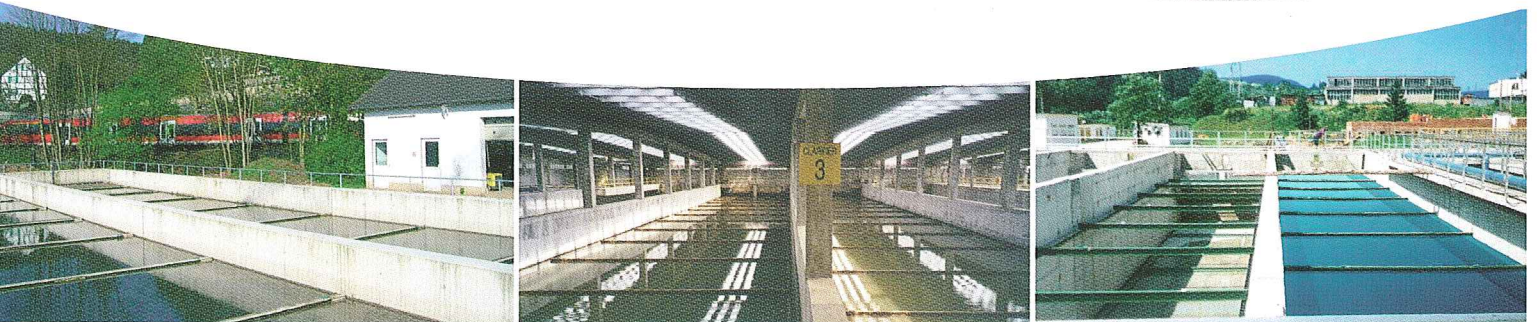




ADVANCED SLUDGE TREATMENT TECHNOLOGY



**DEWA**  
**Chain & Flight type Sludge and Scum Collectors**  
**For Effective Sludge and Scum Removal**





# CHAIN & FLIGHT TYPE SLUDGE AND SCUM COLLECTORS

## Innovative Design

With over 1000 systems of sludge and scum collector in operation throughout the world, today DEWA has conquered a leading position within the marketplace for high performance and reliable sludge collectors.

DEWA systems are designed to operate in the clarifiers up to 100m long and 12m width, as well as DAF and API tank systems.

DEWA engineered systems are consist of most reliable and durable components available in the market to ensure the tenability of the entire systems and customer satisfactions.

DEWA strives to seek professional partners those who appreciate quality products rather than cheap and ineffective systems.

DEWA is committed to developing innovative solutions to contribute for global environmental protection.



## Drive assembly and safety devices

Depend upon the demands of applications; drive units are available in variety, sizes and features. To ensure system safety and reliability, an electronic over and under loading protection will be provided. This is the most contemporary protection available in the market and it is continuously observing current variation within the preset value. To detect the parallel movement of the flight, DEWA also provides flight monitoring system which comprise with proximity switches, coupling mechanism and PLC. Internationally recognised standard components are used for the power transmission. All these components are made of SS material.



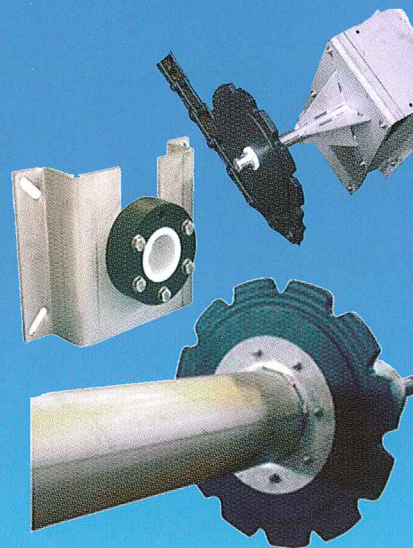
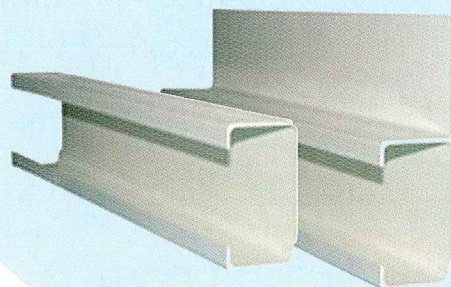
## Collector chain sprockets

DEWA provides two types of head shaft sprockets, one with SS body and reversible tooth segments and the other with complete UHMW PE material. Idler sprockets are made of UHMW PE material which has superior wear and abrasion resistance. All DEWA sprockets can be simply reversed for double the life span, if wear becomes a problem on one side. Moreover, split type sprockets are also available for special application.



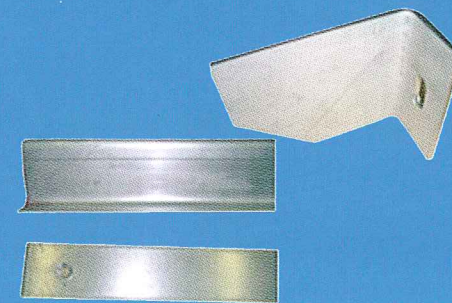
## Scraper flights, stiffeners and attachments

DEWA C-channel heavy duty flights are pultruded with an isophthal polyester resin, reinforced transversally and laterally with glass roving and fibreglass mat. Flight can be equipped with scraping lip and end flapper (wipers) to ensure smooth sweeping. Cchannel profiles are available in 150 x 80, 180 x 80 and 330 x 80 nominal sizes. Fibreglass stiffeners are used in all DEWA flights to maximise strength properties of the flight. DEWA supplies both non-metallic and metallic flight attachments according to customer requirements.



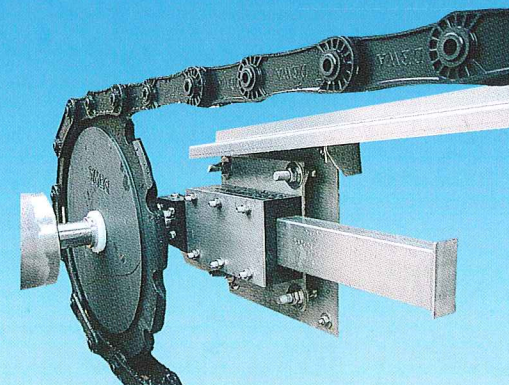
## Shafts, collars and bearing assembly.

DEWA shafts (head, idler, stub) and collars are made of SS materials, solid in construction available in various sizes according to the nature of the application. All shaft sleeves and bearing blocks are made of UHMW PE materials, hence they are not required any lubrication and maintenance. Unlike fibreglass telescopic shafts, DEWA shafts are designed to withstand heavy sludge loading (e.g. intermediate settling) and to last longer. Due to the unique design feature, the system can be used in the large clarifiers.



## Rails

Return and wear strips, wall brackets are made of SS materials, easy to install modify and adjust. Unlike fibreglass configuration, the DEWA rails allows flights to run on the rail smoothly, because the coefficient of friction SS on PE is virtually minimal. This is the best configuration available in today's market.

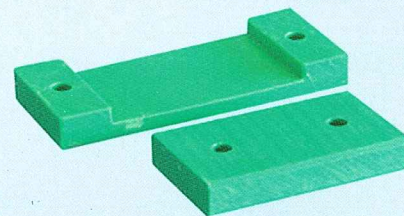


## Collector chain tensioning device

Contrary to other systems available in the market, DEWA provides sophisticated solution for the collector chain tensioning. This operator friendly mechanism help to tighten the collector chain from the tank surface and no need to drain the tank at all. It is also possible to observe the tensioning adjustment range from the measuring scale (optional)

## Scum canoe

Scum canoe is designed to remove surface scum from rectangular clarifier tanks, in conjunction with sludge collectors. All are made of SS material, available in lever operated, spindle motor motor/actuator operated or pneumatically operated. Wall brackets, sleeves are made of high-grade lubrication-free plastic materials.

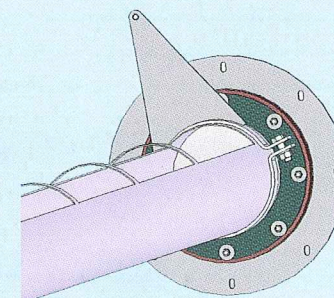


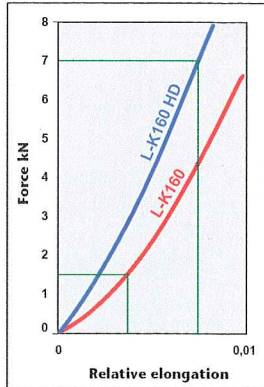
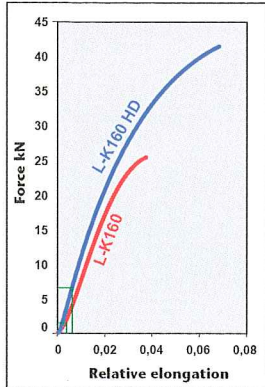
## Collector chain

DEWA L-K 160 and L-K 160HD-collector chain links are not integrally moulded like other collector chain links available in the market. It is a combination of side links, pin, spacer sleeve and locking ring. They are made of high grade plastic materials that resist elongation, wear and corrosion. This advanced-engineered design has distinctive advantage, because the spacer sleeve revolves while the chain moves on the sprockets and the wearing will not take place at one location, like integrally moulded links. Due to this unique feature the life span of DEWA collector is an extremely significant. The ultimate strength of the DEWA L-K 160 is 27kN and DEWA L-K 160HD is 40kN respectively.

## Wear Shoes (Carry and Return Wear Shoes)

DEWA Carry and Return wear shoes are made of UHMW PE material, to allow smooth run over the rails. There are two types of carry wear shoes viz. guiding and normal wear shoes. Each collector system will comprise one guiding wear shoe which will seat onto one of the floor wear strip to avoid the oblique movement.





Analyses carried out by well recognised Finnish University are clearly illustrating that the relative elongation of DEWA L-K 160 for a tank dim. 60m x 7m is 0,0035 and for the L-K 160HD with tank dim. 150m x 12m, 0,007 respectively (see left curves)  
This also demonstrates the force effects on the chains and the ruptures.

## TECHNICAL SPECIFICATION

### Advantages

- DEWA L-K 160 sludge collector chain exhibits the least amount of elongation and the life span of DEWA collector is an extremely significant.
- DEWA c-channel flights have high Modulus of Elasticity, which gives the least amount of deflection.
- DEWA c-channel flights do not recalculate solids into the effluent.
- Provide superb strength characteristics for extreme sludge loading applications
- Draining not required for the tensioning of the collector chain.
- Energy efficient, operator friendly and long lasting.
- Can be applied for any kind of rectangular clarifier.
- Customer satisfaction guaranteed

Chain	Type	Material	Pitch	Rupture Load	Working Load	Weight
Non-metallic chain	L-K 160	POM/PBT	160 mm	27 kN	15 kN	2.0 kg/m
Non-corrosive chain	L-K 160HD	POB/PBT	160 mm	40 kN	25 kN	3.1 kg/m

Scraper Flights	Type	Material	Dimensions	Max Length	Elasticity	Weight
Flights	C-channel	GRP	80x180 mm	Up to 12 m	30 Gpa	2.6 kg/m
Stiffener	MV-160	GRP				
Wear Shoe	WS-20	PE	20x74x120			
Wear Shoe	GWS-20	PE	20x74x160			
Attachment Link	K-180	AISI 304 (Metallic)				1.9 kg/m
Attachment Link	K-180	POM (Non Metallic)				

Shaft	Type	Material	Note
Head Shaft		AISI 304	Through going
Tension / Idler Shaft		AISI 304	Through going
Stub Shaft		AISI 304	Stub type

Sprocket	Type	Material	Pitch	Note
Head Sprocket	DS 8/12	AISI304/PA	418/618	Tooth Segments are turnable / changeable
Idler Sprocket	IS 8/12	PE	418/618	Optional Split Type

Bearings	Type	Material
Head Shaft	LP-60	Bearing nest PE; Slide bearing HDPE

Rails	Type	Material	Dimensions	Weight
Bottom Rail	B-100	AISI 304	4x70 mm	1.75 kg/m
Guiding Bottom Rail	GB-100	AISI304/PE	15x70 mm	3.42 kg/m
Non-Metallic Rail	NMB-100	PE	15x70 mm	1.50 kg/m
Return Rail	RR-100	AISI 304	35x80 mm	2.17 kg/m

Drive Unit	Type	Material
Manufacturer	Well known manufacturer or customers specification	
Mount		AISI 304
Sprocket		AISI 304
Sprocket		AISI 304
Chain		AISI 304
		Material
	Bolts, Nuts, Washers etc.	AISI 304 or AISI 316

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