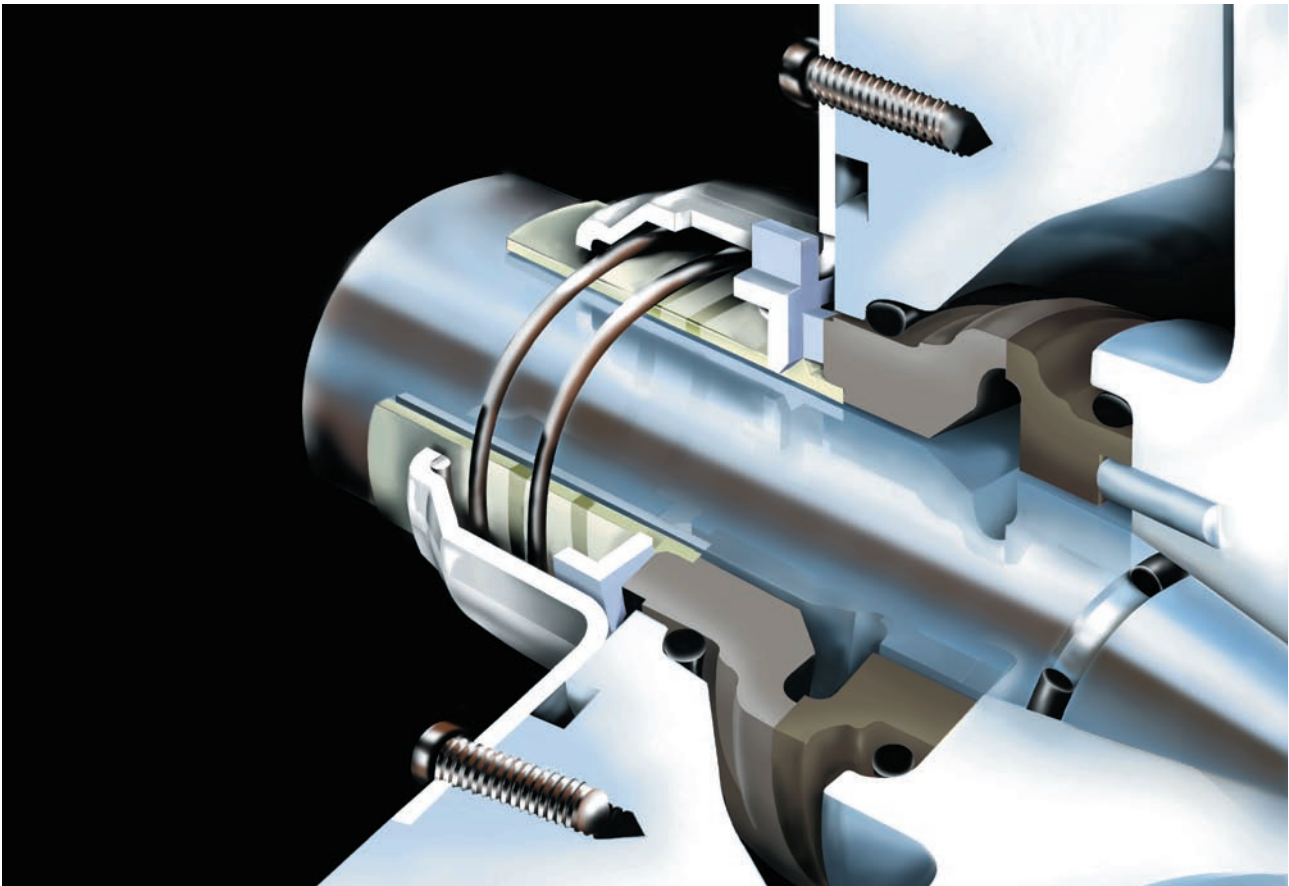


More pump for your money

Since each pump within the W+ series covers a wider operating range than its traditional counterpart, it is often possible to select a smaller pump model for a particular duty, reducing energy consumption, operating costs and installation expenses.

Easy maintenance

The W+ pump design focuses on efficiency - including efficiency in maintenance and repairs. The shaft seal can be visually inspected for leaks, and only the pump housing and impeller have to be removed to replace the shaft seal. In most models 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 for easy installation, the legs can be adjusted to fit into any application.



Top performance

Improved shaft seal

The shaft seal is essential in terms of hygiene. The W+ pumps are approved by EHEDG (European Hygienic Engineering & Design Group). The pumps are equipped with a shaft seal that is ideal for hygienic applications. It is particularly easy to rebuild into a double mechanical shaft seal for use with water-flushing or a barrier medium for aseptic applications.

But it has many other advantages:

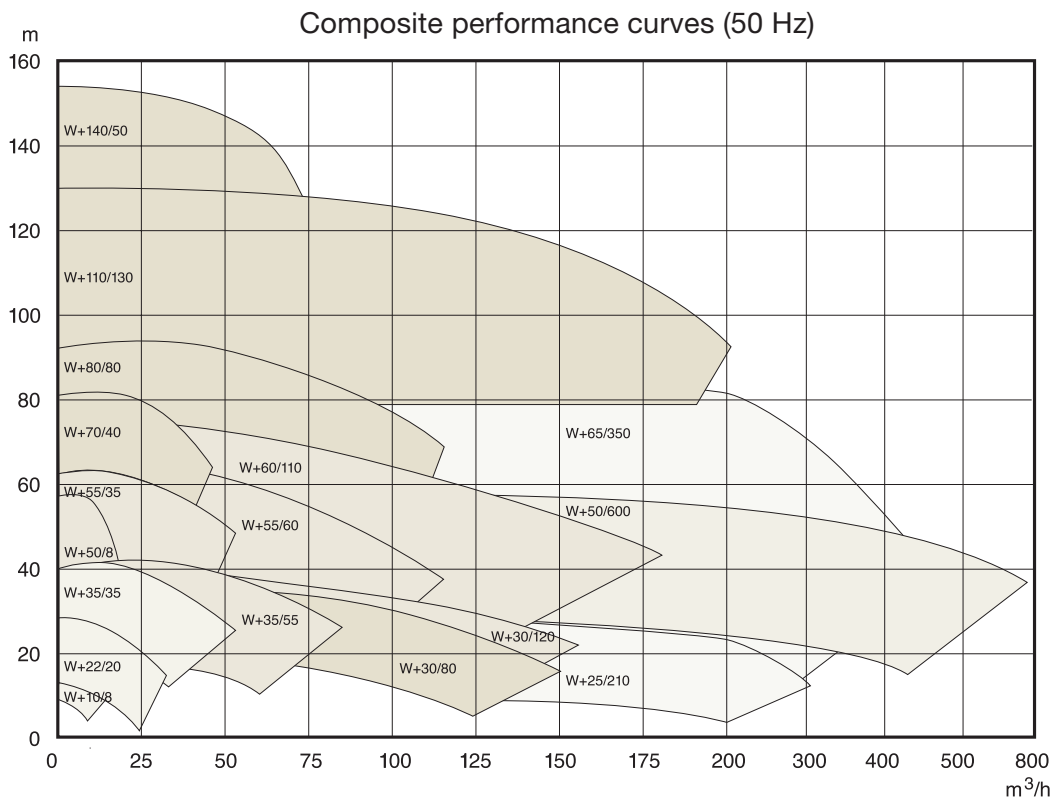
- great mechanical stability, so mechanical stresses are reduced and the lifetime of the shaft seal is substantially extended
- flexible suspension of the stator ring counteracts imbalances
- the shaft seal is balanced for the entire pressure range of the pump
- minimum risk of dry running
- can easily be rebuilt into a double mechanical shaft seal using two identical shaft seals and an adapter

- easy, quick replacements: only the pump housing and impeller have to be dismantled, then the shaft seal can be replaced very quickly.

Highest hygiene standards

The W+ pumps meet the strict European hygienic standards (EHEDG). They are therefore designed for both CIP (clean in place) and SIP (sterilise in place). All product contact parts are in AISI 316L stainless steel.

The pumps can also be supplied in 3A and/or electropolished version.



Reliability

The W+ is characterised by problem-free operation and a long life cycle. The pump design is particularly robust with a new hard-wearing shaft seal and an extension frame of stainless steel as standard.

Operating reliability has been thoroughly tested. Every pump is tested individually in a computer-controlled test bench, and a test certificate is provided with the pump. All W+ pumps are designed for system pressures up to 14, 18 and 25 bar – as standard.

Complete product range

The W+ range consists of 17 standard models with pressure and flow capacities up to 15 bar (50 Hz) and up to 800 m³/h (50 Hz). There are a number of special versions, which may be adapted specifically to customer requirements. As the W+ pumps are modular, customised versions can be provided to undertake specific pumping duties.

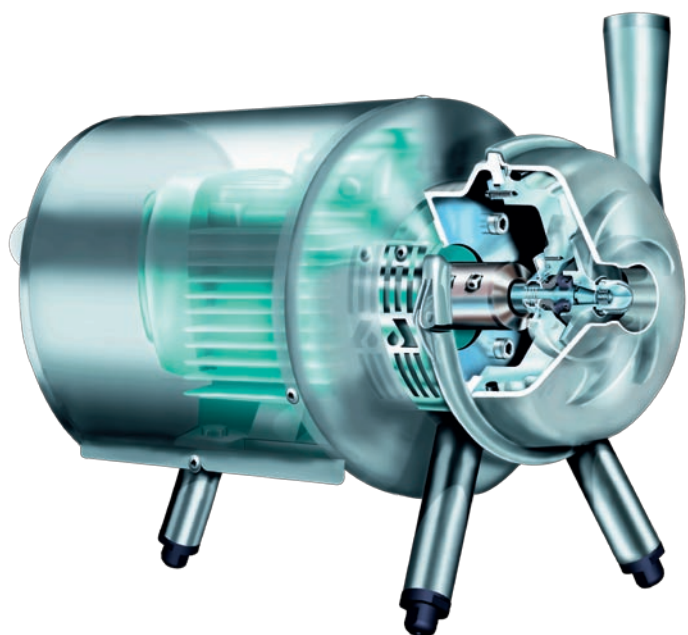
The name of the pump refers to its best efficiency point (BEP). W+ 22/20 for example, attains its

BEP when the differential pressure is 22 mWc and the flow capacity 20 m³/h (50 Hz).

All pumps operate at 50 Hz and 60 Hz.

Motors

To meet global demand, W+ pumps are supplied with either IEC or NEMA standard motors.



Variants of the W+

WHP+

The WHP+ is the high-pressure version of the W+ range. These pumps are designed to withstand system pressures up to 60 bar, which is necessary in certain diaphragm filtering processes. The WHP+ pump is very sturdy in its construction, which increases stability and dampens vibrations.

W+ multistage pump

The W+ 140/50 offers three special features:

- provides pressures up to 15 bar
- can be used in processes with system pressures up to 60 bar
- ensures optimum hygienic standards

Unlike other multistage pumps, it is CIP friendly. It has open impellers and semi-open impeller vanes eliminating any hiding place for bacteria. The W+ multistage pump is equipped with a robustly constructed bearing bracket that absorbs all radial and axial forces present in pumps of this kind so that it can use standard motors of any make.

WI+ inducer pump

Gaseous products, products with low boiling points and processes that involve vacuums all share the same "problem": the inlet pressure available (NPSHa) is lower than the pressure required for the pump to work optimally (NPSHr), creating a risk of cavitation. For these applications the WI+ pump is the perfect choice.



The pump is equipped with an inducer in the pump inlet. The inducer boosts the inlet pressure, and the risk of cavitation is correspondingly reduced (the NPSHr-value typically drops by 50-70%).

When the risk of cavitation disappears, so does the risk of a large number of operational disturbances that would otherwise result, such as excessive noise, energy loss, product damage and unnecessary wear on the pump.

The inducer further enables the WI+ pump to handle viscous products unsuitable for other centrifugal pumps types. This means that it can sometimes be used in place of the far more expensive positive displacement pumps. The WI+ is unique among inducer pumps, since it provides the same high efficiency and low NPSHr-value throughout its entire operating range.

Ws+

The Ws+ pump is a unique, patented, self-priming pump build on the W+ technology. Unlike traditionally designed self-priming pumps, it works according to the water ring principle and is equipped with an open impeller ensuring a flexible flow range. The pump has many advantages. It improves the working environment due to a low noise level. Furthermore, it is very energy-efficient because it operates at optimum duty point and an EHEDG approval makes it equally suitable for CIP liquid as well as product.



W+ 35/35



W+ 80/80



W+ 50/600

APV Fluid Handling

Hygienic handling of fluids is a demanding task. However APV has the expertise and know-how to manufacture components that match any process requirements.

APV has highly specialised manufacturing facilities, where we develop components designed to meet the highest hygienic standards.

Because APV focuses on improving and sustaining our customers' profitability, our products are found in the food, dairy, brewery, pharmaceutical, personal care, and chemical industries throughout the world.





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