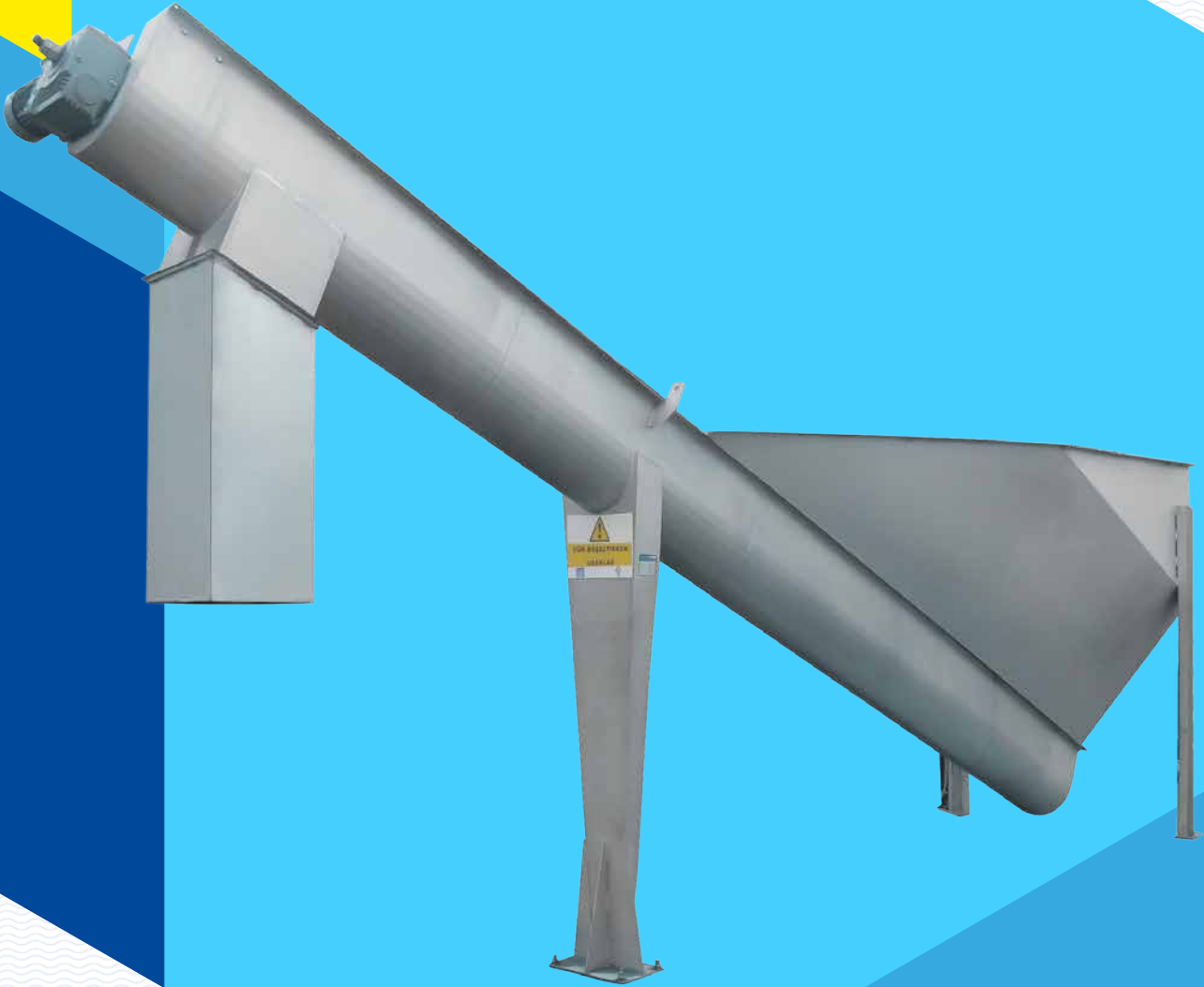




Sismat Uluslararası  
Arıtma Makinaları  
İnşaat Mühendislik  
Sanayi ve Tic. A.Ş.



**GRIT CLASSIFIERS**





## GRIT CLASSIFIERS

Grit classifiers are installed for dewatering sand after a grit treatment process in municipal or industrial wastewater treatment plants or industrial washing processes. It is designed to effectively separate and settle the grit from the water.

Sismat Uluslararası provides versatile, long-lasting and easy-to-install grit classifiers operating in high solid-liquid separation efficiency coupled with low operation cost.

Water to be cleaned flows through the inlet spout of the grit classifier into the decantation hopper where sedimentation of the solid particles takes place. The low screw rotation speed improves sedimentation and sees to conveying and discharging of de-watered grit and sand through the upper outlet. Cleaned water exits through the lateral hopper discharge spout.

Sismat Uluslararası Grit Classifiers consist of an inclined screw conveyor with a large volume hopper including an inlet flange and a water outlet flange, a shaftless screw housed in a trough, low-friction anti wears, a trough cover, an outlet spout for solid particles and a drive unit mounted at the outlet end.

## FEATURES AND BENEFITS OF SISMAT ULUSLARARASI GRIT CLASSIFIERS

- High separation performance
- Dry solid material discharge
- Smooth decomposition of the small or large particles
- Without bearings, and without water leakage design
- Low installation and maintenance costs
- Shaftless heavy-duty screw ensuring durability
- No submerged bearings or seals required
- Long life and lower maintenance costs

## APPLICATIONS

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

## WORKING PRINCIPLE

The grit-water mixture is fed into the decantation hopper. Grit materials are settled rapidly at the bottom point of the tank, and then the inclined screw which is driven by a motor conveys them to the discharge point by separating from the liquid. Clear water is collected in the trough placed near the water level and discharged from the system.

## SISMAT ULUSLARARASI GRIT CLASSIFIER MAINLY CONSISTS OF FOLLOWING PARTS

**FRAME:** It is the main part carrying the screw and drive unit. It is manufactured in stainless steel or carbon steel versions.

**HOPPER:** Grit-water mixture firstly enters the hopper via inlet flange. It is one of the essential parts of grit classifiers why decantation process take place in this unit. It is manufactured in stainless steel, and assembled with the frame of screw conveyor unit by welding.

**TROUGH:** After separation of grit and water, clear water is collected in the trough. Then, it is discharged from the outlet flange.

**SCREW CONVEYOR:** It is used to transfer the grit towards the discharge chute where grit is discharged. All

axial and radial forces which will rise during operation are covered by the gear box bearing of the screw.

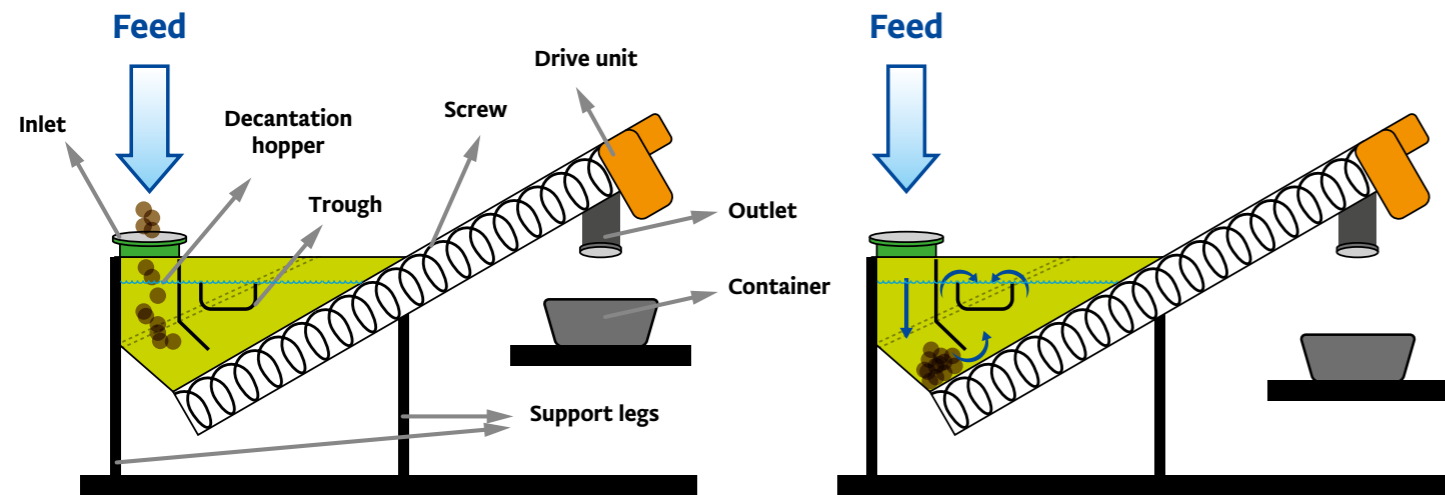
Screw has a strong structure against wearing and its head point is assembled to the shaft by means of welding. It operates in a lining whose material is polyethylene 1000 (Ulpolen).

**SUPPORT LEGS:** Stainless steel support legs are connected to conveyor housing and inlet tank via bolts and fixed to floor via chemical anchor bolts.

**DRIVE UNIT:** It consists of motor, reducer and drive shaft with flange. Motor and reducer are assembled to grit classifier frame by means of an assembling plate. Drive shaft has a flange and bolt-nut connection.

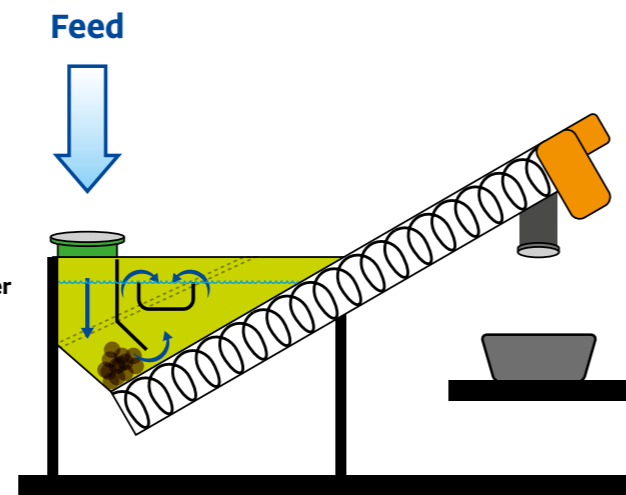
## OUR GRIT CLASSIFIER SPECIFICATIONS

Model	SKA200	SKA260	SKA320	SKA355	SKA420
Maximum Inlet Flow Wastewater (m <sup>3</sup> /h)	30	44	60	90	126
Maximum Outlet Flow (m <sup>3</sup> /h)	0.3	1	1.5	2	3
Motor Power (kW)	0.25	0.25	0.55	0.55	0.75
A (mm)	4400	4500	5100	6500	7000
B (mm)	2600	2800	2800	4000	4100
C (mm)	1500	1500	1800	2400	2500
D (mm)	2200	2200	2500	3200	3400
E (mm)	1200	1300	1600	1650	1750
D1 (Inlet flange diameter) (mm)	DN75	DN100	DN150	DN150	DN200
D2 (Outlet flange diameter) (mm)	DN125	DN150	DN200	DN200	DN250



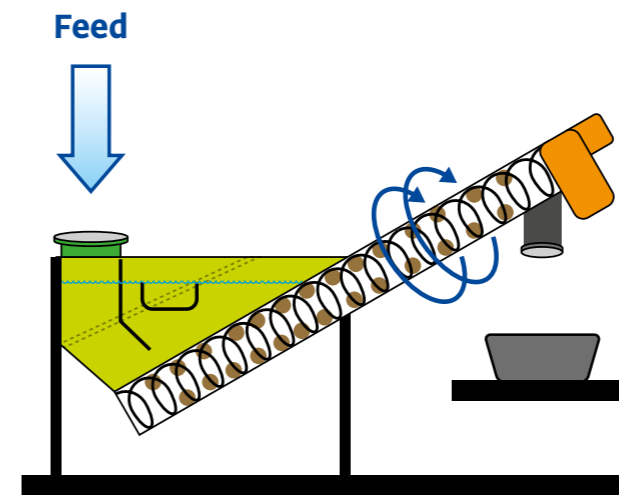
1

The grit-water mixture firstly enters the decantation hopper.



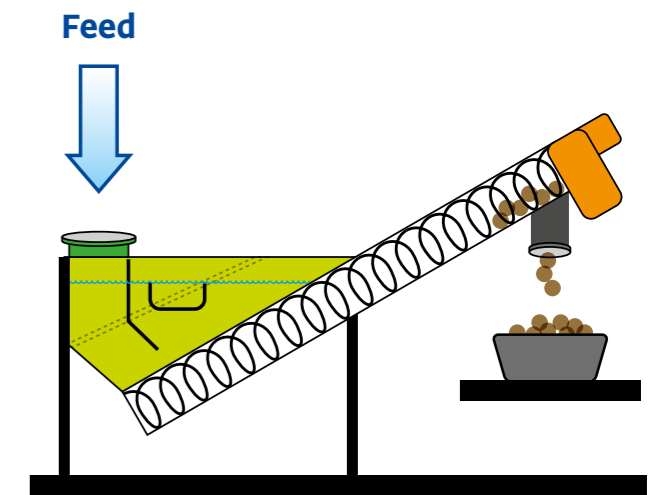
2

The grit materials accumulate at the bottom of the hopper and clear water is collected in the trough.



3

To remove the accumulated grit materials, the screw starts to operate and moves them up.

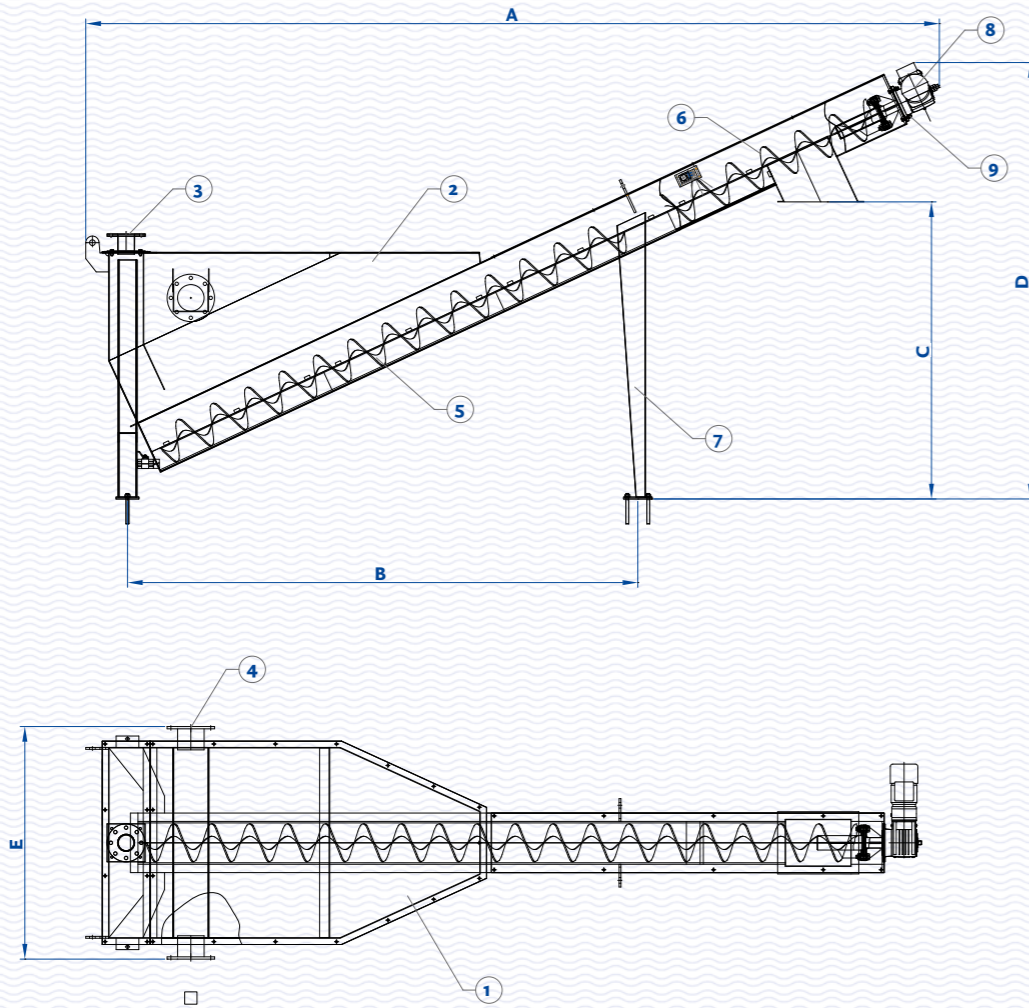


4

Finally, the grit materials are discharged into a container.



## Typical Grit Classifier & Components



Typical drawings are for information only.

## OUR GRIT CLASSIFIER COMPONENTS

	Grit Classifier Components	Materials Available
1	Frame	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
2	Hopper	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
3	Inlet flange	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
4	Outlet flange	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
5	Trough	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
6	Screw	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
7	Support legs	Carbon steel or stainless steel grade, AISI304, AISI304L, AISI316, AISI316L, AISI316Ti, DUPLEX or SUPER DUPLEX
8	Drive unit	-according to norm of manufacturer
9	Fasteners	A2, A4 , DUPLEX or SUPER DUPLEX







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