

Innovative optimisation

Grundfos has always been a pioneer when it comes to low energy consumption and superior performance. The new range of energy-optimised circulators (LOW ENERGY) is no exception.

Determined research and development within the materials in the rotor can, has enabled Grundfos to launch a new stainless steel formula that increases the performance of our entire range of circulator pumps considerably.

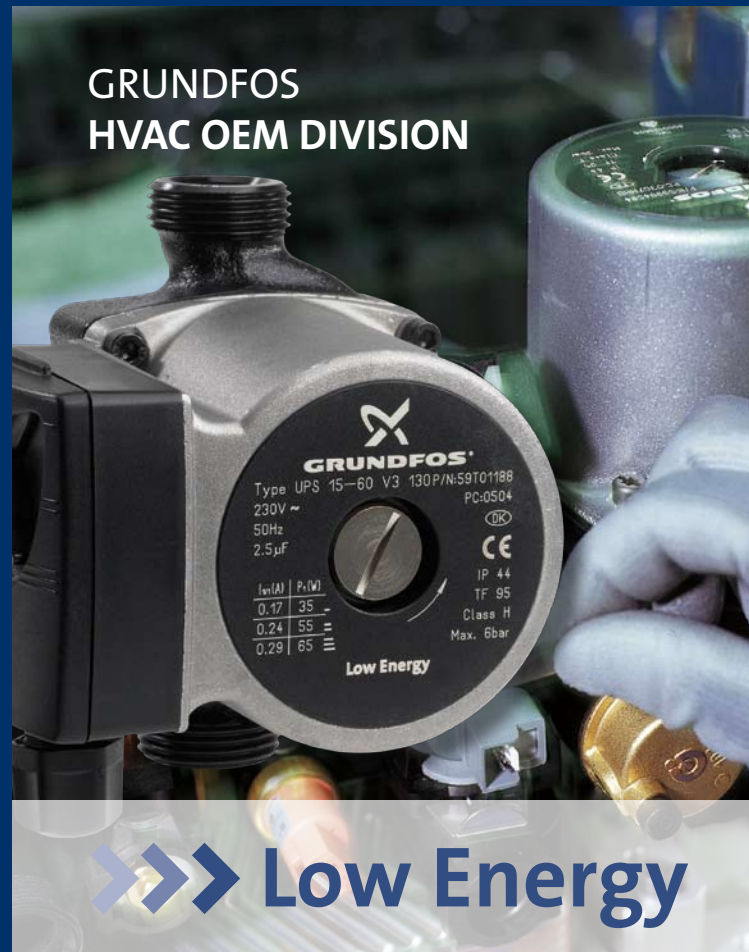
+ Performance ÷ Energy consumption

New material in the rotor can and specially designed stators has improved the utilisation of the magnetism and thereby increased performance of the pump. By doing so, we have cut the yearly energy consumption by up to 35%. The changes in the material positively affect the performance of the pump without affecting the reliability or the cost of the pump.

Energy savings for your customers

Apart from the new material of the rotor can and the changed stators, the new LOW ENERGY range of circulator pumps is exactly the same as the standard version. Consequently, you are able to offer your customers the same reliable and robust product, but with yearly energy savings of up to 35%.

GRUNDFOS HVAC OEM DIVISION



Low Energy

New optimised Low Energy range UPSO Proven technology and materials

Grundfos HVAC OEM Division

With an annual production of around ten million circulator pumps and hydraulic systems, Grundfos is the world's leading manufacturer of circulator pumps.

The Grundfos HVAC OEM Division is dedicated to serving manufacturers of domestic heating systems worldwide. In the last ten years, a strong effort and the most ingenious solutions for pumps and hydraulic systems available to the domestic heating industry have made us the preferred supplier. Here is why:

Reliability

Reliability is a Grundfos trademark. Our customers rely on our quality and know from experience that our products require virtually no maintenance.

Energy-efficiency

Determined research and development enables Grundfos to offer new energy-efficient pumps that reduce energy consumption in your systems.

Complexity made simple

Over the years, Grundfos has excelled in developing hydraulic systems. Our complete hydraulic systems fit perfectly into your boiler – offering the advantages of e.g. fewer components, reduced assembly time, reduced stock handling, and the opportunity to reduce your number of suppliers.

Composite trend

Our solutions comprise cast iron and composite circulator pumps and hydraulic systems. Today our top quality composites are fast becoming the market standard for pump housings and connections inside the boilers. Lightweight and easy to model they provide supreme flexibility, when designing the optimal solution.

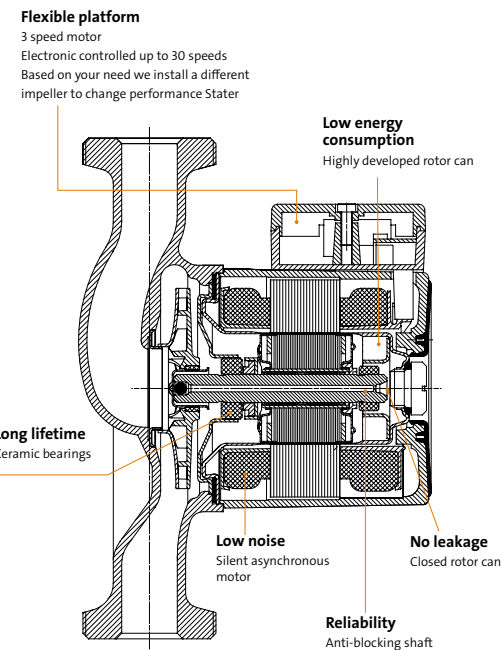
Grundfos UP pumps – reliable and noiseless

A Grundfos UP pump is a wet runner with an asynchronous motor. The entire shaft, including rotor and impeller, is running in the medium (e.g. water). Consequently, the pump is without a shaft seal that has to be maintained. Instead, a stainless steel rotor can, stretched as one part, separates the stator and the rotor and prevents leakage.

The shaft, the two radial bearings and one part of the axial bearing are made of tungsten ceramics – normally the hardest material inside a heating system. And if there is water inside the pump, the hydrodynamic principle causes the shaft to swim upon a thin water film, much like aquaplaning.

Advantages of the construction:

- No maintenance – low costs
- No leakage – high reliability
- No noise – high comfort
- No wear – long life



The new LOW ENERGY OEM circulator range UPSO

- Different motors combined with different housings
- Free choice of terminal box position, name plate position and power supply plugs (or cables)
- Variable by using up to 3 speeds
- Anti-blocking laser hole shaft
- Long life tungsten shaft and bearings
- Environmentally friendly without antimony, lead, etc.
- Cataphoretic coated cast iron or composite housings
- IP 42, CE-Approval

Heating:

TF 110°C, PN 10 bar for Cast iron housings
TF 95°C, PN 3 bar for Composite pumps PA 6.6

Domestic hot water supply or recirculation:

TF 65°C, PN 10 bar for bronze or PPS housing

Low Energy

Low Energy	H at 1 m ³ /h	P at 1 m ³ /h
UPSO 15-30	> 2,4 m	< 40 W
UPSO 15-40	> 3,1 m	< 55 W
UPSO 15-50	> 4,3 m	< 60 W
UPSO 15-60	> 5,0 m	< 78 W
UPSO 15-65	> 5,7 m	< 95 W
UPSO 15-70	> 6,2 m	< 100 W

Grundfos “Low Energy” pumps are designed to reduce the energy consumption of the pump by up to 35 % depending on the pump type. They are available as standard pumps with 1 to 3 speeds as UPO, UPSO. To further reduce the power consumption – especially in a low load situation – electronic controlled pumps are available as Low Energy Grundfos UPER or as Grundfos UPM in permanent magnetic technology.

Motor technology

All pumps have some losses, such as electromagnetic gap losses. In asynchronous wet runner motors the gap between stator and rotor is very important. A rotor can and a waterfilled gap separate the dry stator from the wet rotor. Because the rotor is made of ferritic lamella sheets, it is also covered by stainless steel.

A magnetic field has to be transmitted from the stator into the rotor. The waterfilled gap and stainless steel material are poor magnetic conductors, but the waterfilled gap cannot be reduced due to lime and sediment liability. Instead, by using a more “ferritic” alloy of stainless steel, Grundfos has reduced the magnetic loss in the pump considerably, without losing the advantages of the stainless steel.

Unlike standard asynchronous dry runner motors the torque characteristics of a wet runner circulator are weak.

Accordingly, the slip is not constant, but depends on the hydraulic load and the torque of the motor. As a result, the slip increases with the flow, and with different winding connections it is possible to use up to 3 speed curves. “Ferritic” stainless steel can increase the performance of a pump and reduce energy consumption considerably.

QH Speed 3 comparison
505753 Cast Iron 130x1" UPSO program
230V 50Hz (5 pumps testet)

