

FUEL AND OIL STORAGE MAINTENANCE AND COMPLIANCE

BundGuard

Automatic bund dewatering solution



Peace of mind, protection and compliance for site operators

Protecting your assets. Protecting the environment.



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**BundGuard protects your site
24 hours a day, 7 days a week,
365 days a year**

Andel BundGuard 4

Andel BundGuard 4 has dominated the market for over fifteen years with many thousands of units installed across the UK and Europe, protecting the environment and providing peace of mind and protection for site operators.

Though Andel BundGuard 5 is now available offering a number of additional features, Andel BundGuard 4 is still fully supported.

Andel BundGuard 5

Through Andel's policy of continual improvement, listening to customer feedback and advances in available technology, Andel launched Andel BundGuard 5.

Andel BundGuard 5 offers customers the option of a number of added features that provide enhanced control with advanced communications and functionality.

Andel BundGuard 5 has the capability to operate two pumps simultaneously, as well as the option of using larger pumps where required and is equipped with advanced communications and display features.

BundGuard 5 control panel features:

- 2-Pump Capability
- LCD Menu Display
- High Oil Alarm
- High Water Alarm
- Mains Failure Alarm
- System Fault Alarm
- Pump Disable
- Historical Data Alarm
- Delay Customisation
- Technical Support Code
- Connector Disconnection Alarm
- Textual Alarms
- Filter Back-pressure Monitoring Support
- Outlet Water Meter Support
- Pump Current Monitoring
- Auto Changeover
- Over-current Disable
- Battery Backup
- MODBUS RTU Interface
- SMS Alarm Forwarding (optional)



Andel BundGuard control unit can also be supplied in a GRP enclosure to National Grid specifications.



Andel BundGuard

Over thirty thousand BundGuards are already protecting customer assets, site operators and the environment

The Andel BundGuard system was first conceived and developed in 1992. A direct response to the UK electricity industry's growing need for an effective solution for the serious water-removal problems at sub-station sites across the UK.

Since then over thirty thousand BundGuard units have been installed nationwide and overseas, protecting customer assets, site operators and the environment.

Current UK regulations state that all above-ground oil storage tanks containing more than 200 litres of oil, must have secondary containment or a bund to contain oil leaks and spills. Most bunds are exposed to the elements and are likely to collect and fill with rainwater. As a bund fills with water, the containment capacity is reduced and the risk of oil escaping by overtopping the bund wall, in the event of tank failure, is greatly increased. It is therefore essential that robust measures are put in place to extract rainwater from exposed bunds.

Market-leading Andel BundGuard is a cost-effective, self-contained and easy-to-fit automatic submersible pump and alarm unit that is installed in a sump, within a bund, working continuously and automatically 24 hours a day, 7 days a week, 365 days a year.

BundGuard expels water from the containment area

Using advanced circuitry and micro-controller technology, BundGuard discriminates between oil and water, keeping oil contained and expelling water from the containment or banded area.

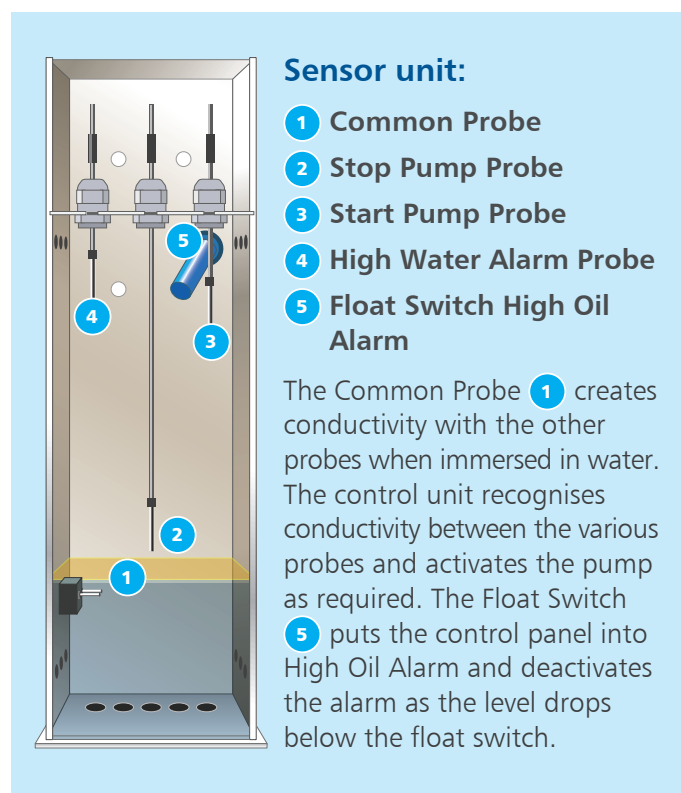
The robust, submersible stainless-steel sensor unit monitors the different liquid levels via a series of conductive probes. The control unit activates the pump as required to remove only clean water, safe to sewer or

interceptor, depending on site circumstances. Failsafe systems and a range of visual and relay alarm outputs ensure complete safety and allow onward communication to remote monitoring systems.

Andel BundGuard not only gives total peace of mind and ensures compliance with regulations throughout the UK, it also removes the need for regular bund emptying by waste contractors, reducing costs, environmental impact and carbon footprint.

Submersible stainless-steel sensor unit

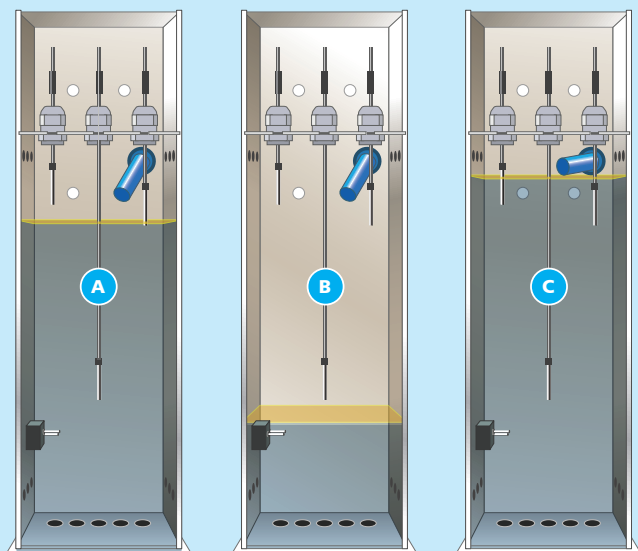
The sensor unit is equipped with a number of conductive probes that can be configured as required.



Compliance

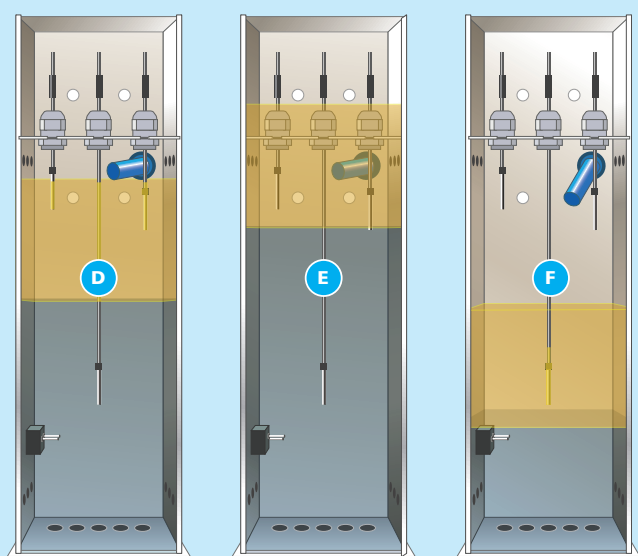
Andel BundGuard is designed for use with an on-site, underground drainage interceptor to maintain the 110% capacity within an oil storage bund. In the absence of a drainage interceptor, Andel supplies Andel FilterSepta, a highly cost-effective, above-ground interceptor and filter unit that guarantees a Class 1 discharge of water from the bund to surface water, adhering to EN858-1:2002.





Sensor unit cycle with rising and falling water levels and a thin film of oil:

- A** Water entering the sump reaches the level of the Start Pump Probe and the control panel activates the pump and the water is pumped out of the sump.
- B** The water level is pumped below the Stop Pump Probe and the control panel deactivates the pump. Any oil on top of the water is kept well away from the pump inlets.
- C** If the water level keeps rising, due to an unusually high volume of water entering the sump (greater than 150 l/m), and reaches the level of the High Water Alarm Probe, the control panel will go into High Level Alarm and the second pump will be activated (if fitted).



Sensor unit cycle with rising and falling water levels and a significant volume of oil:

- D** With a significant volume of oil in the sump, the water entering the sump raises the level of the oil to the Float Switch, but because the water has not reached the Start Pump Probe, the system recognises the activity and the control panel will go into High Oil Alarm.
- E** The water level rises until it reaches the start probe (still in High Oil Alarm), the pump activates and pumps the water out of the sump.
- F** When the water level drops and the oil is no longer lifting the float switch, the control panel will no longer be in High Oil Alarm and the activity will have been logged for future analysis. The water level is pumped below the stop probe and the control panel deactivates the pump. The significant volume of oil on top of the water is always kept well away from the pump inlets.

Andel has a team of experts that can adapt Andel BundGuard to deal with a variety of site conditions and special requirements:

- Semi ATEX units – sensors and pumps for zone 0 areas and control panels fitted in non-hazardous areas
- Units linked to pH sensors
- Units linked to Ammonia Sensors
- Units linked to detect unwanted contaminants in a site's trade effluent
- Control units can be supplied in GRP enclosures to National Grid specifications
- Automatic sump frost protector systems for extreme weather conditions
- Adapted to include power coupling for portable generators.

Robust, reliable and adaptable

Andel BundGuard is available in a number of specifications to suit both site conditions and customer requirements.

The fundamental design, however, remains the same and Andel BundGuard can be relied upon to give consistently accurate readings, avoiding the risk of 'chattering', a problem often experienced with some other dewatering pumps on the market, where sensor units are prone to false readings, repeatedly activating on and off and potentially damaging pumps and burning out components.

The market-leading Andel BundGuard has a track record that speaks for itself.



Special builds

Special-build BundGuards can be linked to sensors to detect unwanted contaminants in a site's trade effluent, where if high levels are detected, the system will deactivate the pump so the contaminants are contained and do not reach the drainage system.

A bespoke system, using the National Grid specification control units in GRP enclosures, was designed and built to be used in conjunction with a Glycol sensor system. If the level of Glycol rises above a predetermined level, the pump is isolated and will not discharge anything from the bund until the system is reset manually. The system alerts the site to initiate a response

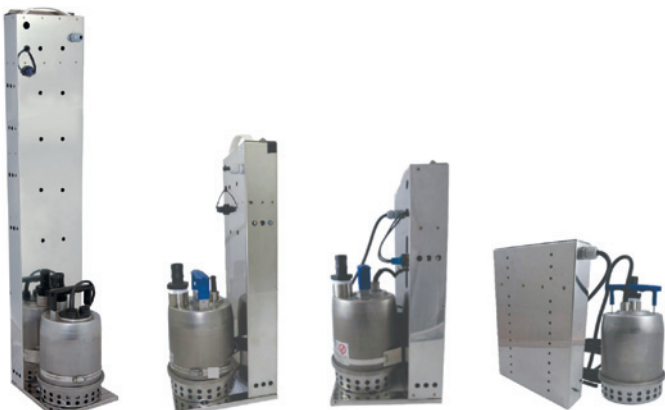


Bespoke installation using National Grid specification enclosure, designed and built with Glycol sensor system.

A choice of submersible sensor units

Andel supplies a range of sensor units. As well as the Standard, the XL is available for larger sumps and smaller units are available for customers who have an existing sump with smaller dimensions than the standard sump size, for example:

- An old oil tank bund that has a smaller sump for a manual pump
- A point for a tanker to empty
- A small bund for a small transformer where there is no space for a standard sump
- A BundGuard in a cable duct with limited space.



TECHNICAL INFORMATION

STAINLESS STEEL CONTROL PANEL:

- Power: 110/230 VAC, 440 Watts (1 pump running), 970 Watts (2 pumps running)
- Construction: Stainless steel, IP66 rated (Also available to National Grid spec in GRP enclosure)
- Dimensions: (H)410 x (W)262 x (D)100 mm
- Indicator LEDs
 1. Power – Green
 2. System Fault – Red
 3. Pump 1 Active – Green
 4. Pump 2 Active – Green
 5. High Oil Alarm – Red
 6. High Water Alarm – Red
 7. Pump 1 Disabled – Yellow
 8. Pump 2 Disabled – Yellow
- Display: 2 x 16 characters LCD for pump cycle counter and system status plus set-up menus when accessed
- Fixing: wall/surface mount via external fixing lug

SENSOR UNIT:

- Power and Voltage: nominal
- Construction: Stainless steel, immersion proof
- Dimensions:
 - XL – (H)1000 x (W)180 x (D)70 mm
 - Standard – (H)570 x (W)180 x (D)70 mm
 - Compact – (H)450 x (W)180 x (D)70 mm
 - Mini – (H)300 x (W)220 x (D)55 mm
- Fixing: Free standing in base of sump

STANDARD PUMP:

- Power and Voltage: 230 VAC (110 VAC optional)
- Construction: Stainless steel
- Dimensions: (H)250 x (W)160 mm
- Safety: Thermal trip with self-reset
- Flow Rate: 150 litres per minute at 2-3 metre head
- Fixing: Integrated – part of the sensor unit

FIXING AND CONFIGURATION:

Andel BundGuard is supplied complete with a fixing kit, anti-syphon device and 5 metres of 18 bar flexible hose. The unit is configured in the factory prior to delivery though some on-site adjustment may be required on installation. No further calibration is required. Maintenance should be carried out every 6 to 12 months depending on site conditions.

PLUG-AND-PLAY OPTION:

A Plug-and-Play option is also available to simplify site maintenance where site conditions mean that BundGuard/s may require more frequent attention. All connections between the sensor unit and the control panel are via IP68 connectors.



Andel provides consultation, design, manufacturing, installation and support services for four key specialist areas:

LEAK DETECTION

FUEL AND OIL STORAGE MAINTENANCE AND COMPLIANCE

INTERCEPTOR AND DRAINAGE MAINTENANCE

FLOOD DEFENCE

Working with some of the largest public and private organisations in the UK for over a quarter of a century:

Telefonica

Wellcome Trust

Global Switch

Bank of America

HSBC

Deutsche Bank

Northern Power Grid

SSE

Western Power Distribution

Electricity North West

Goldman Sachs

Airbus

Rolls Royce

Microsoft

Google

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Equinix

The British Museum

HM The Queen

The Houses of Parliament

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