



Sismat Uluslararası
Arıtma Makinaları
İnşaat Mühendislik
Sanayi ve Tic. A.Ş.



**CONICAL GRIT WASHER
(SAND SEPARATOR)**



FACTS AND FIGURES

Inlet flow rate up to **90 m³/h**
Solid flow rate up to **1.3 m³/h**
Sand removal efficiency \geq **90%**, up to **200 μ m**
Sand dehydration efficiency up to **90%**
Residual organic content \geq **5%**

CONICAL GRIT WASHER (SAND SEPARATOR)

Conical grit washers separate and wash sand from wastewater of various nature: municipal and industrial of different types. It consists of a large conical hopper for sand settling, sedimentation and washing, and a screw for conveying and dehydration of collected material. The conical shape of the hopper, the special counter-washing system and the low rotational internal stirrer allow the machinery to wash the sands and separate the organic matter. The machine is completely enclosed by sealing and cover in order to avoid the odors and contaminant matter out coming.

On the upper part of the hopper there is a flanged inlet introducing the material to be treated in the machine. The conical shape of the hopper and the movement system through the low rotational stirrer make a twirl enabling the sand washing and settling. The heavier sand particles settled on the bottom of the hopper where a counter-current system allows the washing; therefore the washed material reaches the coupling linking to the screw. On the side of the hopper there is a proper outlet allowing the out coming of the lightest material. The shaftless screw on the bottom of the machine is able to extract the collected material, dehydrating it and uplifting it towards the outlet in order to convey it in a container.

Sismat Uluslararası Conical Grit Washers are mainly made up of conical decantation hopper, stirrer, shaftless screw, trough, stirrer drive unit, screw drive unit and discharge chute.

FEATURES AND BENEFITS OF SISMAT ULUSLARARASI CONICAL GRIT WASHER

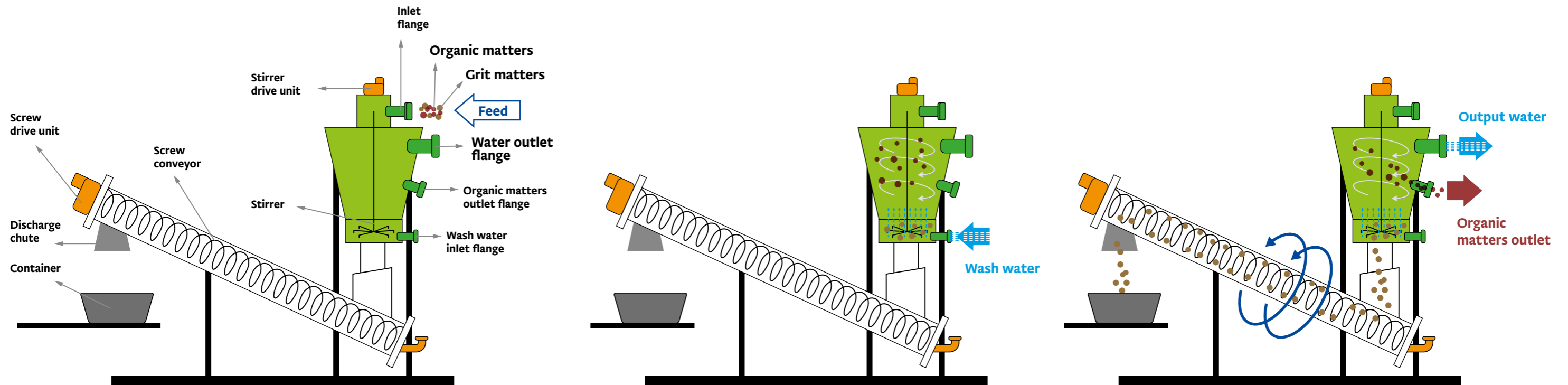
- Highest grit discharge quality
- Vortex grit and organic separation
- Gentle grit agitation and washing
- Two-stage organic separation
- Compact footprint
- Operates over a wide flow range

APPLICATIONS

- Water treatment plants
- Municipal wastewater treatment plants
- Industrial wastewater treatment plants
 - Chemical industry,
 - Food industry,
 - Paper industry,
 - Refineries, etc.

WORKING PRINCIPLE

Effluent which is contaminated with grit and organic matters are delivered to the conical grit washer unit through a grit pump. It enters the system from the top of hopper. The entrance point is close to the periphery of hopper in order to have a slow rotational movement aided by a mechanical stirrer. This movement facilitates the sedimentation process, at the same time, keeps the organic matters suspended. The bottom of the hopper is fed with clean water which creates a counter flow to remove the organic matters by making them ascending. The suspended organic matters are discharged from the system through the pipe placed at the middle point of the hopper. The grit particles washed are removed from the hopper's bottom by means of a screw conveyor and the output water leaves the system through a pipe in the upper part of the hopper. The steady rotational movement of the water allows the grit matters to easily pass from the hopper to the screw, which conveys them to the discharge point.



1

The water which contains grit and organic materials enters the hopper firstly.

2

Grit and organic materials are separated from the water due to the rotational movement of water. The grit materials accumulated at the bottom are washed by the clean water, thus organic materials are kept suspended.

3

The clear water leaves the system through the water outlet pipe located at the upper level, and the organic materials suspended are removed the system through a pipeline. The grits accumulated at the bottom meet the screw conveyor that transports the grit materials to the discharge point and remove them from the system.

OUR CONICAL GRIT WASHER SPECIFICATIONS

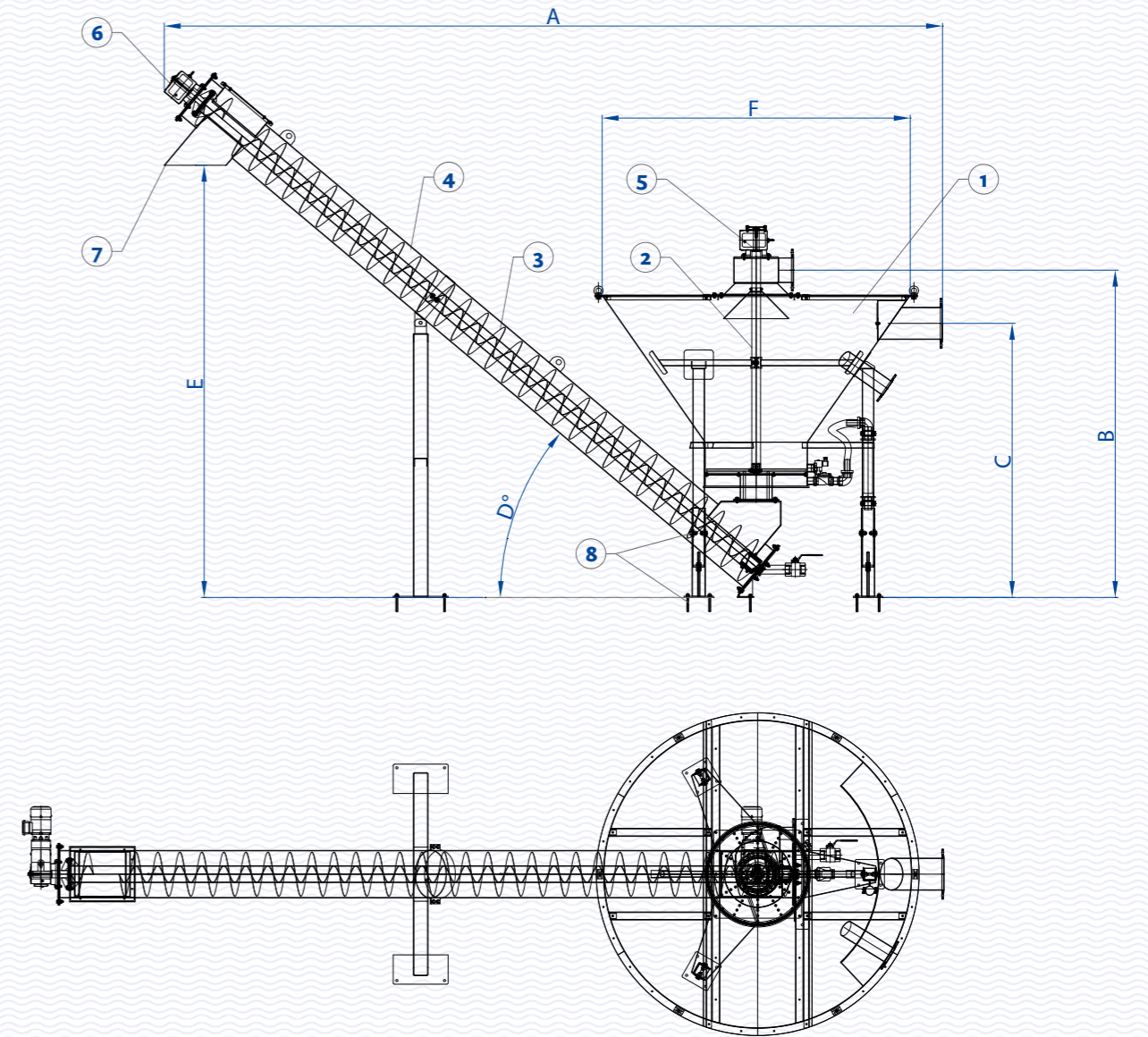
Model	Flow rate (m ³ /h)	Sand Removal (m ³ /h)	A (mm)	B (mm)	C (mm)	D (°)	E (mm)	F (mm)	INLET*	OUTLET*	Screw power (kW)	Stirrer power (kW)
SCW30	30	1	4205	1980	1595	40°	2159	2150	DN100	DN150	0.25	0.25
SCW60	60	1.25	5315	2230	1860	40°	2965	2200	DN150	DN200	0.37	0.37
SCW90	90	1.5	5900	2700	2250	40°	2965	3000	DN200	DN250	0.55	0.55

*ANSI type

OUR CONICAL GRIT WASHER COMPONENTS

Conical Grit Washer Components		Materials Available
1	Hopper	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
2	Stirrer	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
3	Shaftless screw	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
4	Trough	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
5	Stirrer drive unit	-according to norm of manufacturer
6	Screw drive unit	-according to norm of manufacturer
7	Discharge chute	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
8	Fasteners	A2, A4 , DUPLEX or SUPER DUPLEX

Typical Conical Grit Washer & Components



Typical drawings are for information only.



Learn More by visiting

www.sisimat.com.tr

Sisimat Uluslararası Arıtma Makinaları
İnşaat Mühendislik San. ve Tic. A. Ş.
Address: Gebze Güzeller Organize Sanayi Bölgesi (GGOSB)
Fatih Sultan Mehmet Cd. 5/1 Gebze/Kocaeli/Türkiye
Telephone : +90 262 751 12 54
Fax: +90 262 751 12 56