PROBIG®
NON-METALLIC SCRAPING SYSTEMS

PROBIG®
FLOATING SLUDGE EXTRACTION SYSTEM

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PATENTED SOLUTION FOR REMOVING FLOATING SLUDGE

PRO SOLUTIONS FOR WATER TREATMENT

www.probig.com

The PROBIG® floating sludge extraction system

The PROBIG® floating sludge extraction system is our patented solution for removing floating sludge from your wastewater treatment plant.

Circular scraper with floating sludge extraction system

The floating sludge extraction system can be installed in circular and rectangular tanks. Retrofitting existing scraper bridges and the operation in combination with longitudinal scrapers is also possible. We manufacture custom-made solutions or unique designs according to customer requirements.

The extraction unit, combined with a screw and a baffle, delivers an optimal cleaning result, proven by numerous realised applications.

Your benefits at a glance

High effectiveness and minimal effort

Due to the adjustable immersion depth of the float unit in the extraction pot, only the necessary amount of water and sludge is pumped, thus achieving an optimal mode of operation with minimum energy input. A particular benefit is that no air is sucked into the water-sludge mixture. This has a positive effect on the service life of the pump. Furthermore, deficits regarding the delivery head, bubbles in the pressure line and maintenance are largely eliminated.

Maintenance-friendliness

The floating sludge pump and the float unit are installed in a maintenance-friendly construction that can be lifted out without tools.

Accuracy

The desired mixing ratio of water and sludge can be adjusted via the pump, optionally also via remote control. On the one hand, this ensures the pumpability of the medium and, on the other hand, prevents the extracted sludge from being pumped in an undesirably high or overly diluted mixture.

Patented floating sludge screw

The patented floating sludge screw with floating extraction box for fully automatic removal of floating sludge or grease in round and rectangular pools.

Technical data

- **Material:** SS 304/SS 316
- **Screw pipe:** DN 300
- **Screw blades:** Ø 800 mm
- **Floating sludge screen:** H=300 mm
- **Extraction box:** Round design
- **SS extraction line:** DN80/DN65 incl. knife gate valve
- **Pumps:** ABS or similar
- Special solutions and designs according to customer requirements

Your benefits with PROBIG®

Innovative Technology.

The buoyancy-neutral screw conveyor consists of one or more torsionally rigid coupled elements, where the body of the screw conveyor multi purposely serves as a submersion weir. The screw with its rigid coupled components transports the floating sludge utilising the screw surface by continuously conveying the sludge to a floating extraction box.

Highest flexibility with intelligent use.

Regardless of the water level, the extraction box always remains at the same level as the water level. Therefore, the submersion depth, which can be adjusted through a gate valve, remains constant after the initial setting.

Uncompromising efficiency with full function.

The baffle, located behind the conveying screw, prevents any residual substances from remaining in the basin.

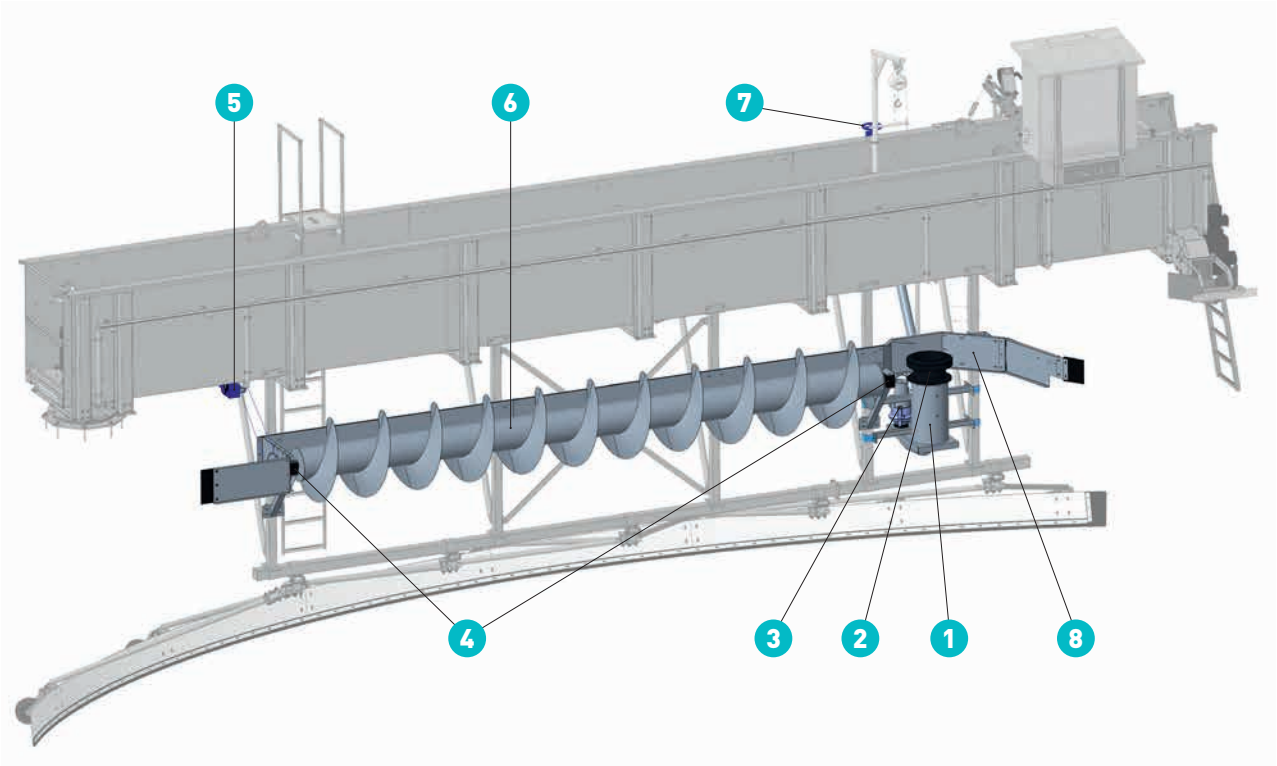
Cost-effective. Standard-compliant.

An extraction box with a baffle is sufficient for small pools with little floating sludge.

Simple and versatile.

The possibility of retrofitting on existing systems in various designs is possible at any time.

Essential components of the floating sludge extraction system



1. Extraction pot
2. Float unit
   (inside the extraction pot): floating extraction device that automatically follows the water level during operation
3. Floating sludge pump
4. Bearing unit with plastic plain bearings
5. Drive unit
   equipped with a maintenance-free geared motor, tensioning station and non-metallic drive chain
6. Floating sludge screw made of stainless steel
   with central pipe DN300 and screw blades inclined in conveying direction, outer diameter 800 mm
7. Throttle valve
8. Subsequent baffle

Complementary options, optional equipment and further extraction systems

A subsequent baffle can optimise the cleaning result. The floating sludge can be captured even better, and "dropping through" can be prevented.

Using a force-feed pump ensures the removal of a constant quantity of sludge, even in the case of longer pipes or changing hydraulic conditions in the pressure pipe (e.g. "overgrowth").

By increasing the flow rate, line flushing can also be realised. This prevents the floating sludge pipe from becoming "overgrown" and considerably extends the cycle of the necessary pipe cleaning.

With the use of a sensor system to detect the presence of floating sludge, on-demand activation of the extraction system can be realised.

Operating principle

The core element of our patented sludge extraction system is the extraction pot (1), which has been completely redesigned and optimised to boost efficiency. The float unit (2) floats on the water surface until the level inside the float sinks by activating the floating sludge pump (3). This submerses it to such an extent that the overflow of water or sludge from the outside is guaranteed. The water-sludge mixture is continuously sucked off. Functionality is guaranteed even with large volumes of sludge.

1. Extraction pot
2. Float unit
3. Floating sludge pump

Flexibility in use

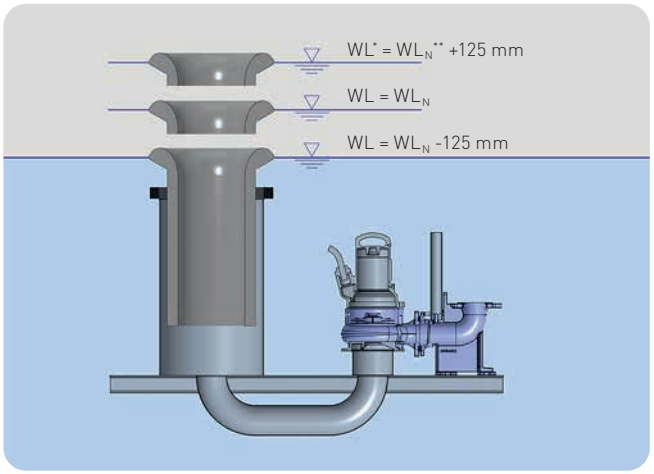


Illustration of the floating sludge extraction system at water level fluctuations of +/- 125 mm

* Water level (WL)
** Nominal water level (WL_N)

Full functionality even with water level fluctuations of up to +/- 125 mm. In addition, the use of a trailing baffle reliably retains the floating substances in the event of fluctuations of up to +/- 200 mm.

Certified for the highest requirements

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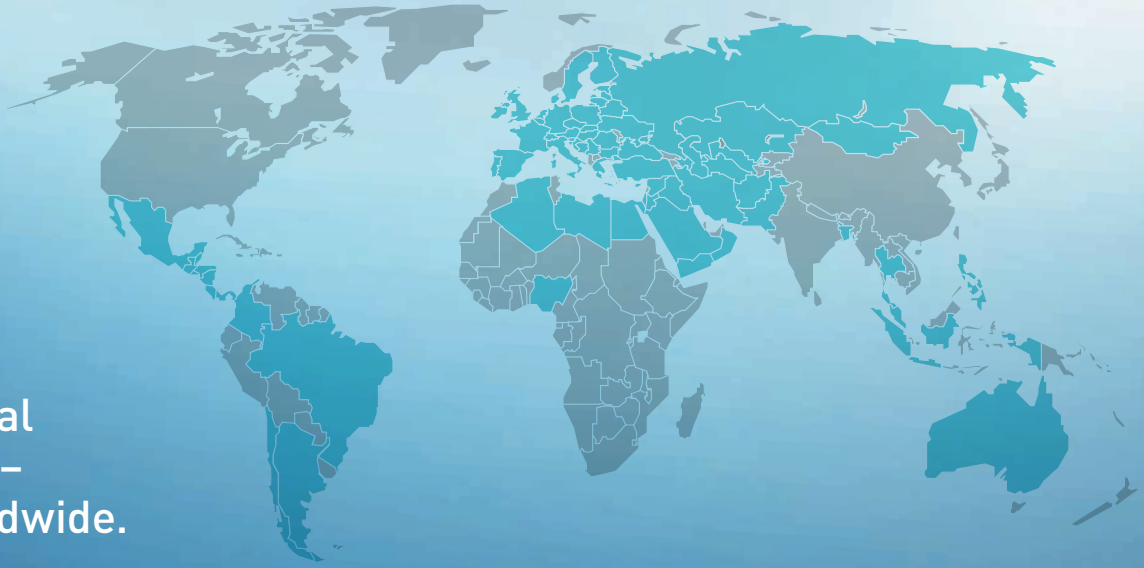
Market leaders trust PROBIG®.



International successful – active worldwide.

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