xylem

Flygt propeller pumps

Engineered for reliable, high-volume performance



50 Hz

FLYGT xylem

When reliability powers the experience

Water attractions demand unwavering reliability. Whether you're operating whitewater kayak courses, river rapids rides, log flumes, or surf pools, downtime means disappointed guests and lost revenue. Your pumps need to perform flawlessly, hour after hour, day after day.

Xylem's Flygt propeller pumps deliver the reliability and efficiency that water attraction operators require. With extended operating hours demanding maximum energy efficiency and space constraints requiring compact installations, our pumps are engineered to meet the unique challenges of amusement applications.

World-class pumps for world-class athletes

Flygt pumps have powered elite whitewater canoe and kayak venues for more than 30 years. When the world is watching, facility operators trust Flygt to deliver flawless performance under pressure.

Your water attraction challenges, solved

- **Maximum energy efficiency:** Long operating hours demand low energy consumption. Flygt propeller pumps deliver up to 87% hydraulic efficiency to minimize operating costs even during extended run times.
- **Reliable 24/7 operation:** When the ride stops, so does your revenue. Our N-technology propeller's self-cleaning design ensures continuous, dependable performance without unexpected downtime.
- **Compact installation footprint:** Limited space for pump installations? Our compact column design and Slimline models fit within tight footprint constraints without compromising performance.
- **Expert engineering support:** Our application engineers provide expertise for pump selection, station design optimization, and hydraulic analysis to ensure your system performs as designed.
- **Corrosion-resistant construction:** From chemically treated water to natural river sources with silt and salt, proper material selection ensures long-term durability in variable water quality conditions.
- **Self-cleaning performance:** Recirculated water introduces plastics, fibers, and other debris. Our N-technology propeller prevents clogging and maintains peak efficiency throughout the operating season.

Clog-free performance that maintains efficiency

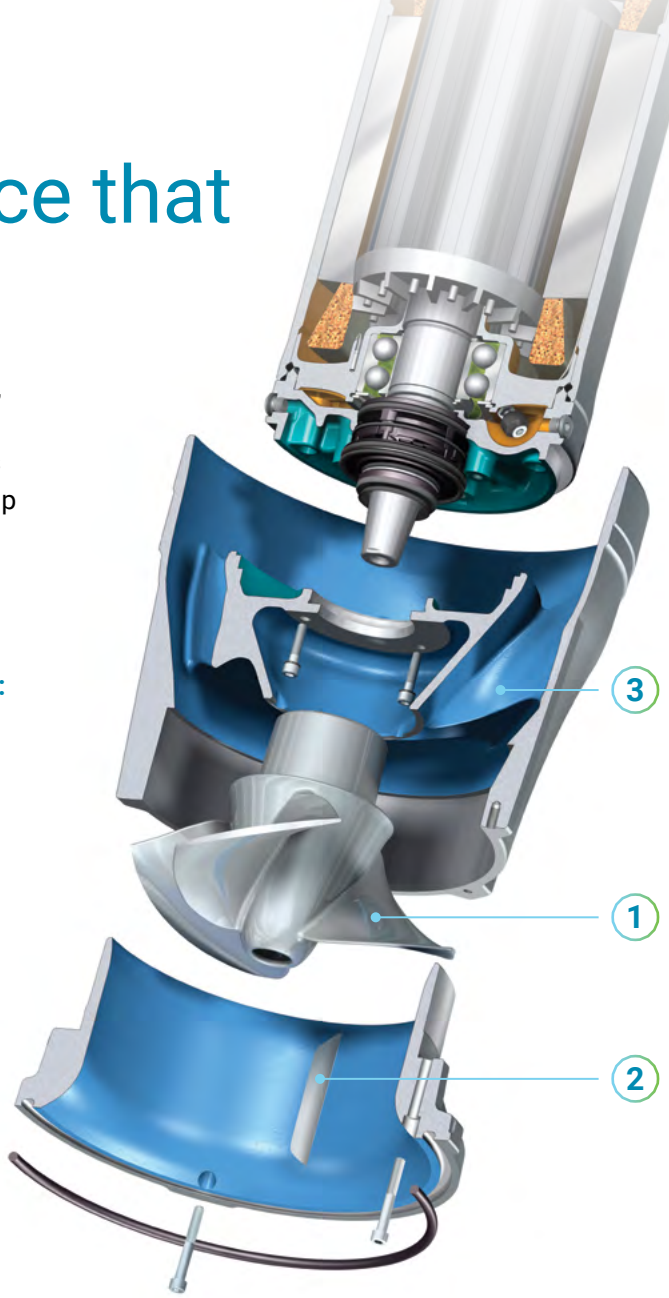
While water may appear clean, hidden debris like plastic bags, wipes, vegetation, and fibrous materials can accumulate on conventional axial flow pump propellers. This buildup reduces efficiency, increases energy consumption, and can cause pump overload and shutdown at the worst possible time. Xylem has the solution.

Flygt N-technology revolutionizes propeller pump performance through three integrated self-cleaning features:

1. **Backswept propeller blades**
   The swept-back design of the leading edge ensures that plastic bags, fibers, and other materials slide down the blade edge toward the pump housing instead of wrapping around the propeller.

2. **Relief groove**
   The integrated relief groove forces accumulated material through and out of the pump, preventing buildup.

3. **Self-cleaning guide vanes**
   The specialized design of the guide vanes creates localized turbulence around any accumulated stringy material, helping to remove debris from the vanes and discharge it from the pump.



The result: sustained performance

- **Lower energy costs:** Maintain factory-rated efficiency even in challenging conditions. Small efficiency losses over time compound into significant energy costs when pumping high volumes.
- **Fewer unplanned stoppages:** Our self-cleaning design prevents the clogging that causes pump overload and thermal shutdown.
- **Reduced maintenance:** Less frequent cleaning and inspection is required compared to conventional propeller pumps.
- **Extended equipment life:** Reduced mechanical stress from debris buildup extends bearing life and protects motor windings.

Built to last decades, not years

Every Flygt propeller pump undergoes rigorous testing before leaving the factory and arriving at your site fully assembled. Our commitment to quality ensures your pump delivers reliable performance for 30 to 40+ years of service.

Extended motor life & reliability

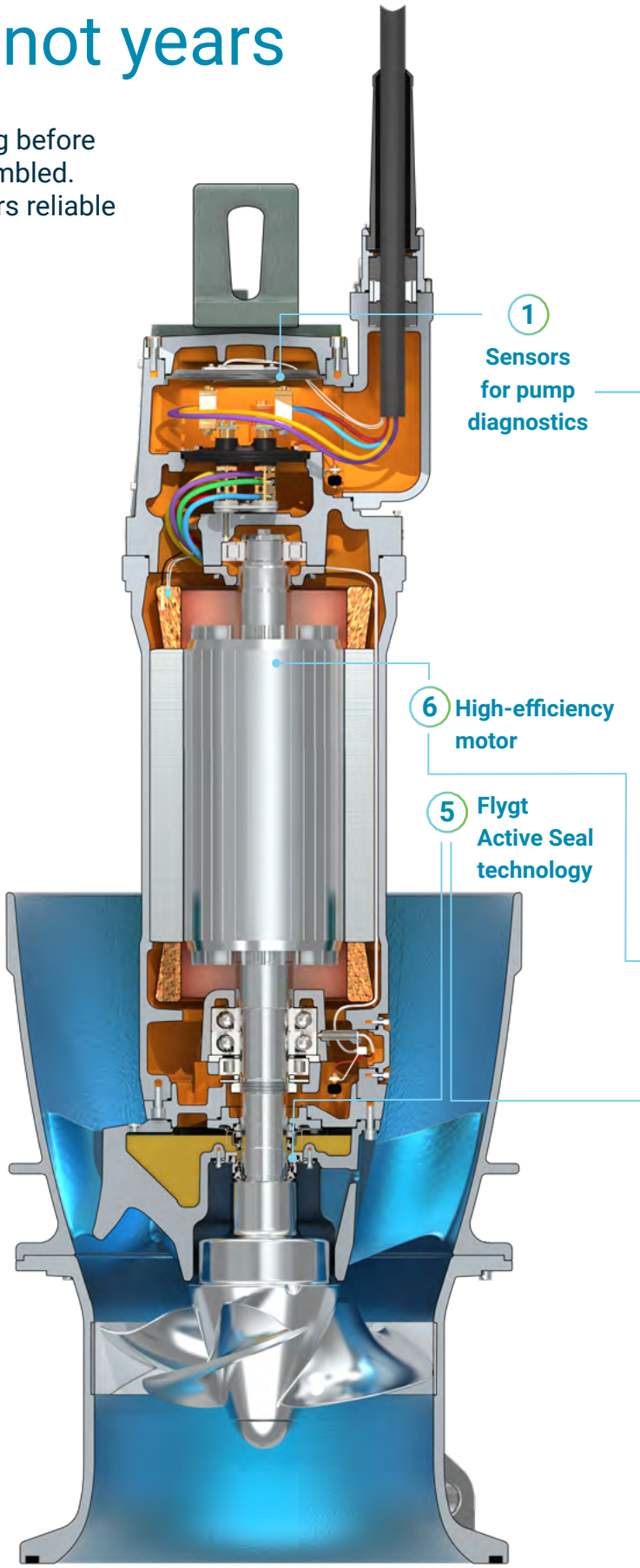
- **Class H insulation (180°C/355°F):** Greater thermal margin provides enhanced reliability and extended motor life
- **Fully submersible design:** All motors rated for continuous submerged operation up to a depth of 20 m
- **Heavy-duty bearings:** Engineered for extended operational lifetime under demanding conditions
- **Embedded thermal sensors:** Continuous monitoring prevents overheating damage
- **Explosion-proof versions available:** For hazardous environment installations requiring ATEX or NEC compliance

Zero-leakage protection

- **Dual independent mechanical seals:** Two pairs of corrosion-resistant tungsten carbide (WCCR) shaft seals provide superior sliding properties and redundant protection
- **Optimized seal environment:** Minimized shaft overhang with maximized cooling and lubrication
- **Flygt Active Seal system:** Increased seal reliability with zero leakage into the motor, reducing risk of bearing or stator failure
- **Double-grommet cable sealing:** Extra protection prevents water intrusion through cable entry

Sustained high efficiency

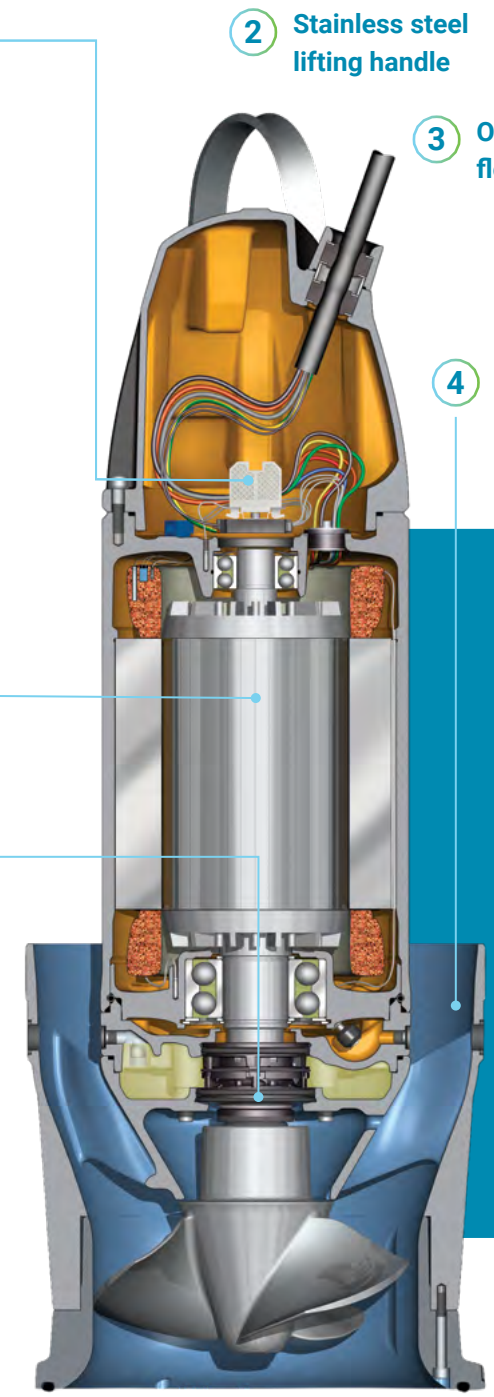
- **N-technology hydraulics:** Self-cleaning performance maintains efficiency
- **Optimized propeller materials:** Stainless steel (316), Hard-Iron, or Aluminum-Bronze construction, depending on pump size and application requirements
- **Integrated losses included:** Published performance curves include all column losses up to 500 mm above motor top



Flygt's in-house design and manufacture of mechanical seals and motors ensures optimized integration and long-term reliability in the most demanding submersible pump environments.

Proactive condition monitoring

- **Thermal protection:** Sensors in stator windings prevent overheating damage
- **Pt100 temperature monitoring:** Tracks stator and bearing temperatures for predictive maintenance
- **Leakage detection:** Alerts operators to liquid intrusion through cable or seal before damage occurs
- **3-axis vibration monitoring:** Identifies abnormal conditions for proactive service
- **Flygt MAS 801 monitoring system compatibility:** Transforms pump station maintenance with data-driven insights and predictive analytics. With remote accessibility, 24/7 health checks and actionable diagnostics, MAS 801 helps optimize maintenance schedules, reduce downtime, improve efficiency and extend equipment life.



Maximum performance, minimum footprint

The Flygt Slimline propeller pump series (PL 7020, 7030, 7035, 7040) represents a breakthrough in compact design. The reduced profile allows installation in smaller column pipes, reducing the pump station footprint and lowering construction costs while maintaining the heavy-duty reliability and superior performance Flygt is known for.

The right size for any application

Flygt propeller pumps are engineered for moving large volumes of water at low heads. Our comprehensive product range ensures optimal pump selection for your specific flow and head requirements. This eliminates the need to oversize pumps, which adds unnecessary installation and operating costs.

PL 7000 series performance range (50 Hz)

Flow range: 100 to 7,000 l/s (2.2 to 245 cfs)

Discharge head: up to 12.5 m

Motor power: 6 to 575 kW

Voltage options: 230V to 6.6kV

Column diameter: 400 to 1400 mm

Hydraulic efficiency: Up to 87%

For more detail on PL 7000 series performance and sizing, visit **Xylem Solver.**



Why right-sizing matters

Selecting the optimal pump size is easy with the help of application engineers and delivers significant advantages:

Smaller installation footprint: Right-sized pumps require smaller column diameters and reduced pump bay dimensions, lowering construction costs. This is especially critical for space-constrained water attractions and retrofit municipal projects.

Lower energy costs: Pumps operating at their design point achieve peak efficiency. Oversized pumps running off their performance curve waste energy and increase operating costs over the equipment's lifetime.

Reduced capital investment: Smaller pump, motor, column, and installation requirements translate directly to lower total project cost.

Wide range of applications

- **Stormwater and flood control:** High-capacity pumping when severe weather threatens communities
- **Wastewater treatment plant effluent:** Reliable 24/7 pumping of treated effluent
- **Return and waste activated sludge (RAS and WAS):** Clog-resistant handling of fibrous sludge
- **Raw water intake:** Continuous operation for water treatment and cooling applications
- **Water attractions:** Kayak courses, river rapids, log flumes, surf rides, and wave pools
- **Irrigation systems:** High-volume agricultural and turf irrigation
- **Aquaculture:** Water circulation for fish farming operations

Expert engineering support for your success

Pump system reliability and efficiency depend not only on the performance of the pumps, but also on a well-designed pump sump and system. With over 2 million Flygt pump stations worldwide, we bring extensive expertise in fluid dynamics, pump station design, and system optimization.

Pump station design services

Flygt application engineers provide comprehensive support throughout your project:

Pump selection: Identify the optimal pump model for your specific application requirements

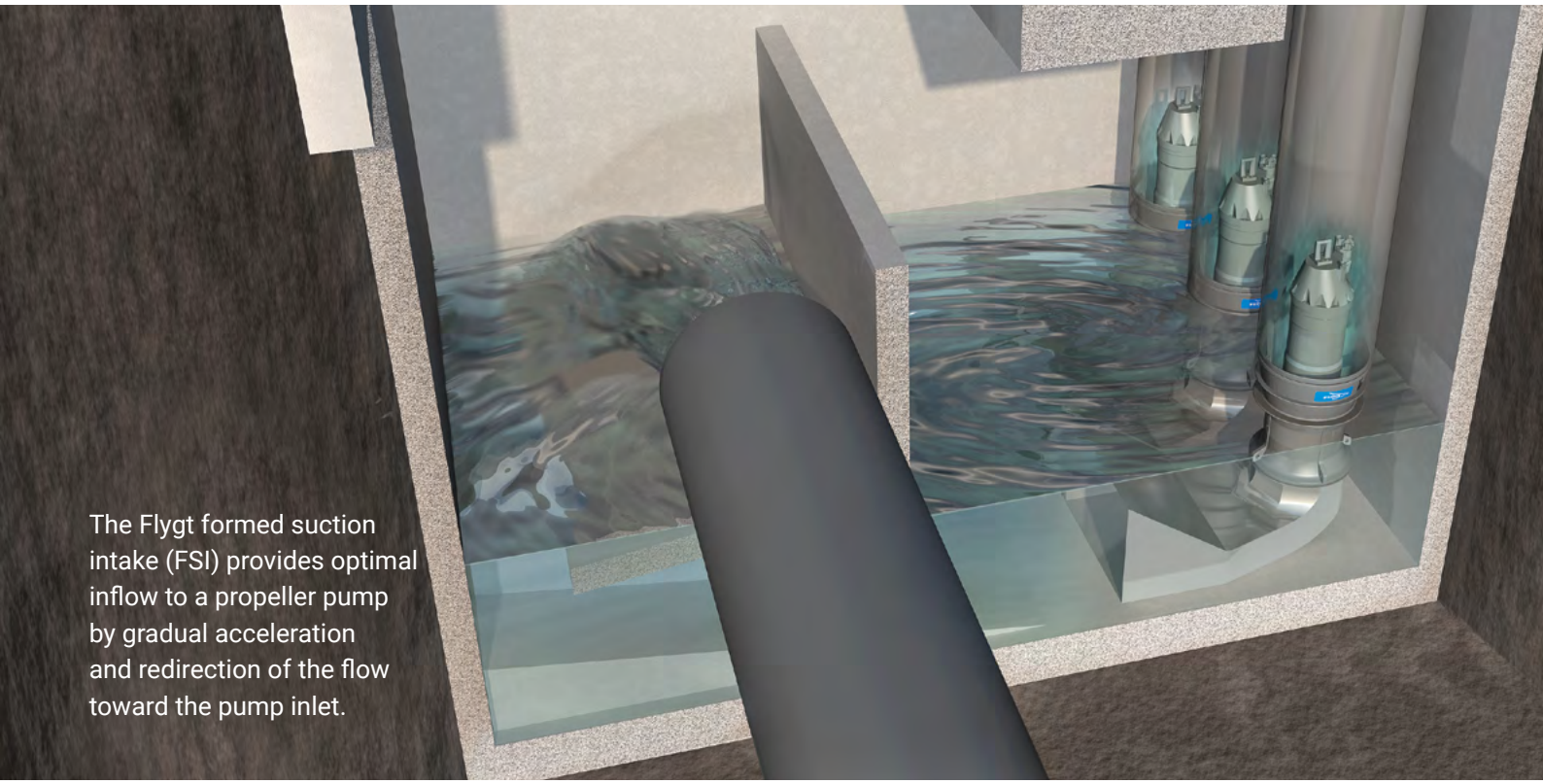
System analysis: Calculate head losses and verify system performance

Sump design: Ensure uniform approach flow to achieve optimum pump performance and maximize equipment life

Hydraulic analysis: Prevent accumulation of sediment and surface scum

Advanced flow modeling (CFD analysis): Optimize pump station designs and develop effective solutions for unique requirements

Physical scale modeling: Testing for critical applications requiring validation



The Flygt formed suction intake (FSI) provides optimal inflow to a propeller pump by gradual acceleration and redirection of the flow toward the pump inlet.

Trusted on the world’s biggest stage



When the world’s best athletes compete on the global stage, event organizers trust Flygt to deliver reliable, powerful water flow that meets exact specifications for whitewater competition. That’s why Flygt propeller pumps power professional whitewater courses worldwide.

Why elite venues choose Flygt

Absolute reliability
Pump failure during international events is not an option. Flygt N-technology and robust construction ensure flawless operation, run after run.

Adjustable performance
Courses can be adjusted from championship whitewater to recreational flow for public use.

Precise flow control
Competition requirements demand exact water velocities. Flygt pumps deliver consistent, controllable flow rates.

Long-term value
Many venues continue operating long after they’ve left the world stage. Flygt pumps deliver decades of reliable service.

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