

DEWA 4-shaft CSS
for top scum and
bottom sludge
scraping

Sludge and Scum Collection

DEWA CHAIN SCRAPER SYSTEMS



CSS SCRAPER

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For sludge and scum scraping, we offer an endless chain scraper system, renowned for its top-of-the-line performance in sedimentation, flotation, and clarification processes. This system is flexible and can be utilized across various project applications and basin types.

Globally tested and proven quality

Our systems are trusted and used by municipal and industrial customers worldwide – from small private companies to leading international contractors.

- ▶ Founded in 1986, we have almost 40 years experience in this field
- ▶ We have delivered close to 4000 chain scraper systems
- ▶ Deliveries in all five continents and almost 90 countries

Highly flexible solution for a wide range of applications

We offer various configurations for projects, ranging from top and bottom scraping systems to Stacked (multilevel) Clarifiers. Additionally, we provide all necessary accessories for these systems, including scum collection devices, scum discharge plates, and monitoring and control systems.



DEWA 2-shaft CSS
for top scum scraping

Key features

DEWA Chain scraper systems offer unbeatable advantages over the other available systems

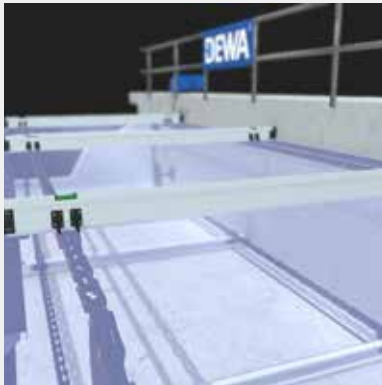
- ▶ Efficient footprint compared to circular basins
- ▶ Easy to install
- ▶ Low energy consumption
- ▶ Can be built on top of each other
- ▶ High removal efficiency
- ▶ Low wearing rate
- ▶ Low maintenance cost
- ▶ Long lifespan
- ▶ Light weight
- ▶ Durable and non-corrosive components

Read more on our webpage www.dewaco.fi



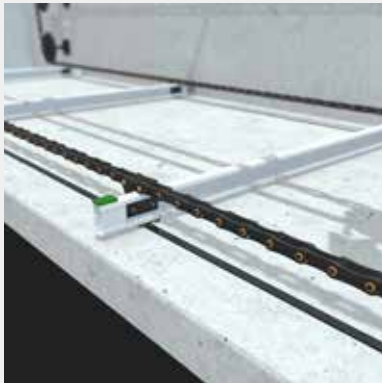
DEWA CSS CONFIGURATION MATRIX					
A DEWA CSS is always customized and manufactured by our specialists to our customers' needs. This process is based on the material, construction and dimensional needs of the specific application and type of basin. The matrix below shows the key features of a chain scraper system.					
Type of application	Type of basin	Type of scraper	Steel material	Basin dimensions and quantity	Other features & accessories
Waste water treatment	Settling	4-shaft top and bottom scraping	Stainless steel AISI304	Width	System controls
Water treatment / drinking water	Primary settling	2-shaft top scraping	Stainless steel AISI316	Length	Scum pipes
Desalination	Secondary settling	2-shaft bottom scraping	Super Duplex	Height	Beach plates
API oil-water separation	DAF	3-shaft bottom scraping		Number of basins	Weirs
Storm water	Lamella tank	Special combinations			Other
Other industrial solutions	Multi layer				
	Sand trap				
	Grease skimmer				

Our superior design and DEWA components offer top-class features, performance, and durability.



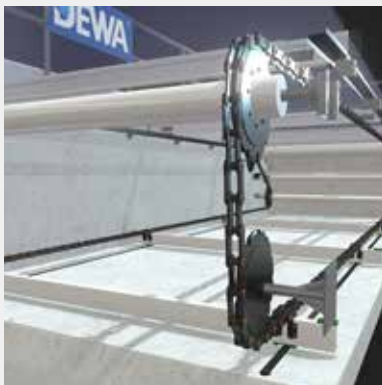
1. Scraper Flight

- ▶ Composite (GRP) scraper flights are extremely durable and lightweight
- ▶ Available in various models for different applications.
- ▶ Sludge does not accumulate inside the c-channel flight and maintenance is easy even after decades of use.
- ▶ High grade wear shoe and rubber materials are selected according to the type of application.
- ▶ Additional features such as brushes can be installed in the scraper flights as needed.
- ▶ Installation of the flight is very easy and there are no limitations for the placement of the flights.



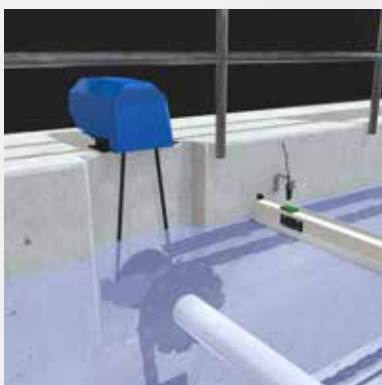
2. Collector Chain

- ▶ DEWA offers a unique non-metallic chain available in various strengths tailored to meet the specific needs of our clients and the requirements of their project type and size.
- ▶ The DEWA chain design has distinctive advantages, as the spacer sleeve rotates over the sprockets (same principle as in bicycle chain). This design feature maximizes the lifespan of the collector chain and the sprockets thanks to minimal wear.
- ▶ All pins carry the load of the chain when in contact with the sprocket and there is no risk of over jumping (no need for an over jumping protection device).



3. Shaft assembly

- ▶ All shafts (head shafts, tensioning, idler stubs), collars, and wall brackets are made of high-grade steel materials (AISI304, AISI316, Super Duplex)
- ▶ Designed for heavy sludge loads.
- ▶ Shaft sprockets can be turned around, which doubles the lifespan of the sprockets.
- ▶ All bearings are lubrication-free and won't require regular maintenance.



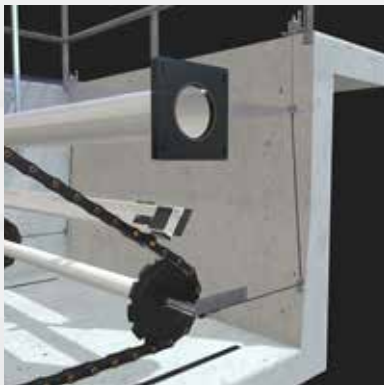
4. Drive assembly

- ▶ The DEWA chain scraper system is run by an electric motor and gear that are selected according to the application and required speed with extremely low energy consumption (typical drives vary from 0,12 kW to 0,37 kW).
- ▶ Sprockets and drive chain are selected according to the application.
- ▶ The drive unit is protected with an easily removable cover.
- ▶ Electrical torque monitoring ensures a smooth running system and prevents under- or overloading.



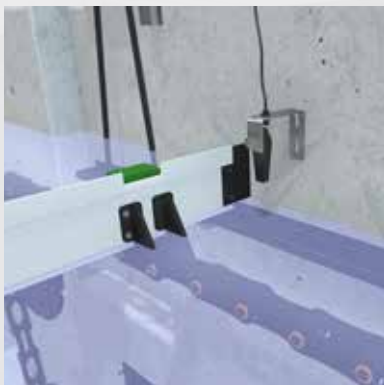
5. Carry, return and bottom rails

- ▶ All carry and return rails including wall brackets are made of superior stainless steel materials.
- ▶ This allows smooth sliding and low friction with DEWA wear shoe parts and a practically infinite lifetime.



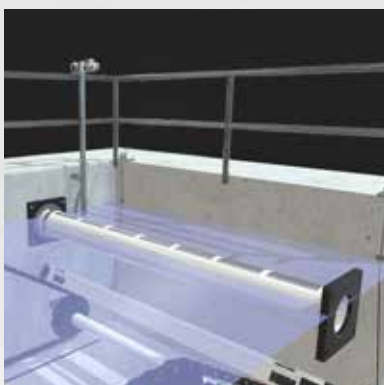
6. Tensioning Shaft Assembly and Collector Chain Tensioning Device

- ▶ The unique collector chain tensioning system allows chain tensioning without draining the tank and adjusting can be done while the system is running.
- ▶ This feature saves time and resources and is the most operator-friendly solution.
- ▶ The system prevents misalignment faults caused by loose chains.
- ▶ The system can be equipped with an automatic tensioner and sensor indicators that are especially convenient when the sludge collector is totally under the water, and is not visible to the operator



7. Parallel Run Control System

- ▶ Safety system that monitors the alignment of the scraper flights.
- ▶ The system will stop the chain scraper system if the scraper flights are not aligned correctly to avoid any possible damage or additional damage to the system.



8. Floating Scum Removal Pipe

- ▶ For floating surface scum removal, we offer an effective "scum pipe".
- ▶ Can be equipped with a manual or electrical turning actuator
- ▶ Size (typically from DN250 to DN400), rotating degree and technology can be selected according to the water level variation.
- ▶ We also deliver additional weirs and channels as needed.

We give a promise for a cleaner future

We provide equipment for water, wastewater and sludge treatment, as well as for the drying of various biomasses under our DEWA brand. Our goal is to be the most trusted and well-known partner in our field globally. Flexible and reliable operations and meeting customers' needs with high-quality and globally competitive products and services are at the heart of our operations. We value and respect our partners and customers and strive to serve them with quality on a long-term basis, seeking to create lasting value in an economically, environmentally and socially sustainable way.

We have implemented high-level solutions across different industries and locations around the globe, spanning more than 90 countries since 1986. We offer non-metallic chain scraper systems and accessories for sludge and scum collection for a wide range of applications. For sludge thickening and dewatering we offer everything you need – from single units to complete systems. Our equipment is all made in Finland.

It takes more than the right equipment to successfully carry out a project that meets the goals set for efficiency and sustainability. Quality, know-how, flexibility, accuracy, honesty, and the right attitude are all needed to establish trustworthy partnerships that lead to a cleaner future. This is what we offer at DEWA.

Let us help you and your organization

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find the right solution for your
needs.



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