

Flygt Packaged Pumping Stations

A comprehensive range of products to suit many applications



Packaged Pumping Stations

As we build in more remote and inaccessible areas, the need to pump wastewater to treatment works becomes a key consideration at the planning stage, particularly with developments situated below the gravity sewer, or a considerable distance away.

As such, the traditional solution has been to build a pumping station consisting of a chamber constructed with concrete rings and fitted out with pipes, valves and pumping equipment to move the wastewater to the gravity main.

So, is there an alternative solution?

The simple answer is yes! Prefabricated Packaged Pumping Stations, fully kitted out with pump(s), valves and pipe work, can be delivered to site and simply placed in the ground.

As the market leader in submersible pumps, we have developed a comprehensive range of Packaged Pumping Stations (PPS) that are suitable for single dwellings through to major developments.

In developing our product range we have taken into consideration the different demands an application may exert on a product and created a unique and versatile range.

Sewers for Adoption Legislation and Adoptable Pumping Stations

'Sewers for Adoption' (SFA) was first introduced by the Government in 1981. The legislation sets out specifications which need to be adhered to if the pumping station is to be taken over by the local Water Company. Under the more recent Private Drains and Sewers (PDaS) bill, all new pumping will, by law, need to be adopted under the SFA specifications.

These guidelines also mean that many pumping stations requiring full replacement or refurbishment will also have to meet the standards set out by the local Water Company.

In designing our range of Packaged Pumping Stations, Xylem has worked closely with a number of Water Companies to create a product that is suitable for adoption. Working to the standards specified by an individual Water Company, we can design and deliver a PPS that not only conforms to the standards required for pipework, valve layout, pump types, level and control specifications but also benefits from the Flygt patented design and quality assurance.

For further information see page 4 TOPS Series.



Quick selection guide and range overview

Flygt Packaged Pumping Stations use a simple, minimal design concept that is ideal for civil works where there is a need to reduce labour intensive tasks and a quick installation is required.

Our stations are prefabricated and available in a range of designs and sizes, all supplied complete with the necessary materials and equipment to allow ease and speed of installation and commissioning.

Flygt Packaged Pumping Stations can be adapted to suit most individual requirements. Applications include domestic wastewater for a single household, through to large housing developments, effluent and wastewater from industrial units and commercial premises. Indeed, in any situation where wastewater needs to be pumped to a mains connection or where you need to upgrade existing arrangements, Xylem has a solution.

Flygt TOPS Series

- For sewage, effluent and stormwater applications
- Incorporates the patented selfcleaning TOPS benching unit which reduces accumulation of solids in the sump of the chamber, ensuring the pumps do not get clogged
- Reduced servicing and unplanned maintenance
- The TOPS pumping station can be fully adoptable under the 'Sewers for Adoption' (SFA) standards
- Can be installed without a concrete surround (dependant on ground conditions) due to its robust construction and wall thickness (See page 4)

SPS Series

- For Sewage, effluent and stormwater applications
- Designed as a cost effective alternative GRP option for Builders/ Contractors
- Suitable as a single or dual pumping station

(See page 6)

Micro Series

- For domestic wastewater and sewage from individual households
- Poly-Ethylene construction
- Suitable for installation above or below ground

(See page 8)

Compit Pumping Station

- Single or dual pump configuration
- Poly-ethylene construction with Self Cleansing sump
- Applications include small housing developments, toilet blocks and commercial extensions (See page 10)

	TOPS 80	TOPS 100	TOPS 150	SPS 1000	SPS 1250	SPS 1500	SPS 1800	SPS 2500	Micro 3	Micro 4	Micro 5	Micro 5G	Micro 6+6	Micro 7	Micro 7G	Micro 10	Compit
Single Pump		•	•	•	•	•	~	V	•	•	•	•		•	•	•	V
Twin Pump	~	~	~	~	~	~	~	V					~			~	~
Pump kW	1.3-4.4	1.3-7.4	1.5-22	0.75- 7.4	0.75- 7.4	0.75- 7.4	0.75-22	0.75- 45**	0.25	0.25	0.55- 1.1	0.55- 1.1	0.75- 2.4	0.75- 2.4	0.75- 2.4	1.5-2.4	1.5-2.4
Phase	1 or 3	1 or 3	1 or 3	1 or 3	1 or 3	1 or 3	1 or 3	1 or 3	1	1	1	1	1 or 3	1 or 3	1 or 3	1 or 3	1 or 3
Pipework ø	50-80 mm	50-100 mm	50-150 mm	40-65 mm (80 Outlet)	40-80 mm	40-100 mm	40-150 mm	40-200 mm	1.25"	1.5"	1.5"/ DN50	1.5"/ DN50	DN50	DN50	DN50	DN50/ DN65	DN50
Floor Mounted									V	~	~		V	~		•	
Below Ground	~	~	~	~	~	~	~	V				1	✓ *		•	/	~
Chamber Depth (approx)	2.1-4m	2.1-6m	2.4-6m	1.5- 2.5m	2-4.5m	2-4.5m	2-4.5m	2-4.5m	0.4m	0.6m	0.7m	1m	0.85m	0.7m	1m	2m	2m

The above are standard models. Bespoke designs are also available.

* Buried in a suitable structure **For surface water applications

TOPS Series

Prefabricated TOPS pumping stations

The Flygt TOPS Packaged Pumping Station can be fully adoptable under the latest SFA guidelines, and has been approved by many of the Water Companies in the UK. The standard Flygt TOPS PPS comes in a range of sizes for depths between 2 and 6 metres, and capacities between 4 and 95 litres per second. Bespoke units with increased storage volumes are available on request. Incorporated is the patented TOPS benching unit which improves the flow over the sump floor during pumping. This increase in turbulence causes re-suspension of solids and entrainment of floating debris. The result is more solids being removed from the sump, leaving a minimum sludge accumulation in the sump which cuts the cost of service calls.

Delivered as a prefabricated kit, the TOPS Packaged Pumping Station is easy to install and time saving.

Quality construction

The Flygt TOPS Packaged Pumping Station tank is constructed from Glass Fibre Reinforced Polymer (GRP); a strong, lightweight material with superior resistance to corrosion, guaranteeing your pumping station a long life.

Combined with Flygt submersible pumps and accessories ensures the performance of the TOPS Packaged Pumping Station.

- All raw materials meet ISO 2797 and ISO 2559
- All stations are batch tested to BS EN 12050



Options

- Available with separate valve chamber and constructed in accordance to the requirements of SFA 7th edition
- Standard tank diameter from 1.2m to 2.5m
- Complete range of monitoring and control equipment available to meet SFA 7th edition requirements
- Wide range of pipework sizes and access covers
- Large variety of pump motor sizes and impeller combinations to suit all applications
- Bespoke sizes available on request

TOPS performance and cleaning

The TOPS sump is a patented self-cleaning benching unit which is hydraulically optimised to increase turbulence during pumping. Originally cast from concrete, we have today incorporated the patented design into our GRP packaged pumping stations.

The TOPS design was extensively researched and tested by Flygt, which included such factors as floor clearances and spacing between adjacent pumps before the self-cleaning benching design or TOPS was finalised. Then, in a series of comparative performance tests, sumps with varying diameters and floor configurations were tested to gauge their ability, versus the TOPS design, to prevent sludge build-up and re-suspend solids.

The flat shape of a traditional pumping station sump floor allows for the build up of sludge which requires regular cleaning. This is time consuming, expensive and can present safety hazards to personnel. With the Flygt TOPS design, you can forget regular costly maintenance and expensive unplanned maintenance visits to remove solids.



A standard flat sump floor generates stagnant regions where solids build up.



Sludge and solids in the conventional sump have been deposited across the entire sump floor.



The TOPS sump design creates turbulence that re-suspends solids, dramatically improving solids transport.



Deposits in the TOPS sump showing the small amount of remaining solids.





Pumps Flygt 3000 Series

Submersible wastewater/ sewage pumps, available with various impeller types and motor sizes.

Control panels

Compact (included as standard)

The Flygt Compact control panel is our basic model, with stop and start functions activated by floats or level switches. As with all our panels it comes prewired for connection to a telemetry unit which will inform the operator if there is a pump failure.

iCompact

The standard iCompact control panel includes the Flygt APP521 pump controller which can operate from level switches or an analogue level sensor. The APP521 offers a range of flexible control systems and is capable of providing logged data such as pump status, number of pump starts, pump run time, and local alarms. The iCompact can enable the site to be remotely connected to our Bureau or a SCADA system.





The SPS Series

SPS Series of Package Pump Stations

The SPS series of GRP pumping stations practically mirrors the TOPS series in sizes but is designed as a cost effective solution for simpler less arduous applications, without compromising the quality of design and build expected from Xylem. The series is available in sizes ranging from 1m in diameter through to 2.5m with bespoke arrangements available should extra storage be required.

The SPS series of Packaged Pump Stations is ideally suited to Builders/Contractors looking for a cost effective solution for the removal of wastewater. Designed and manufactured by Xylem, the comprehensive range can be tailored to suit any given wastewater application.

The range is available in a variety of sizes starting at the 1000 series and moving up to the 2500 series. All of these tanks are available in a range of depths; and are also available in any bespoke size on request.

All tanks come complete with internal pipework, valves, pumps, monitoring and control equipment, floats, and pump stools. The range is available with either internal or external valve chambers.

1000 Series

- Diameter- 1 metre
- Depth- 2 6 metres
- Tank Weight 100kg (approx.)*
- Effective Volume- 274 litres

1250 Series

- Diameter- 1.25 metres
- Depth- 2 6 metres
- Tank Weight- 170kg (approx.)*
- Effective Volume- 380 litres
- Number of dwellings- up to 20**

1500 Series

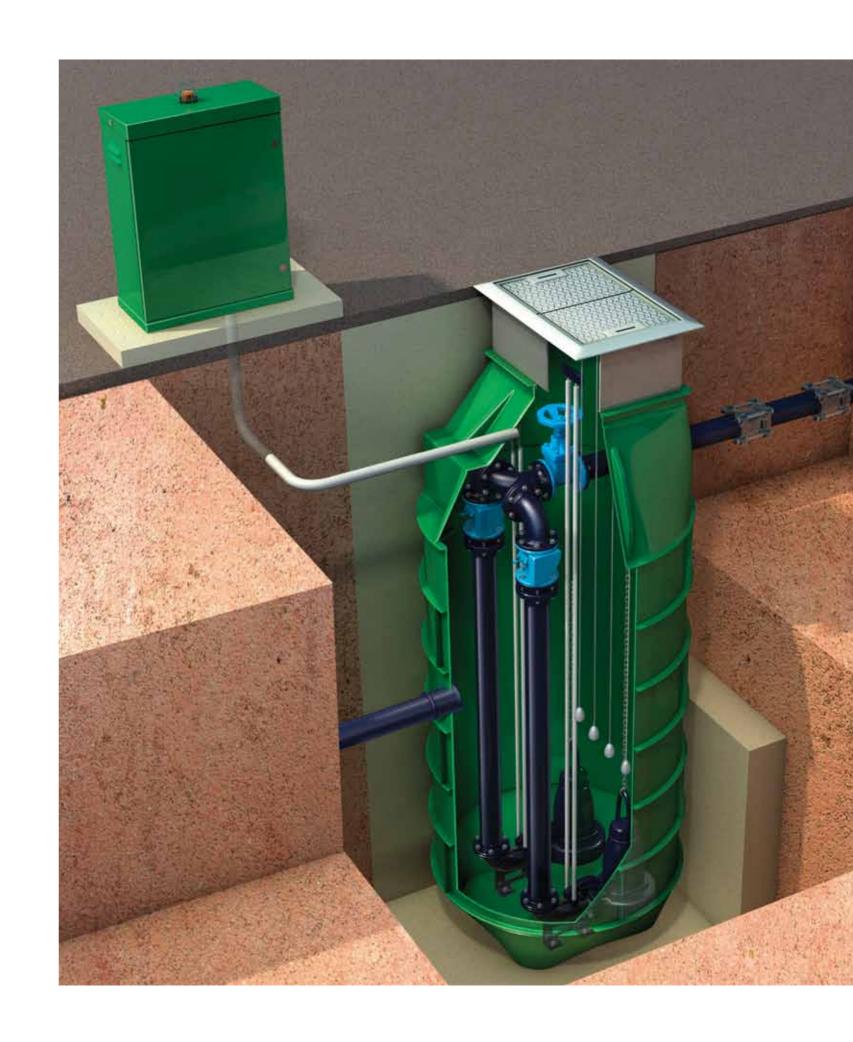
- Diameter- 1.5 metres
- Depth- 2.5 6metres
- Tank Weight- 390kg (approx.)*
- Effective Volume- 720 litres
- Number of dwellings- up to 40**

1800 Series

- Diameter- 1.8 metres
- Depth- 2.5 6 metres
- Tank Weight 440kg (approx.)*
- Number of dwellings up to 60**

2500 Series

- Diameter- 2.5metres
- Depth- 2.5 6metres
- Tank Weight- 590kg (approx.)*
- Number of dwellings up to 340**
- *Based on a tank 2 metres deep
- **These guidelines are based on the minimum recommended depth below sewer and the effective volume indicated, all of which may be increased by having additional depth below the sewer.



MICRO Series

Flygt Micro

The Flyqt Micro Packaged Pumping Station is available in several sizes and is designed to move domestic wastewater from single households, extensions and basements to a mains sewer located at a higher level, or where gravity drainage is not possible. Other applications include ground water or run-off water from garage driveways.

The design of the Micro PPS allows for less sedimentation and better pumping performance and provides reliable operation.

Micro stations are made in polyethylene, a lightweight and strong material that makes them easy to handle and install.

Installation above or below ground

Within the range, three of the Micro designs are suitable for installation below ground offering excellent resistance to soil stress, reliable closure and no odour. These models are perfect for under driveways.

Six Micro designs can be surface mounted; the smallest unit is suitable for installation on the floor

Micro 3,5 and 7

The Flygt Micro 3, 5 and 7 are designed for indoor installation, with the 5G and 7G specifically designed for below ground installation.

Sump volumes range from 80 to 250 litres, and all are designed according to EN 12050-1 and 2.





Micro 10

The Flygt Micro 10 is the latest addition to the Micro range. It is available in two heights; 1.3m and 2m with storage capacities of 1200 and 1900 litres respectively. It is suitable for installation both above and below ground.

A variety of access covers are available, and the tank is fitted with guiderails.

Complete Range - Features and Benefits

- Easy to close lightweight cover with rubber seal for leakage and odour protection
- Pre-prepared inlet, outlet and power connections to facilitate simple installation
- Tank shape designed to prevent solids build-up
- Manufactured from rotationally moulded polyethylene giving high strength and even tank wall thickness
- Lightweight, easy to handle and install
- Large variety of tank sizes and possible pump connections to adapt to all applications
- Less solids settling leading to better pump performance and reliable operation

Micro 6+6

The Micro 6+6 has all the design functionality of the Micro range with the added feature that it has dual tank chambers.

It has been designed where an application requires back up wastewater storage and pumping due to irregular flow rates, and has a capacity of 550 litres.

The construction of the Micro 6+6 allows for installation either above or below ground, and can be supplied with external pipework and valves where required.



Pumps

Flygt Submersible Pumps

Submersible wastewater/ sewage pumps, available with various impeller types and motor sizes.

Control panels

eCompact

The Flygt eCompact control panel offers stop and start functions activated by floats or level switches.

Compact

The Flygt Compact control panel is our basic model, with stop and start functions activated by floats or level switches. As with all our panels it comes prewired for connection to a telemetry unit which will inform the operator if there is a pump failure.



Compit Packaged Pumping Station



Flygt Compit

The Flygt Compit Packaged Pumping Station is designed for sewage, pressurised sewage systems and groundwater. As a mid-sized pumping station, the Compit is appropriate for use in small housing developments, toilet blocks and commercial extensions.

- The Compit is installed at a depth of 1.9m
- The bowl-shaped bottom and smooth inner surface of the pumping station act as benching to provide self cleaning during operation
- Designed to accommodate one or two pumps
- Recommended Flygt Pumps: 3057 or 3068 pump (either single or three phase options can be used dependant on the requirement)
- Stainless Steel discharge piping and lifting chains
- Includes non-return and gate valves as standard
- Flygt ENM 10 float switches included



Quick installation

The Compit PPS is complete on delivery for installation and immediate connection. Made from roto-moulded polyethylene, the Compit is easy to handle and weighs 181kg (excluding pump).

Slick Kits - All of the mechanical and electrical equipment required in the fit out of your concrete ring pumping station

Flygt Slick Kits

Flygt Slick Kits are specifically for pumping stations constructed on site using concrete rings. Each kit contains all necessary individual components to fit out the pumping station which include:

- Flygt Pump (3045 to 3153)
- Pipework
 - VOIK
- Valves
- Control Panel
- Kiosk (optional)
- Discharge ConnectionsFlange adapters and fixings
- Level Regulators
- Alarm Beacon (optional)
- Access Frame and Cover

Flygt Systems Engineers have designed a series of standard station designs, each fitted out with the parts included in the appropriate Slick Kit. By providing us with your technical specification we will provide you with detailed drawings* and itemised parts.

*at time of purchase

TOPS Benching Unit

For concrete pumping stations, we have available the Flygt TOPS Benching Unit, which contains the same patented TOPS sump design as found in our TOPS Packaged Pumping Station, and is constructed from GRP.





Pumps Flygt 3000 Series

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Flygt Pumps

At the heart of any packaged pumping station is the pump itself, and ours contain the best in the market place - the Flygt pump. Flygt pumps are extensively used across the UK by all the water authorities because of their reliability, lowest whole-life cost and ease of maintenance.

At Xylem, we can supply exactly the right Flygt pump for your specific application. From the market leading Flygt N-Pump to grinders and vortex pumps, we're confident of meeting your wastewater pumping requirements.

Flygt N-Pumps

Flygt N-pumps handle capacities of up to 1,000 l/s (16.000 gpm) with motors from 1.3 to 310 kW (1.5 to 415 hp) and pumping heads of up to 100 m (330 ft). These self-cleaning pumps feature innovative features and functions that make them the most intelligent choice for a broad range of applications.

The hardened cast iron version is ideal for typical wastewater applications and the chopper ring version is perfect for cutting long fibres or solids. The Hard-Iron™ version should be used in abrasive applications and waters where the cold causes erosion corrosion due to high oxygen content.

Every component in the N-pump is designed and manufactured to deliver sustained high efficiency. Thanks to the patented N-technology, with its innovative self-cleaning impeller, Flygt N-pumps deliver the highest total efficiency. They lower

your energy bill and reduce unplanned maintenance costs. This all adds up to total peace of mind and big savings over the long-term.

Every Flygt N-pump is tested in the factory to ensure high performance and premium quality. N-technology enables you to tailor the hydraulics to meet the requirements of virtually any application. That's why these pumps are at work in more than 300,000 installations worldwide and have proven, by far, to be the best and most reliable choice for both dry and submersible applications.



Flygt grinder pumps handle capacities of up to 15 l/s (250 gpm) with motors from 1.5 to 10.9 kW (2 hp to 15 hp).

These hardworking, heavy-duty grinders are ideal for handling solids-bearing liquids in residential and commercial applications.

Engineered to meet the rigors of wastewater systems, Flygt grinder pumps feature a unique impeller for optimum hydraulic performance. The pumps also incorporate a heavy-duty cutting device that grinds solids into 5x15-mm particles for easy transport through small-diameter pipes, thereby eliminating the risk of clogging.

Based on a flexible, modular design, Flygt grinder pumps cover an extensive performance range. These submersible, single-stage centrifugal pumps share the same discharge diameter, which makes it easy to select one of the interchangeable impellers to precisely match your head and flow requirements now, and then simply change it later. High-efficiency minimizes electrical equipment installation costs and subsequent energy consumption.

Flygt Vortex Pumps

Flygt vortex D 3000 and D 8200 pumps are designed to run freely without the risk of jamming and low performance. They have capacities of up to 100 l/s (1,600 gpm) and motors between 1.5 and 7.4 kW 2 to 6 hp)

These pumps are engineered for demanding environments like municipal sewage and industrial wastewater applications. The impeller in the vortex pumps does not require adjustment and runs freely in the volute, providing free flow-through passage of solids and liquids.



Monitoring & Control

The same great knowledge and experience that builds the best pumps in the world lets us control and monitor your pumping station.

Pump and process controllers

Flygt offers a complete range of pre-configured pump and process controllers to suit all sizes of pumping stations, including those used in water and wastewater treatment plants. Exclusively designed for pumping applications, their standard features mean users can easily operate the entire range. All pump controllers have a user-friendly HMI (Human Machine Interface) front panel and can be connected to supervisory control systems.

General alarm and monitoring units

Also available from Flygt is a full range of ultra-low power, multifunctional data loggers with telemetry for remote monitoring. These can monitor, log and alert customers to a wide range of conditions and events, either locally or remotely – even where power and/or communication (PSTN) are not available (e.g. in a reservoir or a combined sewer overflow)

Starters

Flygt offers a wide range of IP rated starters to suit the various pump models.

Level/pump sensors

From float and pressure sensors to ultrasonics, we can provide the sensor you need to monitor the pump(s) in your pumping station.

Pump supervision

Monitoring relays can be provided to protect the pump during operation. This range is well adapted for the different models of pumps.

SCADA software systems

AquaView is software for the monitoring and control of entire pumping station systems data including pumped volume, inflow, water levels and other pump statistics which are clearly viewed and easily accessible. AquaView also features a foreseeing alarm, to predict and avoid problems which could cause serious damage.

Inverters VFD/VSD - PumpSmart

PumpSmart is a concept that's been tailored for driving wastewater pumps efficiently and effectively. It combines industry standard VFD hardware with our specialist wastewater pump software. As pump experts, we know exactly what you need - so we preset almost 90% of the parameters that drive your pumps. With PumpSmart you can expect all the advantages of speed regulation, plus top pumping efficiency.

Pump Control Panels

Xylem has developed for the UK markets a comprehensive range of pump control panels, from the simplest type with basic start and stop functions to highly sophisticated, intelligent Smart panels using state-of-the-art monitoring and control systems. Here at Xylem we have the experience and knowledge to supply you with the right panel or monitoring & control technologies, to make your packaged pumping station function optimally.

The following table shows key features of our full range of control panels, from single pump 230V to dual pump 400V, with Direct On Line (DOL) or Automatic Star Delta (ASD) starting. They can be supplied with level control (via ultrasonic level sensors or floats) and remote telemetry monitoring.

	Model	Features					
Basic	eCompact	Single or Three phase Direct OnLine (DOL) Duty / Assist Single or Dual pump ENM 10 Level Regulators NF5 Float Switches					
	Compact	Single or Three phase Direct OnLine (DOL) or Auto Star Delta (ASD) Single or Dual pump Duty / Standby or Assist ENM 10 Level Regulators NF5 Float Switches Volt Free connections for BMS /Telemetry					
Standard	iCompact	Dual Pump Direct OnLine (DOL) or Auto Star Delta (ASD) ENM 10 Level Regulators Duty / Standby or Assist Analogue Pressure level input Sensorless flow meter (when used with analogue input) Volt Free connections for BMS /Telemetry Communication to SCADA SMS Text alarms					
Advanced	Smart Compact	Three phase VFD Single / Dual pump Analogue Pressure level Analogue Ultrasonic level Communication to SCADA Volt Free connections for BMS /Telemetry					

Xylem Support Services



Xylem is more than simply a product manufacturer. We work hard to understand the challenges and demands faced by our customers, and can offer a broad range of services delivered by our experts, that will support you at every stage of your project.

From early stages of any project we can assist with all aspects of the design, supply and installation of a package pump station. Our highly skilled team of engineers will actively work with clients to provide the best product for application.

Xylem provides a pre-adoption advisory service for UK property developers.

We offer this service to avoid the difficulties facing many developers who still have other suppliers' pumping stations among their assets because they were unable to transfer ownership to the local water authority.

Our experienced consultants work closely with developer and water utility to guarantee successful adoption and transfer of the asset.

Xylem offers:

- Guaranteed adoption of pumping station
- Integrated project management
- UK-wide coverage
- Remedial work included
- 24/7 maintenance cover

Meeting the design criteria

We liaise closely with the appropriate water authority at an early stage in a project to ensure that your pumping stations will meet the authority's full design criteria and SFA requirements, paving the way for future adoption. At the same time, our expert designers will make sure that we can procure and build the most cost-efficient pumping station possible.

Commissioning, Aftermarket and Service

Commissioning

Flygt commissioning engineers are all approved by the NICEIC and offer a commissioning service for our full range of packaged pumping stations and related control equipment.

Our commissioning service not only ensures the correct electrical connection of pumps, floats and ancillaries, but we will ensure that your packaged pumping station is fully functional and optimised to your particular application upon completion.

Aftermarket and Service

Flygt is able to provide a fully comprehensive aftercare service, including 24/7 emergency breakdown attendance, preventative maintenance contracts, workshop repair and pumping station refurbishments.

It is the Flygt aim to provide customers with the highest possible level of care, starting with pre-sale and continuing throughout the entire lifetime of the product. Our strategically located service centres are supported by a mobile team, reacting quickly to call-outs.

Warranty on repairs*

Flygt has confidence in both its products and service skills, and offers a 12 month warranty on the whole pump - not just the repair.

Flygt Service Centres*

Our nationwide network of service centres offer a comprehensive pumping station commissioning service, on-site M&E maintenance, 24/7 emergency call-out, workshop repair facilities, and pumping station upgrades and refurbishments.

Genuine Flygt spares

- Extensive stocks on 24 to 48 hour delivery
- Repair kits available for most pumps
- Upgrade kits to latest designs

Preventative Maintenance Agreements *

A Preventative Maintenance Agreement is a cost-effective service contract from Xylem TotalCare tailored to meet your specific requirements and budget. A PMA includes at least one scheduled inspection and/or maintenance visit per year, which will identify potential weaknesses in your system and provide the opportunity to take action before it leads to a breakdown. There are two levels of PMA available from Xylem, Premium and Premium Plus. Talk to our sales representative to find out more.

*see back page



Xylem ['zīləm]

- 1) The tissue in plants that brings water upward from the roots
- 2) A leading global water technology company

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyse, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to xyleminc.com.



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Rental and Service

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Please note that there is a variation in the type of planned maintenance / service contracts and emergency service call-out available in the Republic of Ireland. Please contact our Dublin office for full details.