

# SEG AUTOADAPT RANGE

THE PERFECT GRINDER PUMP FOR WASTEWATER TRANSPORT

be  
think  
innovate

**GRUNDFOS** 

## DESIGNED FOR DEPENDABILITY, EFFICIENCY AND COST-EFFECTIVENESS

The SEG AUTO<sub>ADAPT</sub> range of grinder pumps from Grundfos is specifically designed for pumping untreated wastewater in small communities or sparsely populated areas with no wastewater systems or where gravitation systems are unsuitable.

Pressurised systems are the perfect choice for transfer of domestic wastewater. The SEG AUTO<sub>ADAPT</sub> range combines cost-effectiveness with maximum protection for the environment by facilitating the use of smaller pressure pipes requiring a minimal investment.

The SEG AUTO<sub>ADAPT</sub> range is designed to keep downtime costs to a minimum, while maintaining peak performance throughout the lifetime of the system. In addition to the SEG AUTO<sub>ADAPT</sub> range with integrated level sensor and control, a standard range of SEG grinder pumps is also available with external level sensors and controls.



AUTO<sub>ADAPT</sub> - Everything integrated in the pump.

## IDEAL FOR PRESSURISED WASTEWATER TRANSPORT

Ideal for a wide range of municipal, private and industrial applications, and for areas where gravity wastewater systems are not available, the SEG AUTO<sub>ADAPT</sub> range can be installed on an auto-coupling system or as freestanding pumps.

- Sparsely populated areas, small villages and farms
- Areas of difficult topography (domestic and municipal wastewater)
- Areas with high groundwater (domestic and municipal wastewater)
- Commercial buildings using smaller pressure pipes
- Industrial wastewater applications containing fibres



Traditional solution with pumps, level system and controller as separate parts

## AUTO<sub>ADAPT</sub> SETS NEW STANDARDS FOR OPERATIONAL RELIABILITY AND EFFICIENCY

AUTO<sub>ADAPT</sub> quite simply removes all external sensors, switches and cables from the pit, combining all sensors in a single pump that adapts automatically to the dynamic conditions in the pit. This simplifies installation, commissioning and operation, and increases reliability.

### Safeguard your wastewater transfer

When pumping wastewater, the priority is operational reliability and efficiency. Up to 75% of service calls to

wastewater pits are caused by float switches or electrodes that fail. By removing external sensors and additional cables in the pit, Grundfos eliminates what used to be the weakest part of a submersible wastewater pumping system.

This makes sure your wastewater pump system operates reliably, reducing installation and operating costs while maintaining surveillance and necessary alarms.

## A REVOLUTION IN PUMP PIT MANAGEMENT

### • Genuinely intelligent solution

AUTO<sub>ADAPT</sub> eliminates the need for extra cables, flow switches or other sensors in the pit – everything is built into the pump, a patented Grundfos solution that eliminates complexity and the risk of failures.

### • Reduce your investment

Without the need for external sensors, AUTO<sub>ADAPT</sub> is easier to install, commission, and operate. Due to the integrated sensors, AUTO<sub>ADAPT</sub> pumps can also operate in narrow pits.

### • Plug and pump

During commissioning, AUTO<sub>ADAPT</sub> pumps will automatically detect the presence of other pumps in the pit and adjust their operation accordingly. Up to four AUTO<sub>ADAPT</sub> pumps can work together in an alternation routine. In case of excessive inflow the AUTO<sub>ADAPT</sub> pumps will automatically operate in parallel, ensuring optimum performance at all times.

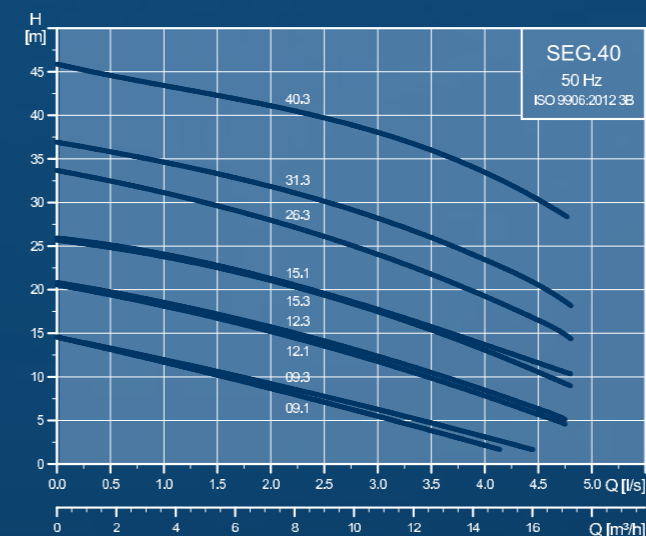
### • Communication as required

AUTO<sub>ADAPT</sub> pumps are intelligent, standalone solutions, that can easily be integrated into SCADA systems or remote monitoring systems for pumping stations. As standard, the AUTO<sub>ADAPT</sub> pump provides a common alarm signal from a built-in alarm relay. Using intelligent power-line communication, it is possible to add a Grundfos communication interface box without an additional cable into the pit. The communication interface box gives you access to a large number of settings, statistics and error log inside the AUTO<sub>ADAPT</sub> pump.

### • Made for each other

AUTO<sub>ADAPT</sub> pumps are ideal for use inside Grundfos Prefabricated Pumping Stations. The complete system sets new standards for simplicity, operational reliability and efficiency.

### Performance overview SEG AUTO<sub>ADAPT</sub>



The SEG AUTO<sub>ADAPT</sub> pump is available with a range of motors:

Designation	Motor size	Motor phase
SEG.40.40.3	4 kW	3 phase
SEG.40.31.3	3.1 kW	3 phase
SEG.40.26.3	2.6 kW	3 phase
SEG.40.15.3	1.5 kW	3 phase
SEG.40.15.1	1.5 kW	1 phase
SEG.40.12.3	1.2 kW	3 phase
SEG.40.12.1	1.2 kW	1 phase
SEG.40.09.3	0.9 kW	3 phase
SEG.40.09.1	0.9 kW	1 phase

## SEG AUTOADAPT PUMP FEATURES

AUTOADAPT pumps have a built-in motor protection, alarm relay and phase monitoring to ensure that the motor cannot run in the wrong direction. No external control is necessary. For Explosion proof versions, the required Ex-barrier is built in.

Internal monitoring is installed as standard, ensuring a long lifetime. An AUTOADAPT installation will never run dry, and a timed anti-seize test run will ensure that the pump is always ready for operation.



### Pressure transmitter

Built-in pressure transmitter encapsulated in a unique robust stainless steel housing. The pressure transmitter is an absolute analogue pressure transmitter calibrated to the actual air-pressure after each pump cycle. The patented calibration principle ensures precise start and stop levels for the AUTOADAPT pump independent of the atmosphere conditions. The factory set start, stop and alarm level will be suitable for most applications, but can be changed.

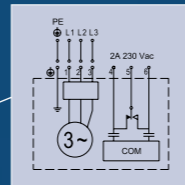
### Intelligent operation

AUTOADAPT pumps will automatically adapt to the dynamic operating conditions of the pump system, as well as the number of pumps in the system. As standard, each features a start delay and anti-seize functionality. Moreover it is possible to activate functions like after run to get rid of the floating layer in the pit.



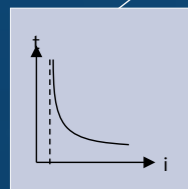
### Alarm relay

An alarm relay is built in as standard, and can be used for alarm horn, lamp or any other alarm indicator.



### Thermal protection

The motor is equipped with thermal switches and electronic motor protection.



### Dry run sensor

The built-in stainless steel dry run sensor will prevent dry running and serves as an indicator for stop level. After each time the main power is taken and the pressure sensor has been calibrated to existing air pressure. AUTOADAPT pumps in Explosion proof version are equipped with two dry run sensors.



### Data communication

All relevant operational information and events are logged inside the pump electronics. A variety of Grundfos communication interface boxes can be connected to the pumps using powerline communication. The communication interface box gives you access to a large number of settings, statistics, and error log inside the AUTOADAPT pump.



## TRIED AND TESTED PUMP TECHNOLOGY



### Heavy-duty, maintenance-free ball bearings

All ball bearings are greased for a lifetime of use.

**Easy-to-remove cable entry**  
The innovative stainless steel cable entry prevents liquid from entering the motor compartment even if the cable is damaged. The cable is easy to dismantle in case of service.



### Cartridge shaft seal

The SEG range is available with two shaft seal variants. Both variants are fitted as cartridge seals for longer seal lifetime and easy fail-proof replacement - even in the field. Replacement can be done without special tools.

### AUTOADAPT functionality

Available in a 1 phase variant that offers additional starting torque compared to traditional grinder pumps and a 3 phase variant that ensures the pump always has the correct direction of rotation.



### Easy to open clamp

The stainless steel clamp is an innovative way of connecting the motor to the hydraulics. This ensures quick and easy access to the interior of the pump in case of service inspection, without the use of special tools.



### SmartTrim system

Patented easy adjustment of the factory-set impeller clearance helps maintain maximum pump efficiency and does not require special tools or dismantling the pump.

### Patented grinder system

Reliable and efficient grinding of solids to even smaller pieces, the patented grinder system is easy to service with quick dismantling for replacement of parts, requiring no special tools. Available for Standard and Heavy applications.



## GRUNDFOS GO – FOR SEG AUTOADAPT

Grundfos GO is the mobile tool box for professional users on the go. It is the most comprehensive platform for mobile pump control and pump selection including sizing, replacement and documentation. It offers intuitive, hand-held assistance and access to Grundfos online tools, and it saves valuable time for reporting and data collection.

Grundfos GO is designed to save time and effort for the user. The app can be downloaded to any device with an iOS or Android operating system.

Downloading the Grundfos GO app opens up a world of time-saving tools, services and documentation. Grundfos GO is always online, and this means it is updated on the go and ready for you to use wherever and whenever you need it.

Find out more about the possibilities offered by Grundfos GO for SEG AUTOADAPT range of grinder pumps:  
<http://www.grundfos.com/products/find-product/grundfos-go.html>



## ACCESSORIES

The following accessories are available for the SEG AUTOADAPT grinder pump:

<b>Grundfos GO:</b> Dongle for iPhone cpl. with IR and radio communication
<b>Grundfos GO:</b> Module with built-in IR and radio communication. It must be used in conjunction with an Android or iOS-based Smartphone with Bluetooth connection
<b>Grundfos GO:</b> CIU unit for: Profibus communication PROFINET IO communication Modbus TCP Modbus RTU / COMLI
<b>Grundfos GO:</b> GSM/GPRS/SMS (e.g. for SCADA)
<b>Grundfos GO:</b> GRM (Grundfos Remote Management)
<b>POWERLINE PC TOOL Link USB</b>
<b>AUTOADAPT Fuse box</b>
<b>PUST:</b> Prefabricated pumping station in different sizes

Grundfos ADC fuse boxes are designed to provide a safe power supply for up to two Grundfos wastewater pumps featuring AUTOADAPT functionality. Furthermore, the fuse boxes enable data communication from the pump via Grundfos Remote Management (GRM), Grundfos GO and SCADA.  
 For more information about Grundfos ADC fuse boxes, please see Grundfos Product Center on [www.grundfos.com](http://www.grundfos.com)



## INTRODUCING OTHER WASTEWATER PUMPS WITH AUTOADAPT

### DP AUTOADAPT drainage pump

Ideal as a portable utility pump, the suction strainer keeps solids over 10 mm out of the pump. The strainer is easy to dismantle for cleaning or inspection of the pump hydraulics.

#### Designed for:

- Submerged installation
- Transport of drain water and groundwater without solids and fibres
- Fitted with a suction strainer
- Solids free passage: 10 mm
- Semi-open multi-vane impeller



### EF AUTOADAPT effluent pump

The integrated three-legged stand keeps the suction inlet well clear of the pit bottom, and can be mounted free standing or on a Autocoupling system.

#### Designed for:

- Submerged installation
- Transport of drainage, surface water and industrial wastewater
- Liquids with small impurities or fibres
- Solids free passage: 30 mm
- Open single-vane impeller



### SLV AUTOADAPT wastewater pump

These pumps have a SuperVortex impeller, which is ideal for liquids with a high concentration of solids and fibres.

#### Designed for:

- Submerged installation
- Transport of domestic, municipal and industrial wastewater
- Dry matter content up to 5 %
- Solids free passage up to 65 mm
- High performance and durability



### SL1 AUTOADAPT pump

These pumps have a single channel impeller, which is ideal for drainage, surface water and wastewater also containing domestic toilet waste.

#### Designed for:

- Submerged installation
- Transport of domestic, municipal and industrial wastewater
- Dry matter content up to 3 %
- Solids free passage up to 50 mm
- High performance and durability





For further information go to  
[www.grundfos.com](http://www.grundfos.com)

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