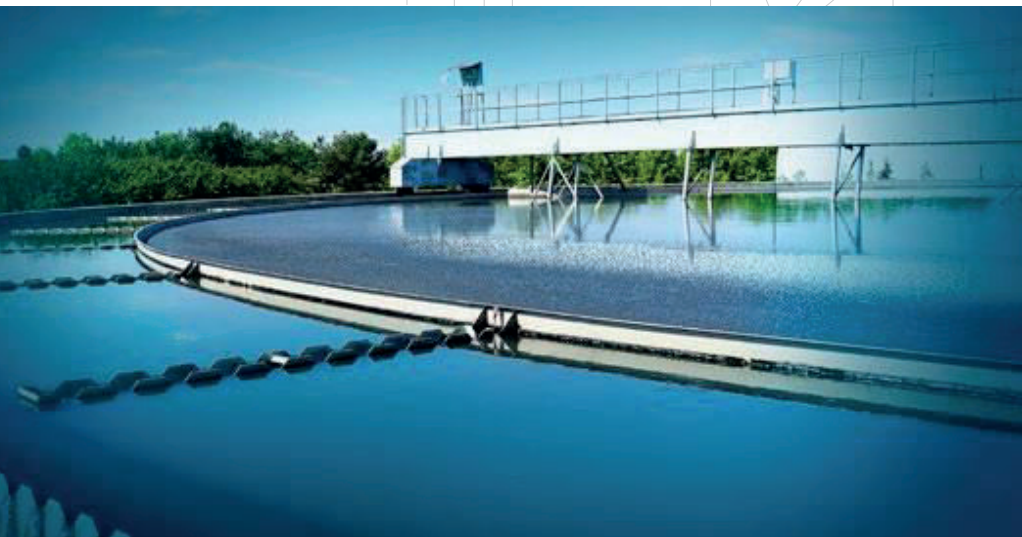


Automation Pump Genius *Plus*



TRIND
TR • INDUSTRIES

Pump Genius *Plus*

PUMP INTELLIGENCE FOR YOUR SYSTEM

Pumps, pipeline and fittings can get seriously damaged if pressure or flow are out of control and such occurrences are not tracked early.

The Pump Genius Plus is a customizable feature of WEG drives that enables your standard VSD to become dedicated for pumping systems. It ensures *accurate pressure / flow control* throughout the processing cycle.

With an easy-to-use programming wizard, Pump Genius Plus helps you to *minimize downtime* and *maximize energy savings*. Select one of the three options that best fits to your application.



Submersible
pumps

Wastewater
plants

Desalination
plants

Irrigation
systems

Water
distribution

Simplex *Plus*

The Simplex software adds features to the VSD for single pump control.



Simplex *Plus* with Jockey Pump

The Simplex software adds features to the VSD for single pump control with jockey pump.



Multiplex *Plus*

Multiplex software is the most complete solution to accurately control flow and pressure with high reliability. The VSDs control, monitor and manage the entire system on their own. There is no need for additional PLC, HMI or any external control devices thus installation costs can be optimized.





WEG TECHNOLOGY

DEDICATED TO YOUR APPLICATION

WATER EFFICIENCY TO OUR PLANET



Friendly programming



*Enhanced control of
pumping systems*



*Synergy with TRind & WEG
products and solutions*

Characteristics

Dedicated

Compatible

Increased efficiency

Reliable



Advantages

Benefits

Special features for water and wastewater segment

Full protection for pumping systems and maximized usability through special functions

Save costs and space

Eliminates the complexity of existing panels that uses traditional control methods

Reduced maintenance costs

The software provides efficient and equal use of the pumps in the system

Wizards

WEG/TRind free of charge macro that can be added to your standard drive

User friendly

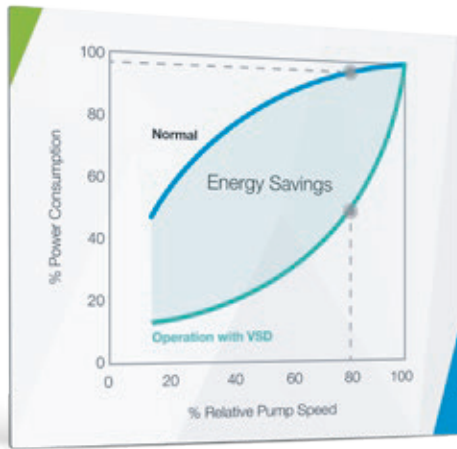
Intuitive interface tool for an easy setup, control and monitoring

Achieves better performance

By using the PID control, excellent results in terms of Energy Savings can be obtained

WEG quality

Same standard robustness and technology found in WEG products
Proven technology

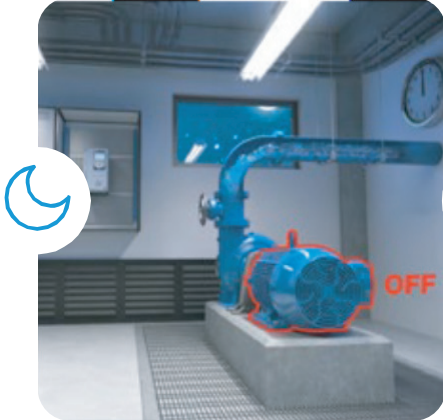


Energy Savings

PID controller of WEG VSDs helps the pump to achieve the best performance. Even with a minimum speed reduction of 20%, almost unnoticed in the application, the power consumption is cut almost in half.

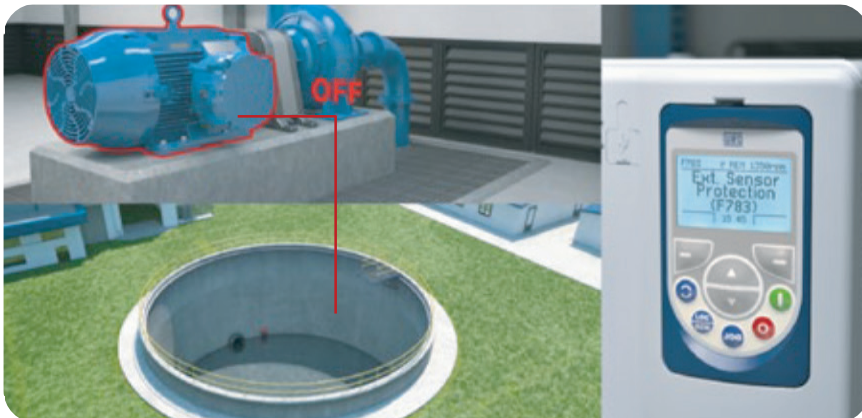
Pipe Charging Mode

Pipe Charging function allows for the initial filling of pipework at a gentle rate avoiding hydraulic surges such as water hammer. Pipe Charging works to a timeframe and/or pressure Setpoint at a configurable speed making it more versatile for any pumping application.



Sleep and Wake-Up Modes / Sleep Boost

Sleep mode allows the pump to save energy and preserve the motor health when demand / flow is below the required for long periods, keeping the pump in standby mode. Along with the Sleep mode the software carries the sleep boost feature where a momentary overpressure is delivered to the pump before the system is shut off. Wake-up mode restarts the system automatically when the pressure falls below the lower set point.



Dry Pump Protection

A dry run persisting for long periods can cause potential damages to the pump. Pump Genius detects this operating condition with no sensor, providing warnings and protection for the system.

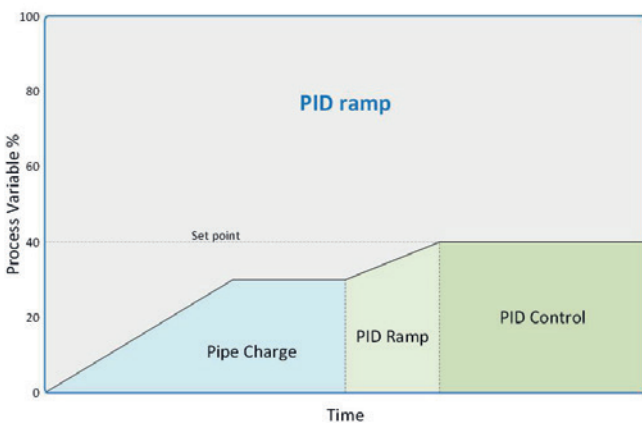


Broken Pipe or Leakage Detection

Pump Genius diagnoses when a pump is consuming more power than it should. Through load and speed information, the drive automatically monitors and warns if a pipe leaks. Also, maximum system pressure can be configured to trigger when clogged pipe conditions take place.

Pump Cavitation Monitoring

When a pump cavitation condition (e.g. low level of fluid) is detected, the drive reduces the pressure in the pipeline to avoid mechanical breaks and increases the impeller lifetime.

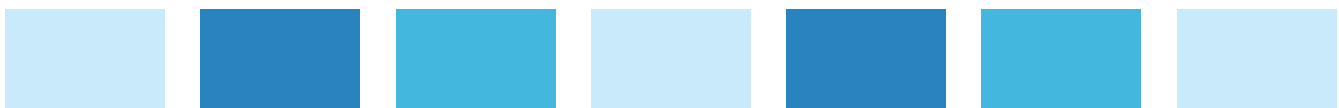


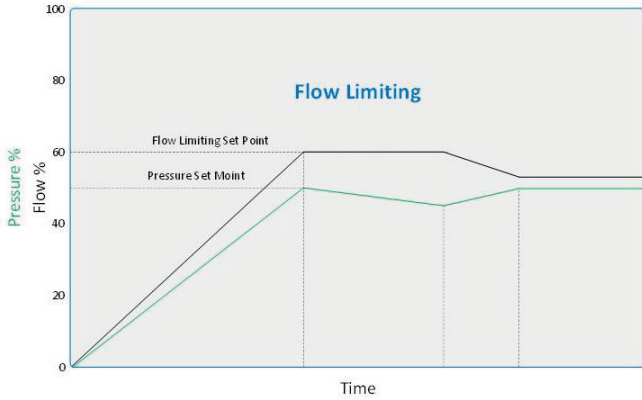
PID Ramp

PID Ramp function enables the smooth and controlled transition from "Pipe Charging" to the pumping Setpoint. PID Ramp avoids hydraulic surges and Setpoint overshooting, avoiding costly overpressure damage to pipe and fittings.

Fixed or Floating Control

The user is able to select if the pumps will be started over a predetermined or rotating sequence with the intent to obtain equal wear and tear of individual pumps, as the logic monitors the runtime of the individual pumps and based on that, the specific pump is brought in or out.

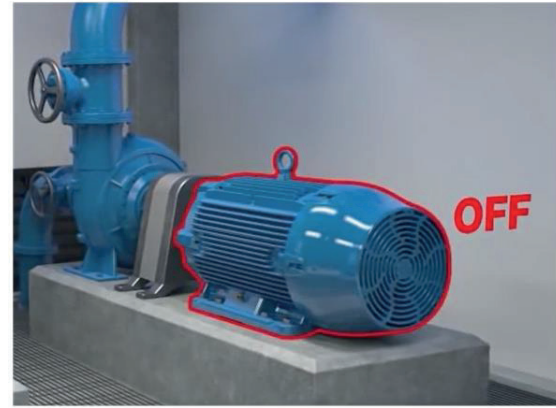




Flow Limiting

Flow Limiting function is a process built in to control the maximum flow in the system while maintaining control of the pumping Setpoint. Flow Limiting enables the user to get the most out of system supply capabilities or consents avoiding damage and/or fines.

P1075 MAX. DAILY AMOUNT <input type="text" value="1000"/> <small>eng. 4</small>	=	Flow DAILY TOTAL <input type="text" value="1000"/>
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Daily Flow Consumption

Daily Flow Consumption is a function built in to calculate daily consumption of the system. Daily Flow Consumption allows the user to control how much the system uses over a set daily period allowing for total control over usage and/or consented allowance.



Jockey Pump

Under low demand, only the smaller pump is enabled. As the water consumption increases, the larger pump is activated and jockey pump is deactivated.

Deragging

The drive is able to perform an automatic clean of the impeller every time the pump is started, whenever a clogging is detected or on user demand increasing pump lifetime.



Master/Slave Configuration

Master/slave modes enable total management of the system. When conditions like broken sensor wire or communication wire is detected, another VSD will be automatically nominated as master, taking on the system management to keep regular conditions.

Force Rotation

Force rotation makes the last pump in the system to be shut off when rotation is at certain low speed but it is not yet at sleep level. With old fashion logic the last pump would run indefinitely.



Pump Genius *Plus* Solution

Features		Single Pump	Multiple Pumps
		Simplex	Multiplex
Wake-Up and Sleep Modes		✓	✓
Sleep Boost		✓	✓
Pipe Charging Mode Time/Pressure		✓	✓
PID Ramp Function		✓	✓
Flow Limiting Option		✓	✓
Daily Flow Consumption Monitoring		✓	X
Dry Pump Protection		✓	✓
Broken Pipe or Leakage Protection		✓	✓
Pump Cavitation Monitoring		✓	✓
Multiple Pumps	Fixed Control	NA	Up to 5 Pumps
	Floating Control		
	Forced Rotation		✓
Master / Slave Configuration		NA	✓
Deragging		✓	X
Jockey Pump		✓	NA
Customizable Engineering Units		✓	✓
Selectable Set Points via Digital Inputs		✓	✓
External Sensor Protection		✓	✓



WEG in Desalination Plant in Algeria

Due to estimates, which shows that in the next 30 years the amount of water available per person in the north of Africa will be reduced to 80%, the Algerian government is investing on seawater desalination.

This includes the construction of three large desalination plants with production capacity of 400 cubic meters of water per day which will greatly benefit a population of over 2 million. Two units have already been concluded and the third is now being installed.

The Tlemcen-Honaine plant, located near the city of Oran, close to the border with Morocco has a production capacity of 150 thousand cubic meters and it will attend to 750 thousand inhabitants directly. It'll be one of the largest in the world

WEG supplied Variable Speed Drives and soft-starters for the pumps that will withdraw water from the Mediterranean Sea at Honaine providing soft starting and speed variation for pumps which will result in higher efficiency.

It was invested in the three plants a total amount of US\$ 400 m. Besides the desalination plants, the resources will also be used in the construction of dams and for sanitation. According to Daho Ould Kablia, "with the new program, the Algerian government intends to find a balance between the different regions of the country and provide a fair supply and distribution of water and the services related to it."



Benefit a population of over 2 million



Production capacity of 400 cubic meters



WEG supplied VSDs and soft-starters



Sustainability

Sustainability has been an integrated part of WEG's philosophy since its foundation. That is why awareness with environment protection has been a major concern in the company for the correct use of natural resources.

Half of the energy produced around the world is used to operate pumps, while one third of the world's population live in areas experiencing water shortages. As known by nations, the effective use of electric power reduces significantly environmental impacts and helps to guarantee the sustainable use of natural resources for the future generations.

Guarantee the lowest environmental impact of our products and manufacturing processes by:



Being in compliance with the applicable environmental legislation



Improving continuously by establishing environmental goals and targets



Acting preventively with the aim of protecting the environment



Ecoefficient processes and products, saving natural resources

Certifications

ISO 50001:2011
ISO 14001:2014
ISO 9001:2008





Global presence is essential, as much as understanding your needs.

Global Presence

With more than 30.000 employees worldwide, WEG is one of the largest electric motors, electronic equipments and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees our Pump Genius is the right choice for your application and business, assuring safety, efficiency and reliability.



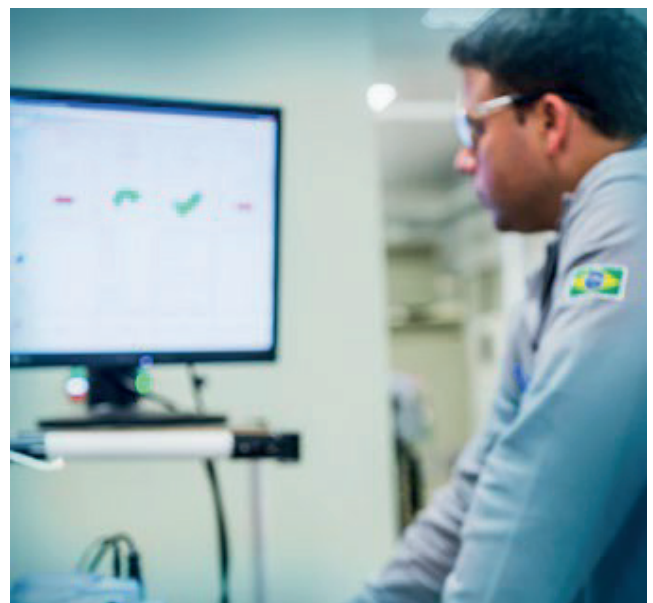
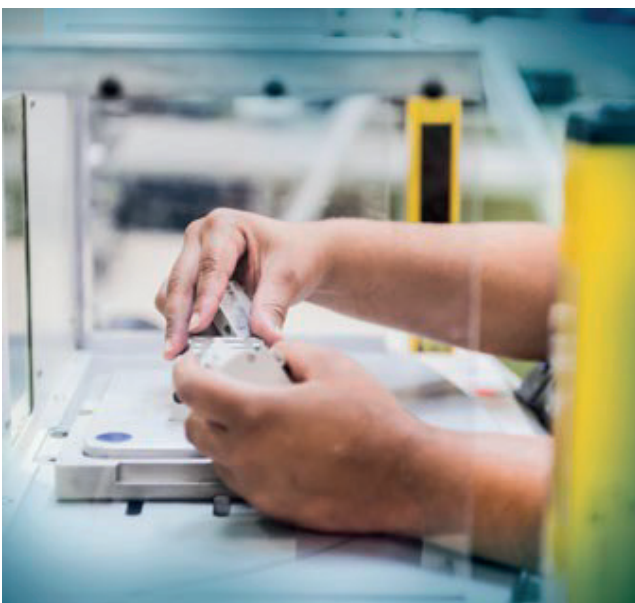
Availability is to have a global support network



Partnership is to create solutions that suits your needs



Competitive edge is to unite technology and innovation



Know More

High performance and reliable products to improve your production process.



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