



## **SIDE-DRIVEN CIRCULAR SCRAPERS**



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# SIDE-DRIVEN CIRCULAR SCRAPERS

## ***General Description and Intended Use***

Circular scrapers are used in the settling pools in the chemical and biological wastewater treatment plants. They are designed to be used in pre-settling and final settling pools in biological treatment plants. They are used to scrap the sludge and floating materials in the wastewater. Sludge settled at the bottom of the pool under laminar flow conditions are gathered at the center of the pool with the aim of circular scraper. At the same time, floating materials are scrapped with the help of surface scraper and removed from the system. The wastewater at the clear stage leaves the system through pool weir.

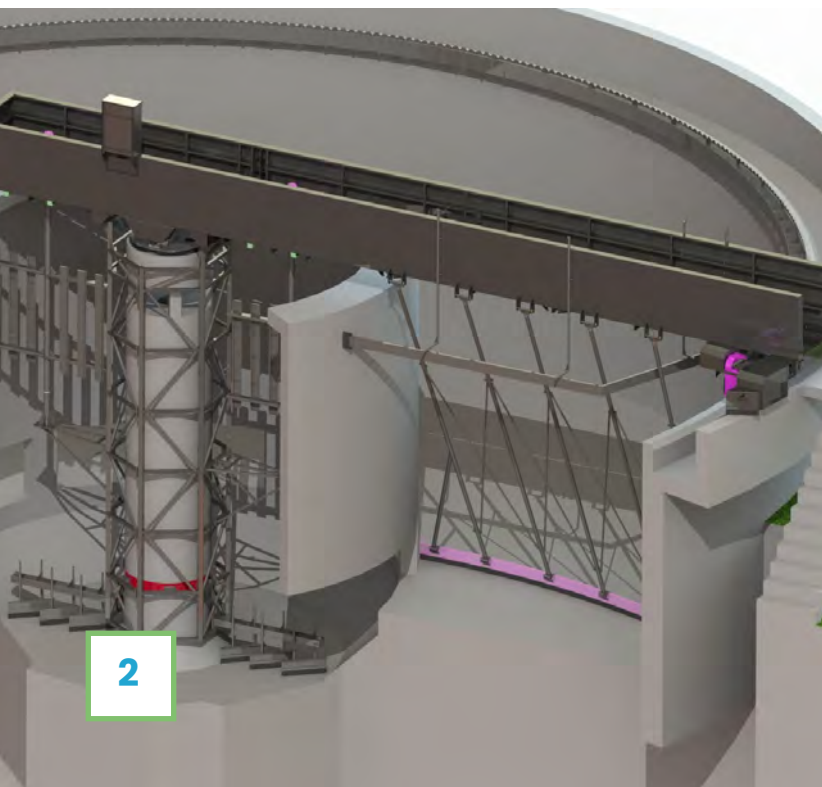
## ***Working Principle Of Equipment***

Circular scrapers are systems driven from the sides. To provide circular motion of the scraper, the scraper is supported between bearings at the center of the pool and moved with the aim of drive system on the side walls. Underwater bottom scraper pallets are connected to the bridge providing the circular motion with a joint. Bottom scrapers moving together with the bridge transmit the sludge at the bottom of the pool towards the center of the pool. The sludge transmitted to the center of the pool are transferred to the pump container deigned in different types and removed from the system. Surface scrapers can also be added to circular scrapers to remove possible floating materials art the surface of the settling pool from the system.

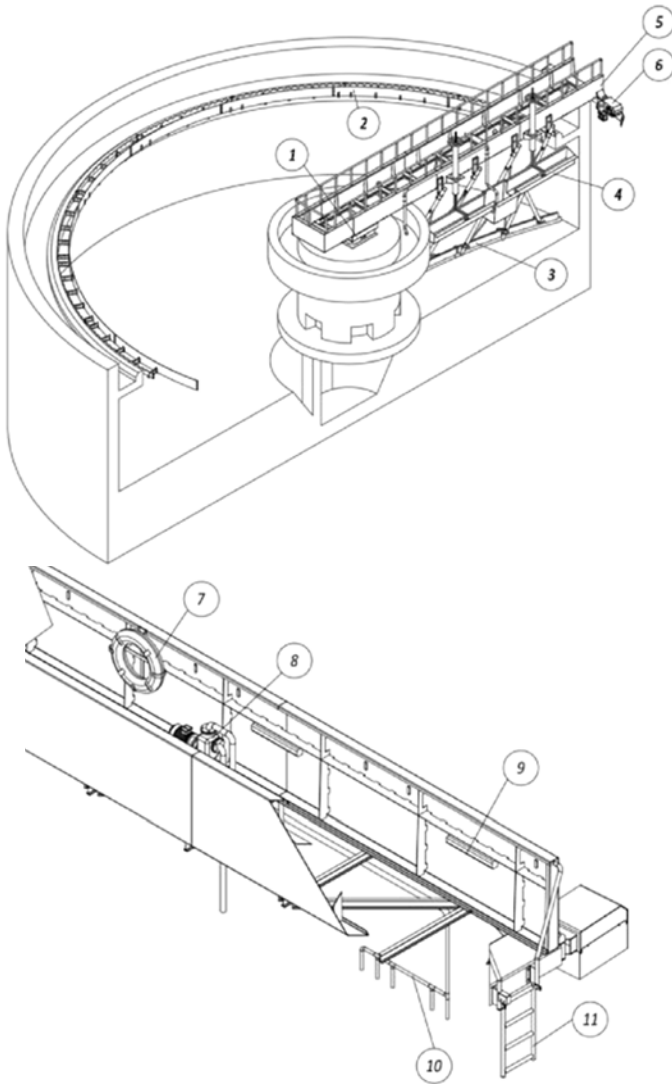


## TECHNICAL SPECIFICATIONS

- Bridges are manufactured with a length of half, 2/3 or full-height of the pool.
- They are designed to serve pools with up to 60 meters diameter.
- Electric power transmission of the scraper is provided through brush sleeves to be assembled on central bushing system.
- Bottom scrapers for the sludge are manufactured as logarithmic or linear according to the sludge load and process features.
- Scraper rubber lines reinforced with tire cord, high resistance against wear, custom manufacture, replaceable and distance adjustment are used in bottom scrapers to carry out bottom scraping process.
- The motion of the bottom scraper pallets on the concrete are supported with wear-resistant special polymer wheels.
- Bottom scraper can be manufactured as suction type to be able to absorb the sludge through pipes.
- A bushing system with bearing is used to fix the scraper to the center of the pool.
- In drive group, filled wheels or coated wheels with high resistance against wearing on the casting are used.
- In the design, peripheral speed of the scraper is set as 2-5 cm/sec.
- For surface scraper, blade type, screw type, vessel type, chain-driven type surface scrapers are selected according to the process and customer's request.
- Pipe and stretcher systems connected to the scraper bridge connect the bottom scrapers to the bridge and supports them.
- Wheel housings are manufactured as closed-type in accordance with OHS rules.
- Scraper bridge is designed and manufactured by calculating design loads and allowed maximum portion.
- Scraper bridge is manufactured as pipe type on full metal sheet side wall, semi metal sheet side wall with guardrail or the type on the supporting beam with guardrail according to design loads.
- Scraper bridge drive system is equipped with torque safety system to prevent overload.
- In drive systems, a spinning warning system is used against cold weather and icing conditions.
- Walkway guardrail is manufactured minimum at the height of 1100 mm as per occupational health and safety rules.
- The whole scraper bridge is manufactured to contain electrical infrastructure, considering the cabling system and cable routes on it.
- Weir wash systems are manufactured as brush or pump types.







No	Part Name
1	Central Bushing
2	Weir and Submerged Wall
3	Bottom Scraper
4	Surface Scraper
5	Frame
6	Motor / Reducer
7	Life Buoy
8	Weir Wash Pump
9	Lighting
10	Weir Wash System
11	Ladder

## Material Details

- Frame: They can be manufactured as S235JR + Hot Dipping Galvanized Coating, S235JR + Epoxy Paint, DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Bottom Scrapers: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Surface Scrapers: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Weir and Submerged Wall Barrier: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).

"Different materials can be preferred in accordance with the request of the customer."





## Advantages

- Practical and easy maintenance,
- High Performance Bottom and Surface Scraping,
- Low Operation and Maintenance Costs,
- Possibility to Control and Follow the System Operation Over SCADA,
- Low Energy Consumption,
- Easy Transportation and Mounting,
- Long Operation Life,
- Economical and Resistant Design,
- Accessory Diversity.

## Accessories

- Torque Safety System
- Spinning Warning System
- Emergency Button
- Life Buoy\*
- Steingel Cap System\*
- Weir and Submerged Wall\*
- Stainless Steel Deflector\*
- Jib Crane\*
- Suction Type Bottom Scraper\*
- Weir Wash Brush\*
- Sensor Automatic Bridge Stairs\*
- Weir Washing Pump and Nozzle System\*
- Central Rotator Foam Transmission Mechanism\*
- Infrared Defrost System on Walkway\*
- Local Power and Control Panel\*
- Brush Sleeve Set\*
- Lighting Over the Bridge\*
- Electric Pans\*
- Double-Acting Lighting Control on Whole Bridges\*

\*Optional accessories are defined.





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