



# The new small pump range from the wastewater experts

NOW AVAILABLE WITH OUR PATENTED ADAPTIVE N™ TECHNOLOGY, 1-10 kW

**Free Line**  
group

**FLYGT**  
a xylem brand

# Leave clogging behind

**If you're looking for a small pump that's easy to install and just keeps on working, look no further. The wastewater experts at Flygt have developed their most complete range of 1-10 kW pumps ever. Now available with clog-free patented Adaptive N™ hydraulics, you can rest assured of reliable, trouble-free operation for any type of wastewater application. Just install and forget.**

With more than a million Flygt small pumps and millions more larger models installed, we've learned a lot over the years. New customers often tell us the top challenges with small pumps are clogging, overheating and a rapid loss of pumping efficiency. In many cases they'd rather replace a small pump than repair it, which becomes a costly proposition over time. The best solution, of course, is to avoid these problems in the first place.

## **Pumping innovation for you**

To achieve this, our wastewater experts have developed a trouble-free range of small pumps capable of taking on the toughest wastewater challenges. Having

invented the world's first submersible pump in 1947 and later pioneered the N-pump and self-cleaning Adaptive N impeller, we wanted to include some of these professional "big pump" features in our small pump range as well.

## **More impeller material options**

So whether you're working in municipal sewage or building construction, you can always find a top-performing small pump for all requirements. With our Adaptive N impeller you can also choose the optimal material type for your needs: Hard-Iron, grey iron or stainless steel. Flygt's patented Hard-Iron alloy is developed specifically for tough wastewater applications.

Hard-Iron is highly resistant to abrasive wear and erosion-corrosion which makes it ideal for challenging modern wastewater media.

## **A pump for every need**

If energy savings and sustainable long-term operations are your focus, our new Adaptive N impeller for small pumps allows for continuous, trouble-free pumping with an energy reduction of up to 25%.

## **Modern wastewater is getting tougher**

*Today, with urbanization on the rise, the content of wastewater is changing dramatically. Our customers report finding everything from fibrous Wettex® rags and baby wipes to T-shirts, cans, stuffed animals, plastic bottles, carcasses and greasy food waste.*



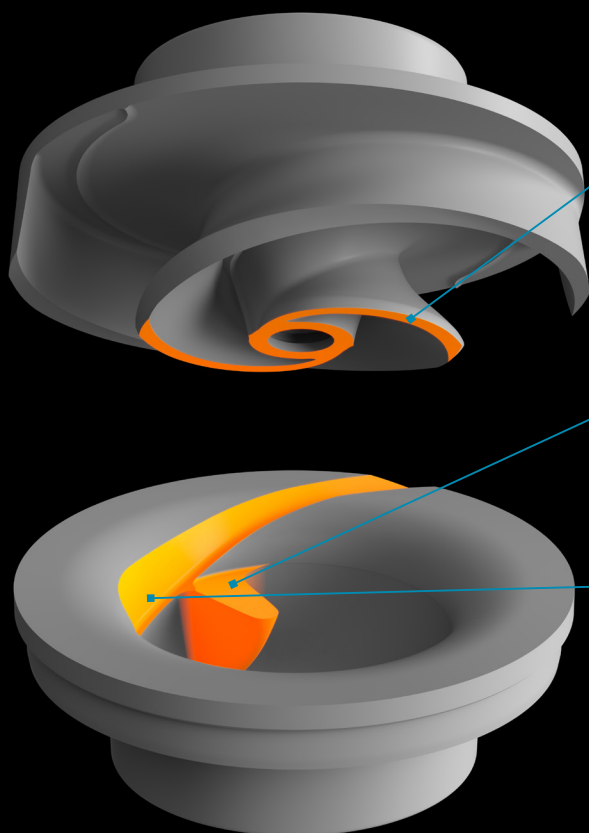


# Adaptive N™ – the groundbreaking clog-free technology for small pumps

**Smaller pumps are often susceptible to clogging when pumping fluids high in solids and fibrous content. The main problem generally lies in the hydraulic design of the impeller - an area where we've been innovating for years in our more advanced municipal pumps and are now embedding these technologies in all our smaller pumps as well.**

As shown below, the key innovation is our Adaptive N impeller and Adaptive N hydraulic technologies, which combine a unique geometry, dual-blade impeller and other patented features to give you sustained high efficiency and smooth operations. The self-cleaning design

allows for up to 25% lower energy consumption, independent of impeller speed or duty point. The unique geometry is also designed to minimize vibrations, resulting in a longer life span of the mechanical components.



## **1. Backswept leading edges - ensures no sticking**

When solids enter the pump, they are met by our dual-blade N impeller. The optimized blade geometry, with its horizontal machined backswept leading edges, ensures that no material sticks to the impeller.

## **2. Integrated guide pin - clears the center**

Integrated into the insert ring, a guide pin clears the center of the impeller by pushing solids along the leading edges towards the periphery of the impeller for removal.

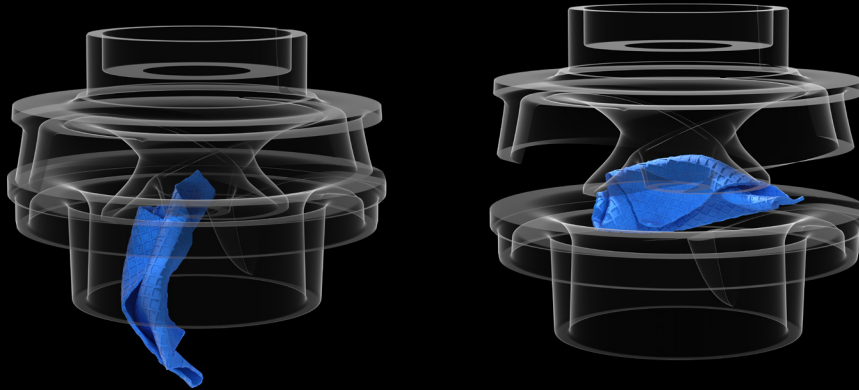
## **3. Relief groove - facilitates transport**

When solids arrive at the perimeter of the inlet, they are transported inside the relief groove, guided along the edge of the impeller vane, through the volute and out of the pump.



#### The symbol of self-cleaning efficiency

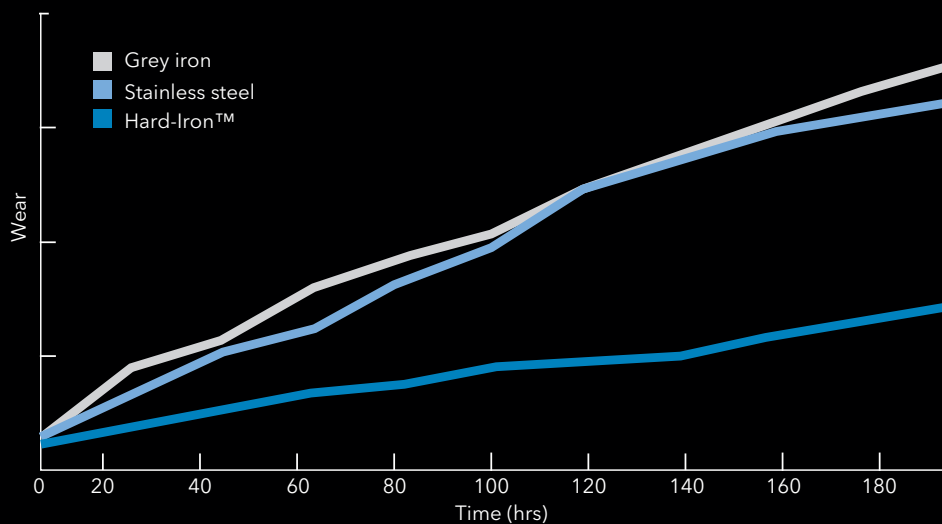
The Η (Eta) symbol is the seventh letter of the Ancient Greek alphabet symbolizing efficiency. It was introduced by Flygt engineers in 1999 to signify the sustained efficiency of self-cleaning in N-Technology impellers. Today, the logo encompasses our innovative Adaptive N™ technology, introduced in 2009.



#### 4. Adaptive N - lifts up for large objects

When larger objects enter the pump, the impeller lifts up due to the forces from these solid objects passing through. This avoids clogging and assures continuous, energy-efficient pumping.

#### Adaptive N™ hydraulic materials - accelerated wear test



After 200 hours, the Hard-Iron impeller proved to be five times more wear resistant than the grey iron version. The stainless steel impeller showed wear comparable to the standard grey iron material.

# One solution. One supplier. One easy-to-buy package.

**Designed to cover a broad range of pumping capacities and applications, our small pump range offers a diversity of model options, power ratings, flow rates and discharge sizes. The pumps can be delivered either freestanding or as part of a complete modular pumping solution. You decide how you want it supplied.**

If you are installing a pump for a difficult municipal application or at a commercial building site with special requirements, you might want to look into one of our integrated Packaged Pump Stations. Available in a range of designs and sizes, they come with all the necessary equipment for ease and speed of installation and commissioning. Many of the designs come with a sloped sump floor with simplified self-cleaning functionality.

## **Pre-engineered control systems**

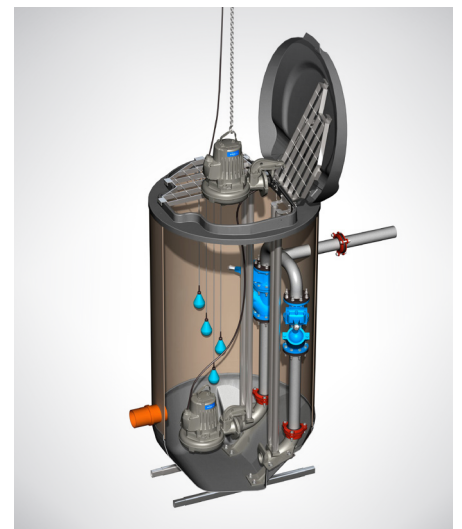
More than just pumps, we provide a wide range of monitoring and control systems that can be rapidly commissioned. These are pre-engineered solutions designed specifically for water and wastewater applications. That's because we believe you shouldn't need to know hundreds of protocols to commission a small pump. So say goodbye to complex protocols and bulky control systems.

## **Service that's close to you**

As a knowledgeable partner with more than 60 years in the business and 130 wholly-owned maintenance and repair facilities around the world, we have the local presence to provide fast, expert support should you need it. Not that this should be a problem with our small pumps, but our service technicians are never far away with the right spare part and the right competence if needed.

## **User-friendly monitoring and control interfaces**

*Our monitoring and control systems are designed for easy, out-of-the-box installations. Example below: Flygt FGC 400.*



## **Packaged Pump Stations**

*We can design and deliver Packaged Pump Stations pre-engineered to conform to all local regulations on pipework, pump and control specifications. Example above: Flygt TOP Station.*

*Adaptive N versions shown  
below from left to right -  
3085, 3069, 3127 and 3102*



**Many choices, one reliable partner**

*At the heart of any pump station setup or package is the pump itself. Our small pump range comprises four main series (3069, 3085, 3102 and 3127). Altogether there are 12 different units in our range, with four pictured above. Specification and performance details can be found on pages 8 and 11.*

# Install it exactly the way you want it

In our small pump family, the Flygt 3069 stands out as a unique pump in its class and a reliable all-round workhorse. Not only is it available with our patented Adaptive N technology or, alternatively, the Vortex and Grinder hydraulics, but it features our flexible installation concept. This means you can customize the configuration to fit your needs exactly.

With the flexible installation concept, the bare pump is always your starting point. Then simply choose from among four predefined installation kits (F,H,P or S). Designed to cover every pump model and outlet size, the kits are carefully pre-checked to ensure nothing is missing.

## No more searching for parts

As a result, there is no need to spend valuable time searching for individual parts. You also avoid potential order



errors relating to small parts since nothing is forgotten. This modular approach also means you can do late product configurations or even multiple installation configurations using the bare pump as the base. Finally, for your convenience, all components required for installation are included in one part number.

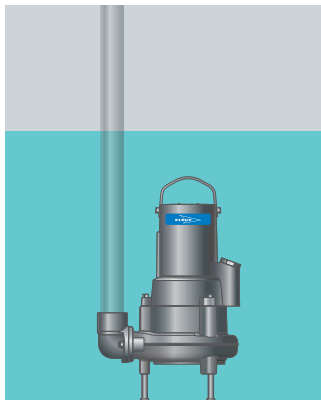
## Flygt 3069 Series

Our 3069 Series with Adaptive N covers all wastewater applications and is the preferred hydraulic option in our small pump range.

## Flygt flexible installation

### F-installation

Free standing, the pump is equipped with supporting legs. Can be connected to a hose or pipe.



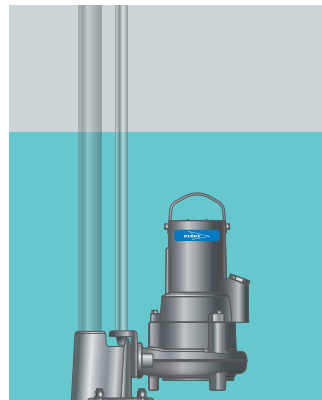
### H-installation

Stationary wet installation suspended from the discharge pipe. The quick connection joint has an integrated non-return valve applicable for Flygt Compit pump stations.



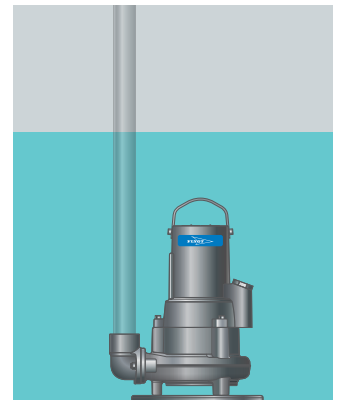
### P-installation

For semi-permanent wet well installations. The pump is installed between guide bars on a discharge connection.



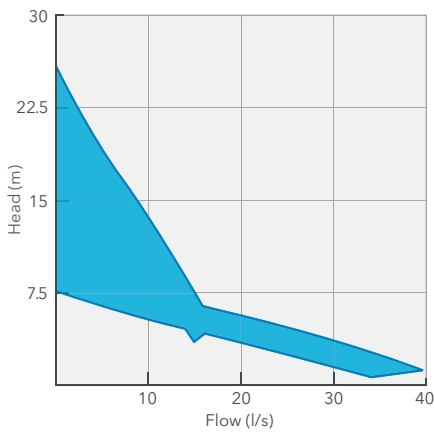
### S-installation

Semi-permanent freestanding installation. Easy to transport with its pipe or hose connection.



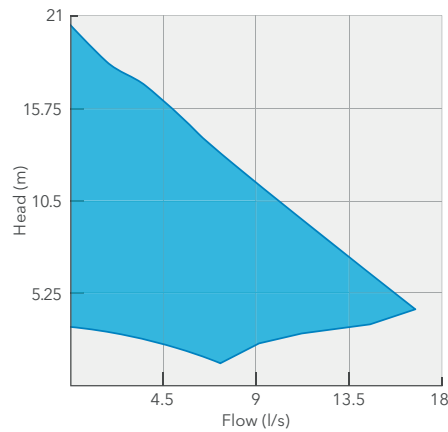


### Flygt 3069 Adaptive N™



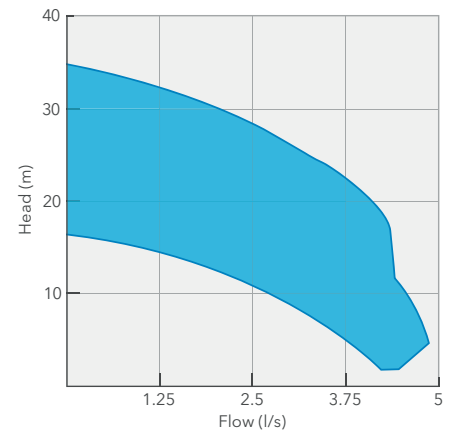
The 3069 model is now available with our patented Adaptive N technology, well tested in thousands of installations. Normally available on larger N pumps, this state-of-the-art technology not only prevents clogging and reduces stress on the shaft, seals and bearings, but it enables up to 25% sustained lower energy usage. You can also choose from different impeller material options: Hard-Iron, grey iron or stainless steel.

### Flygt 3069 Vortex



Robust and highly reliable, our powerful Vortex model has an open recessed impeller design to allow free flow-through passage of solids and liquids. It is capable of handling sludge concentration with up to 4% of dry solids.

### Flygt 3069 Grinder



When it comes to superior shredding and cutting, our enhanced designed grinder model is often used when high efficiency is a must in uneven terrain. This pump type is excellent in reducing solids to a fine slurry that can then be pumped through small-diameter pipes. The beauty of the grinder is that it adjusts to the actual system conditions without producing a very high pressure. It also requires very low maintenance.

#### Flygt 3069 Series Range

	Adaptive N	Vortex	Grinder
Power rating, kW	1.5 - 2.4	1.5 - 2.4	1.5 - 2.4
Discharge size, mm	50, 65, 80	50, 65, 80	50
Flexible installation	X	X	-
<b>Hydraulic material options</b>			
Grey iron	X	X	X
Hard-Iron™	X	X	-
Stainless steel	X	-	-

# A small pump for every wastewater application

Our aim is to ensure that you get just the right pump for your application needs. In addition to the Flygt 3069 specifications on the previous pages, the 3085, 3102 and 3127 series also offer continuous pumping performance - ideal for both smaller municipal sewage and commercial applications.



## Flygt 3085 Series

Robust, compact and highly efficient, the Flygt 3085 Series is available in a variety of power ratings, from as low as 1 kW on up to 2.4 kW. With an 80 mm discharge size, this pump series is available with Adaptive N, Grinder or Vortex hydraulics. With the Adaptive N version, it also includes a range of impeller material options: Hard-Iron, grey iron or stainless steel.



## Flygt 3102 Series

The Flygt 3102 Series is a well-proven solution for continuous trouble-free pumping. Flygt 3102 pumps have power ratings from 2.5 kW on up to 4.4 kW, depending on your preferred model. This pump series is available with Adaptive N, Grinder or Vortex hydraulics. With the Adaptive N version, it also includes a range of impeller material options: Hard-Iron, grey iron or stainless steel.



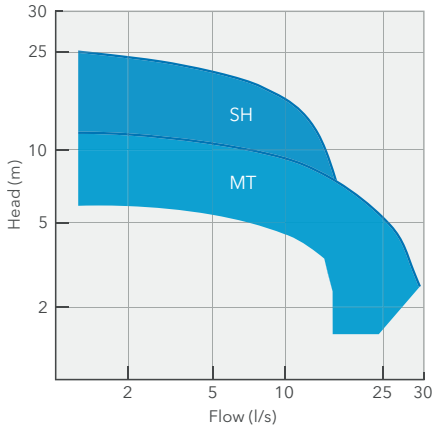
## Flygt 3127 Series

Designed for slightly higher flow rates, the Flygt 3127 Series handles power ratings from 4 kW on up to 10.9 kW. Discharge sizes are also larger, from 75 on up to 200 mm. This pump series is available with our Adaptive N, Grinder or Vortex hydraulics. With the Adaptive N version, it also includes a range of impeller options: Hard-Iron, grey iron or stainless steel.

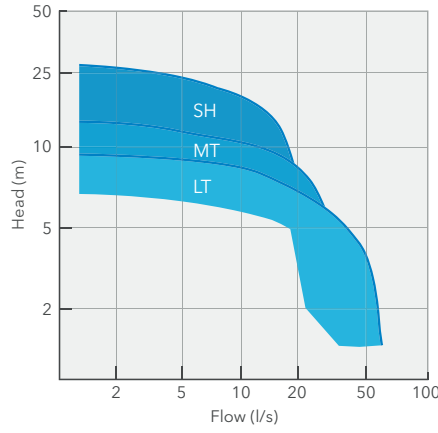
### Key benefits

- State-of-the-art pumping with Adaptive N technology
- Sustained highly efficient operation
- Modular-based design with high adaptation grade
- Lowers your energy bill and reduces unplanned maintenance costs
- Reduces the total life cycle cost of your installation

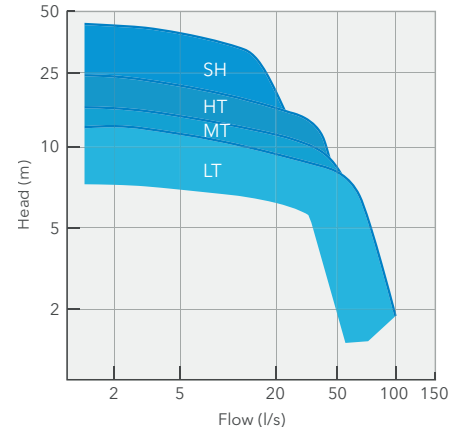
### Flygt 3085 Series



### Flygt 3102 Series

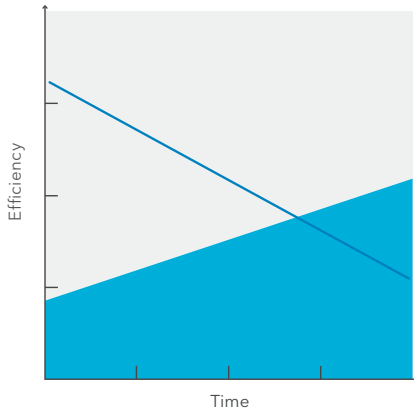


### Flygt 3127 Series

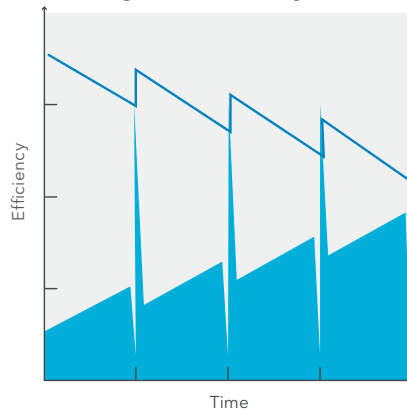


Pressure Characteristics: SH - Super High Pressure, HT - High Pressure, MT - Medium Pressure, LT - Low Pressure

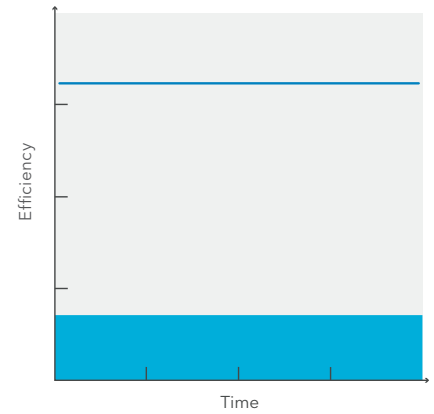
### Conventional pump



### Conventional pump running intermittently



### Flygt N pump



— Hydraulic efficiency    ■ Energy consumption

## Small pump range overview

Model	3085	3102	3127	Impeller material options
Power rating, kW*	1 - 2.4	2.4 - 4.4	4.0 - 10.9	
Discharge size, mm*	80	75-150	75-200	
Adaptive N™ impeller	X	X	X	Hard-Iron™, grey iron, stainless steel
Grinder	X	X	X	Grey iron
Vortex	X	X	X	Grey iron

\* Specific power ratings and discharge sizes vary per model. For details, see the technical specifications relating to the individual models.

# 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, analyze, 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](http://xyleminc.com)

## Free Line group

We offer:

- Engineering and technical solutions of Xylem for water supply, wastewater and water purification systems, which are leading in the world.
- A full range of pumps and equipment for such applications as supplying drinking or untreated water, diversion of industrial wastewater, sewage, drainage, monitoring installations and operation, primary and secondary biological treatment, filtration and disinfection.
- Technical support and maintenance of pumps. Our local service center provides comprehensive services and support for safe, efficient and reliable operation. You can rely on us to ensure trouble-free operation and minimal downtime. We will quickly respond and give a professional answer to your questions, as well as provide high-quality service using original spare parts.

### Free Line Group LLC

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