HYDRIA™ WATER



VORTEX

With Vortex, sand and other high-density substances are effectively separated from the water.

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VORTEX

The main function of Vortex is to separate sand and other high-density substances from the water. Vortex is installed in a circular sand trap, either in a concrete or stainless steel tank, and is equipped with a mixer, whose circular motion keeps the water velocity constant for separating particles with high density while lower density particles remain suspended. This allows the heavier substances to separate from the lighter ones.

The heavier substances naturally sink to the bottom of the tank. From there, they can either be extracted using an airlift system, mammoth pump, or an impeller pump.

The Vortex sand trap typically follows pre-treatment equipment for screenings separation instead of a rectangular sand trap or combi-unit. The sand can then be transported to a sand dewatering unit or sand washer to further separate organic matter and dewater solid materials. Lighter organic matter is separated by the mixer and floats to the surface with the cleaner water to continue towards further processes.

FUNCTIONS

- Made from robust, precisely calculated, high-quality stainless steel alloys.
- Closed, safe, and hygienic with easily accessible inspection hatches for tank applications.
- Effective removal of gravel, metal particles, and sand.
- Low power consumption.
- Compact solution with a small footprint.
- Easy maintenance and replacement.

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CONSTRUCTION AND APPLICATION

- Stainless gearbox with integrated slewing ring bearing (for mammoth pump slurry).
- Automatically lubricated transmission.
- Bolted construction for easy service and maintenance.

INSTALLATION

- Can be implemented inline in piping systems with low pressure loss.
- Modular to adapt to various flow and operational scenarios.
- Small space requirement and shorter retention time compared to rectangular applications.

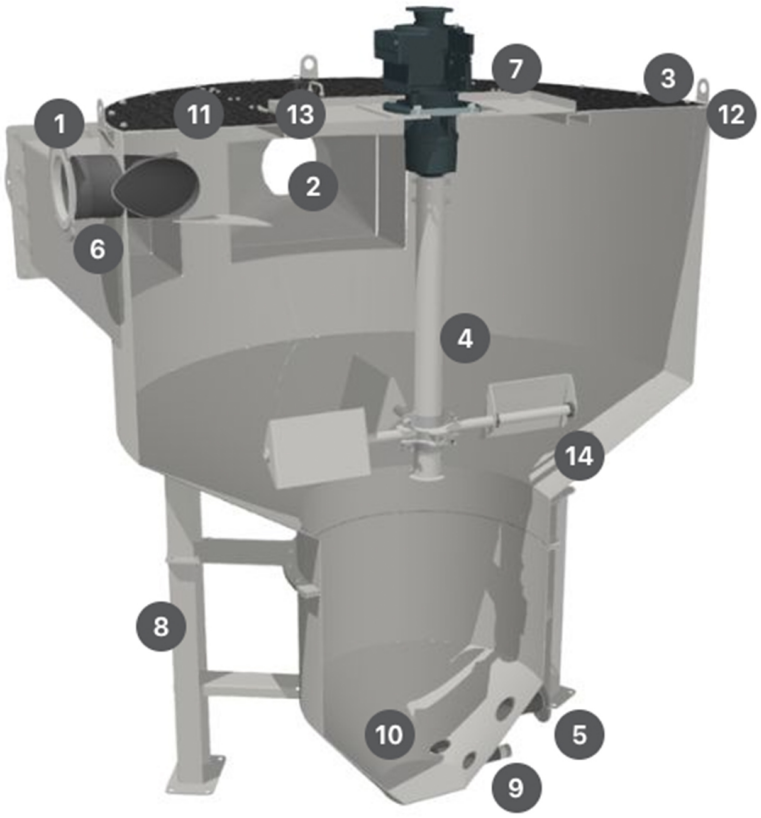
OPERATION

- Capacity, flow: As per customer requirements.
- Capacity, pump: As per customer requirements.
- Easy maintenance and optimized for each installation.
- Can be effectively used without a blower for sand separation.

MAINTENANCE

- Low maintenance needs with few moving parts.
- Easy access with bolted construction.
- Standardized design with available spare parts.

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EXPLODED VIEW

1. Inlet, flange connection

2. Outlet, flange connection

3. Ventilation connection

4. Agitator

5. Sand pump connection

6. Overflow outlet

7. Oil tray

8. Adaptive support legs to ensure function against hydraulic profile

9. Drain outlet

10. Push valve (emergency function for stuck sediment)

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11. Walkway for hygienic and service-friendly application

12. Lifting lugs for easy installation

13. Manholes for inspection and easy access

14. Adjustable agitator blades for optimal tuning

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