

The future of energy saving: Wilo-Stratos GIGA.  
The first high-efficiency glanded pump.

*Product brochure.*



## The high efficiency principle.

Energy is most efficient when it isn't used at all.

Pumps in building services and industry don't just supply us with cosy warmth and comfortable coolness – they also keep almost all industrial processes running. However, they consume a large portion of the electrical energy used globally: almost 20% of the power consumed by motors worldwide can be traced back to pumps.

At over 1,650 TWh, this is more than half of the total energy consumption for Europe. 15% of this figure is consumed by pumps in commercial installations, and as much as 20% in industrial buildings. One of our

biggest and most ambitious aims for the coming years is to reduce this severe level of energy consumption.

Reducing energy consumption will not only benefit the environment – by saving resources and reducing damaging CO<sub>2</sub> emissions – it will also improve the sustainability of the companies involved. After all, energy costs make up the majority of a pump's life cycle costs – up to 85%!

Now, Wilo is proud to present a new generation of glanded pumps that will offer enormous potential for

savings – up to 246 TWh worldwide. This is equal to the power provided by 24 nuclear power stations, and will allow companies and municipalities in Europe to save almost 14 billion euros on energy costs. What's more, it could reduce European CO<sub>2</sub> emissions by 25 million tonnes per year.

The answer to this challenge is now here: Wilo-Stratos GIGA. A new glanded pump that gives you concrete results in optimising the energy costs and environmental balance of a building or industrial complex.



# High Efficiency <sup>246,000,000,000</sup>

Up to 246 TWh potential energy savings worldwide in applications relevant for the Wilo-Stratos GIGA.



**New regulations require new benchmarks.**  
 There is only one correct response to pervasive changes: ensuring a guaranteed future.

The authorities have also recognised the need for high-efficiency solutions, issuing strict guidelines for energy consumption. The new, far-reaching ErP directive for "energy-related products" applies to all glanded pumps used for heating and air-conditioning, water supply, pressure boosting and sewage disposal. As of 2011, the ErP directive has begun to set increasingly stringent efficiency limit values for electric motors – changes that will radically alter the entire pump market.

for glanded pumps achieves levels of efficiency far in excess of the defined limit values. Using this principle, the Wilo-Stratos GIGA already more than meets the legal requirements that will not come into effect until 2017. And that's not all – it also beats the IE4 limit values (in accordance with IEC TS 60034-31 Ed. 1), which currently only exist as a draft guideline. For you, this means secure planning for years to come – with great, as yet unlocked potential for reducing costs and emissions that can benefit both enterprises and the environment. Starting today, the Wilo-Stratos GIGA is the pump of choice for forward-thinking, innovative and responsible investments.

In reaction to this challenge and in view of the gigantic potential for saving energy, Wilo, the leading innovator in the field, has developed a pioneering solution. A brand new motor principle

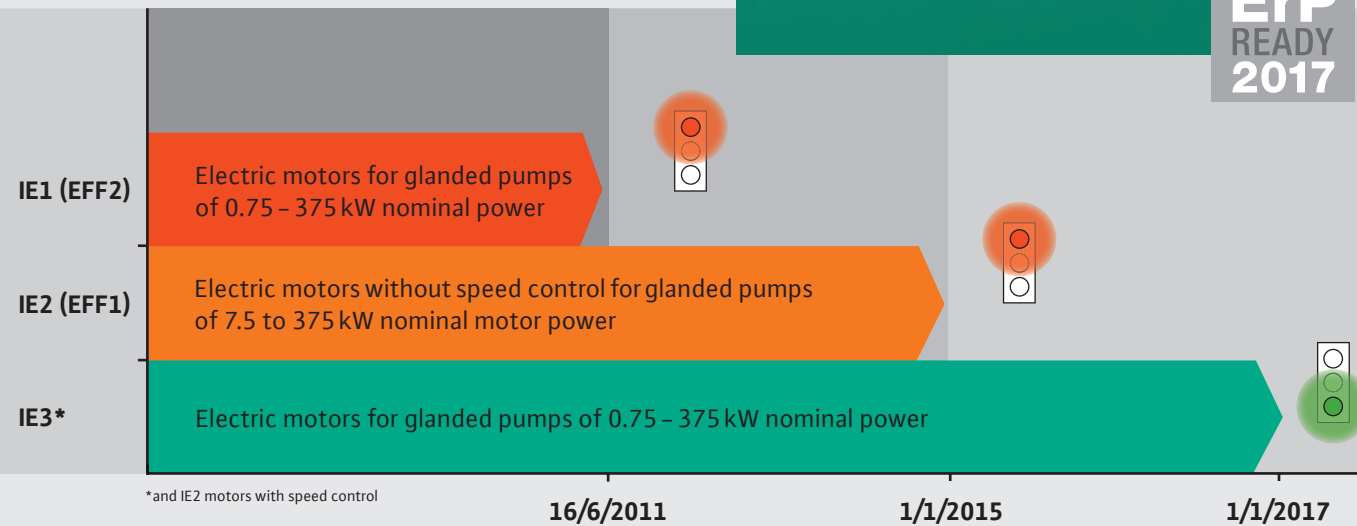
The high-efficiency drive of the Wilo-Stratos GIGA enables efficiency levels in excess of the IE4 limit values in accordance with IEC TS 60034-31 Ed. 1.

**High Efficiency<sup>2017</sup>**

Lay down a marker for the future today: take action now to meet the European energy requirements of tomorrow.

**ErP READY 2017**  
 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

**The ErP motor directive (EC640/2009)**

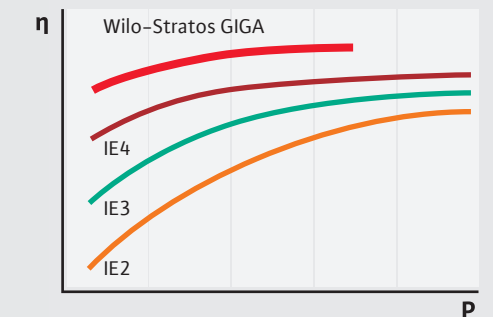


The ErP directive for electric motors is constantly setting stricter limit values for motor efficiency.



**Wilo-Stratos GIGA**

**Comparing motor efficiency**



## The future as a concept.

When the time comes, the most important factor for progress is an efficient drive.

## High Efficiency<sup>94</sup>

Based on motor efficiencies of up to 94%, the high-efficiency drive makes the Wilo-Stratos GIGA the new standard for the future. Starting today.



### Controlled:

The built-in PID controller allows you to control a range of variables, e.g. temperature, differential temperature and flow rate. This makes it possible to adapt the control system precisely to suit the entire system. In many cases, this negates the need for external switchgears.

High performance, low consumption: the principle of the high-efficiency drive (HED).

Thanks to the ECM (Electronic Commutated Motor) technology in the glanded pumps, the Wilo-Stratos GIGA series can achieve motor efficiency levels of up to 94% – greater than the IE4 limit values in accordance with IEC TS 60034-31 Ed. 1.

Wilo has more than 10 years of experience of working with this motor design. This technology is used throughout the entire Wilo-Stratos family – and makes the Wilo-Stratos PICO the most efficient glandless pump series in the world. All-new motor components developed using innovative materials provide huge increases in efficiency with the unique HED technology. The optimally harmonised unit, which comprises an EC motor and an electronic controller, is the key factor in generating exemplary efficiency and providing an excellent range of functions.

An electronic power control system with a selection of control types is fitted as standard in order to allow easier adaptation to the required application.

The red-button technology for which Wilo pumps are famous, combined with the display, makes operation and configuration as simple as it is convenient.

The logical menu navigation makes it easy to adapt the system optimally to the required application and, like the quick commissioning, provides a further guarantee of operational reliability.

### HED GIVES YOU CLEAR ADVANTAGES:

#### The energy concept

- The energy-saving EC motor opens the door to huge potential savings
- The control system is optimally adapted to your system, giving you the key to tailor-made efficiency
- Reduced size and weight make you a shining example for saving resources

#### The convenience concept

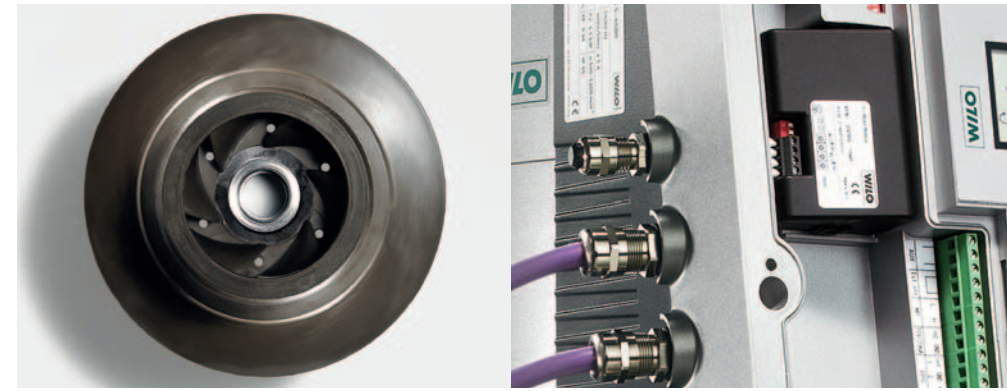
- With the Wilo-Stratos GIGA, you can always plan with the right pump for almost any application
- Convenient commissioning and set-up save lots of time and effort in assembly





## Performance under pressure.

A sophisticated hydraulic system compliments the energy savings with additional movement.



### Efficient

The design of the impellers has been optimised using the latest 3D simulation technology. Together with the innovative materials used, this allows increased performance and reduced usage of resources.

### Versatile

Flexible incorporation into building management systems using integratable IF modules.



**Simple**  
Operation using the Wilo family's famous red-button technology.

## High Efficiency<sup>3</sup>

3D simulations provide great savings potential that you can realise on a daily basis.

### Optimised hydraulics

During the development of the hydraulics, we focused on reducing flow resistance. We used the latest 3D simulation technology to minimise turbulence – a huge step towards reducing wasted energy.

We adapted the hydraulics specifically to suit the HED and used the latest materials to significantly reduce the size of the pump components. This saves valuable resources and makes the pump more compact.

### More convenient operation

- Familiar red-button technology and display for easy adjustment and diagnostics
- Integratable, retrofittable modules for all common building management systems, e.g. PLR, LON, Modbus, BACnet and CAN
- No external device necessary for configuration since all settings can be made directly via the pump
- Built-in dual pump management for main/standby mode and parallel operation with efficiency-optimised peak load cut-in for maximum energy efficiency

## HYDRAULICS AND OPERATION GIVE YOU CLEAR ADVANTAGES:

### The energy concept

- The high hydraulic efficiency gives you the opportunity to unlock the maximum potential for saving energy in a variety of tasks using one product solution
- Compact dimensions make your planning and installation approach more flexible

### The convenience concept

- With the display, you always have an overview of all the relevant processes and statuses
- The red-button technology provides the fast and precise operation that you are used to



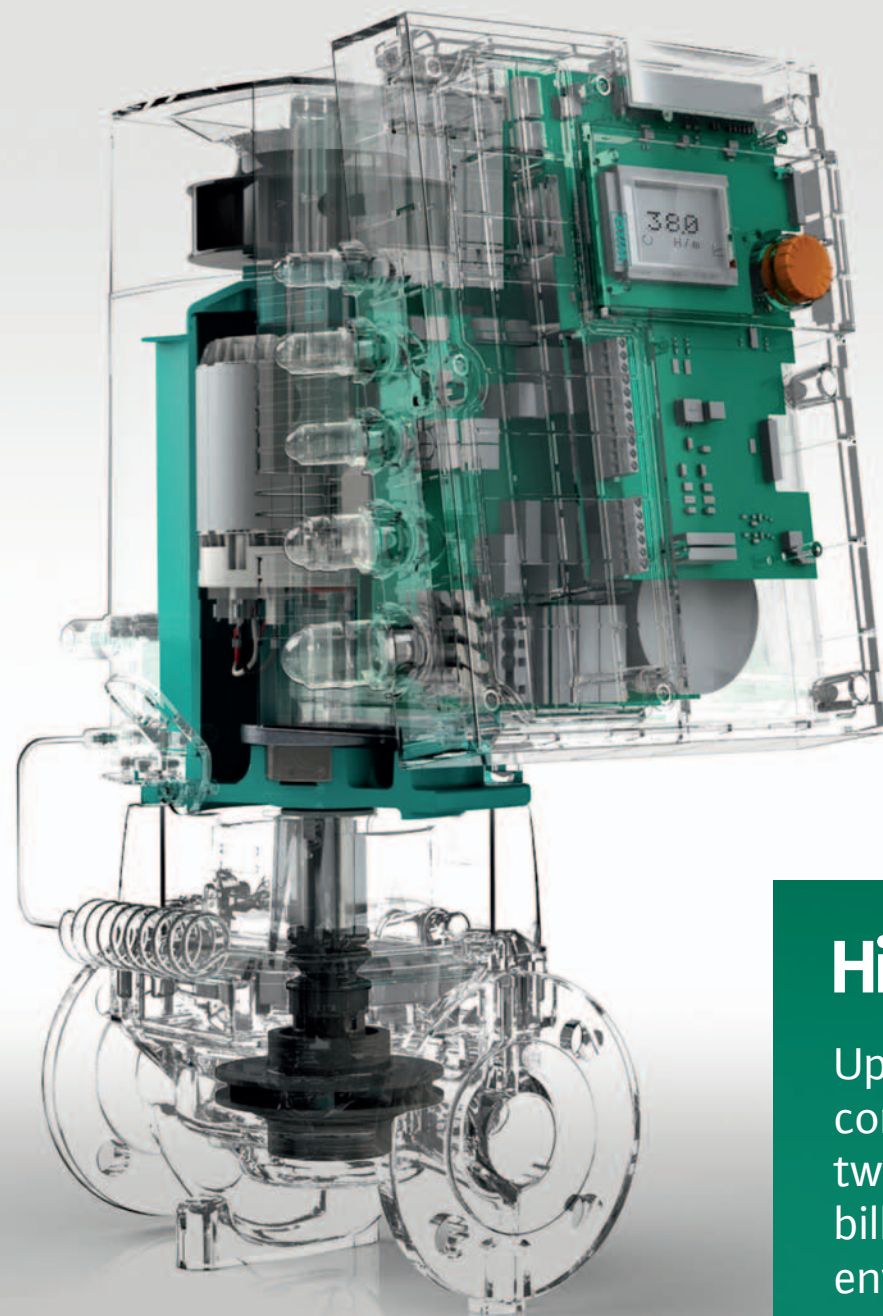
## The Wilo-Stratos GIGA system.

In order for a great idea to work, all the components must compliment one another to form a highly efficient unit.



### Convenient:

The Wilo-Select planning software brings together helpful components such as a product catalogue, tendering documents, service information bulletins, CAD drawings and pump dimensioning data in one highly efficient system.



## High Efficiency<sup>70</sup>

Up to 70% lower energy consumption pays back twofold: in your electricity bill and for the environment.

With the Wilo-Stratos GIGA, the uniquely large potential for saving energy is generated by more than just one element. In fact, it is the unit as a whole that provides the high overall efficiency: the perfectly harmonised system, comprising the motor, inverter and hydraulics.

### The Wilo-Stratos GIGA technology – an overview:

- Highly efficient energy concept
- High-efficiency drive with innovative ECM technology
  - Highest motor efficiency of up to 94 %
  - Hydraulics optimally adapted to suit the high-efficiency drive
  - Built-in power controller for a wider control range

- Simple installation concept
- Familiar elements, such as red-button technology
  - Built-in display
  - Quick commissioning without complicated change-over
  - Integratable IF modules for versatile incorporation into building management systems
  - Compact and light-weight for easier handling during installation
  - Easy-access connection terminals thanks to user-friendly design

### THE ENTIRE WILO-STRATOS GIGA SYSTEM GIVES YOU CLEAR ADVANTAGES:

#### The result of this technological masterpiece is clear to see.

- Up to 70% lower energy consumption\* compared to conventional, uncontrolled pumps
- Up to 40% lower energy consumption\* compared to conventional, controlled pumps
- Up to 8,000 kg of CO<sub>2</sub> saved per year\*\* with each Wilo-Stratos GIGA

\* Based on the "Blue Angel" load profile (RAL-UZ 105).  
\*\* Based on the EU energy mix.



## Saving as a method.

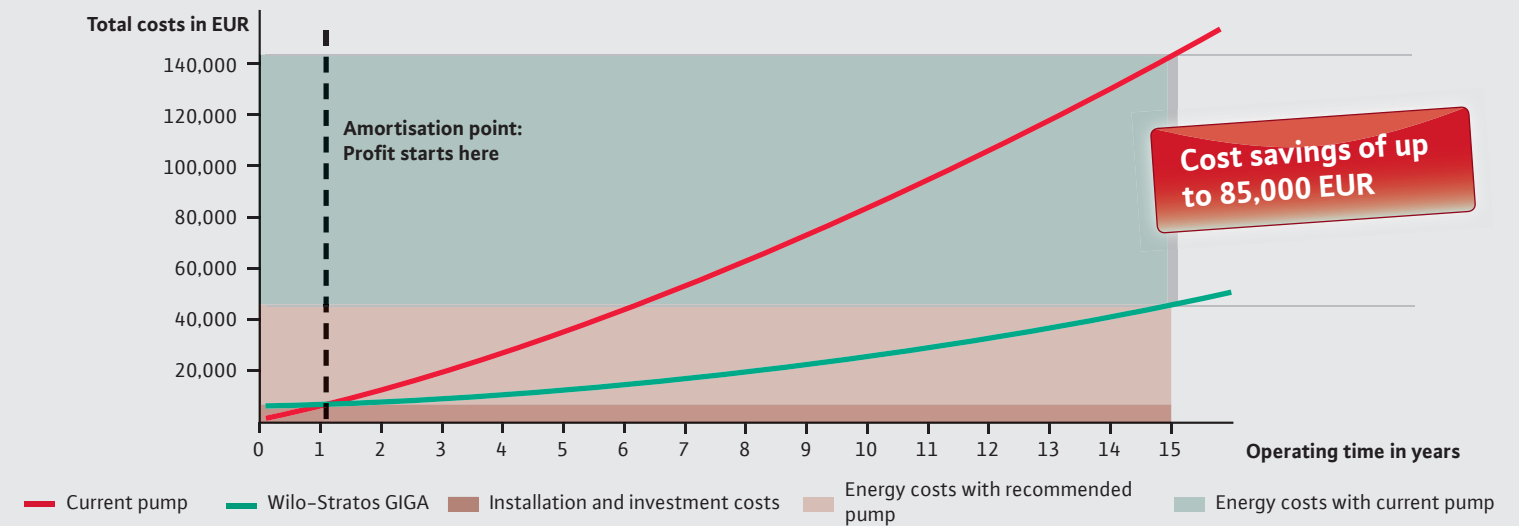
High efficiency will bring you financial rewards, and we can prove it in writing. Green on white.

## High Efficiency<sup>24</sup>

The amortisation period of less than 24 months sets new benchmarks in both economy and ecology.



Calculation example: Economic assessment\* over 15 years



### The benchmark for efficiency

Achieving more with less – that is the principle of high efficiency. It is even more impressive when expressed as numbers: Over a running time of 15 years, a Wilo-Stratos GIGA saves up to 85,000 euros in energy costs.\* This represents a reduction in emissions of up to 8,000 kg CO<sub>2</sub> – per year and per pump.\*\*

### Amortisation records

When it comes down to it, sustainability is priceless. It is even better if energy savings have a noticeably positive effect on your accounts. Wilo's new high-efficiency technology could break the record for potential energy savings. With up to 70% lower energy consumption\* than a conventional, uncontrolled pump, changing to Wilo high-efficiency technology is a move that amortises quickly: in less than 2 years!

### Intelligent maintenance

Next to power consumption, maintenance is one of the key long term factors affecting life cycle costs. That's why we have been focusing on simple, fast and efficient maintenance for the new generation of glanded pumps ever since the development stage. As such, you can place your trust not only in Wilo's reliable quality, but also on maintenance and service routines with the familiar level of simplicity.

### Online planning aids

Wilo's practical online tools always offer you the latest product information and useful tools. At [www.wilo-select.com](http://www.wilo-select.com), you can find the complete range of Wilo planning software, while at [lcc.wilo-select.com](http://lcc.wilo-select.com), you can make precise economic calculations tailored to your individual customers.

### Rewarding:

Good figures say more than many words. Use concrete economic assessments from the Wilo LCC Check to provide convincing support for your sales arguments, tailored to the specific system in question. Available both for investments in new pumps and preventative pump replacement.



Wilo-Stratos GIGA saves up to 8,000 kg CO<sub>2</sub> per year and per pump.\* Meet tomorrow's environmental targets today.

\* Compared to conventional uncontrolled pumps, based on the "Blue Angel" load profile (RAL-UZ 105) and an energy price of 0.22 euros/kWh. For more calculation examples, please visit the Wilo LCC check.

\*\* Based on the EU energy mix.



## The flexibility concept.

An innovation will only be accepted if it adapts to its environment.



**Convenience and safety:**  
Commercial cooling for building services.

**Cost-saving and reliable:**  
Cooling processes in industrial applications.

**Highly efficient and integrative:**  
Heating systems for building services.



From almost 140 years' experience, we know that there is no single solution for all the applications found in modern pump technology. That is why we developed the Wilo-Stratos GIGA: as a system that works at high efficiency in almost any application.

The strengths of the new Wilo-Stratos GIGA can be seen in the following hydraulic systems:

- Heating systems
- Air-conditioning systems
- Cooling systems

With its hydraulic output and specifications, the new, high-efficiency glanded pump series Wilo-Stratos GIGA is ideal for use in commercial and industrial building services, e.g.:

- Residential buildings
- Administrative office buildings
- Public buildings
- Hotels
- Industrial buildings

Here, the Wilo-Stratos GIGA can demonstrate its full savings potential, reducing both energy costs and the CO<sub>2</sub> emissions associated with generating power. In doing so, the Wilo-Stratos GIGA makes an important contribution to the energy efficiency of your building. Installing or switching to Wilo-Stratos GIGA can boost not only your coffers, but also the environment. Take a big step towards a better future – with high efficiency.

## High Efficiency<sup>∞</sup>

Endless energy saving potential for the energy efficiency of your building.





*Pumpen Intelligenz.*

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