

sismat

THE PERFORMANCE PLAYER THAT INCREASES PRODUCTIVITY OF TREATMENT

Screens





THE PERFORMANCE PLAYER THAT INCREASES PRODUCTIVITY OF TREATMENT

In treatment plants, selecting the right screen is vital for increased productivity and trouble-free operation. If the solid wastes are effectively retained at the initial phase, the subsequent treatment process can be accomplished with a higher performance.

Sismat chooses the most appropriate screen for your plant according to the required bar spacing, screen mounting angle, channel width and depth.

Screens are automatically controlled by a timer, a level controller or both.

All our screens are torque-controlled to prevent damage in the equipment in case of overloads.

Sismat, having a wide range of screening systems, offers solutions that can be mounted both to the channel and the pipeline.

Areas of Use

- Domestic and industrial waste water treatment plants
- Water treatment plants
- Pumping stations
- Water intake structures (from river or sea)



Types of Screens

- Travelling Band Screen (DBI)
- Plastic Conveyor Screen (PKI)
- Linear Mechanical Screen (LMI)
- Cable Operated Screen (HKI)
- Travelling Grab Screen (KGI)
- Multi-raked Mechanical Screen (OTI)
- Back Raked Mechanical Screen (ATI)
- Step Screen (SSS)
- Helical Basket Screen (SKI)
- Externally Fed Rotary Drum Screen (DAT)
- Static Screen (STE)
- Rotary Disc Screen (DDE)
- Internally Fed Rotary Drum Screen (IAT)
- Screening Compactor (SSC)



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CHANNEL MOUNTED DBI



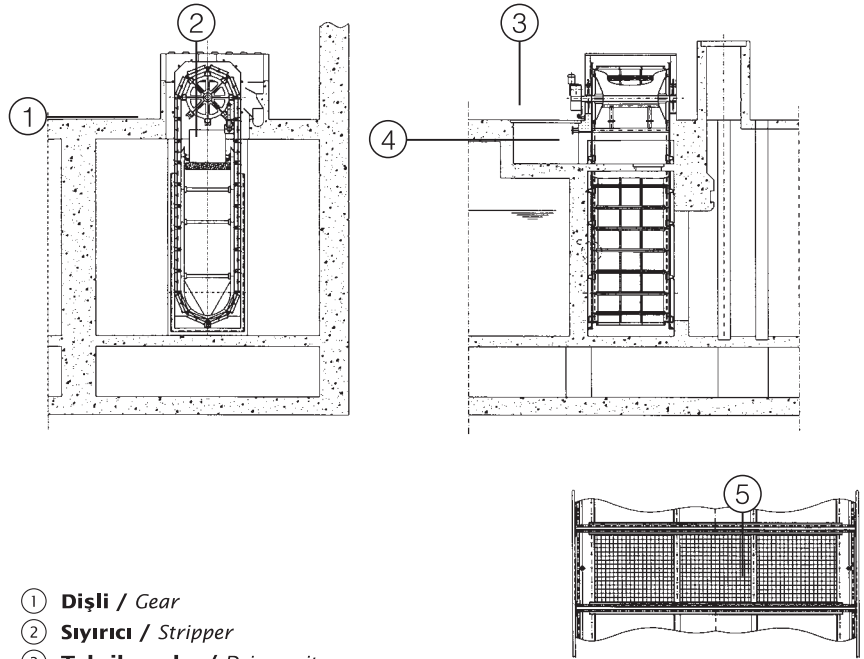
Travelling Band Screen (DBI)

It is most widely used in water intake structures (from sea or river) in plants that consume water in great amounts, e.g., cooling towers in steel factories and power plants, or carrying sugar beet in sugar factories.

It is generally comprised of chain, sealing plates, washing system, chute and screening panels.

Sealing plates are mounted to the guide holders and the walls by anchorage profiles. They are used for preventing leakage.

The screening panel is comprised of frame, sieve, sieve pressure frame, pressure profiles, horizontal and vertical rubbers.



- ① Dişli / Gear
- ② Sıyrıcı / Stripper
- ③ Tahrir grubu / Drive unit
- ④ Yıkama düzeneği / Washing system
- ⑤ Izgara / Screen

SPECIFICATIONS

Bar spacing	100 micron – 10 mm
Screen mounting angle	90 degrees
Speed	5 - 10 m/min
Rated power	1.1 – 2.2 kW
Channel depth	Max 10 m
Channel width	600 – 3000 mm

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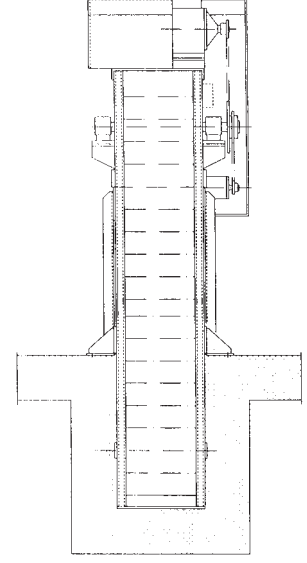
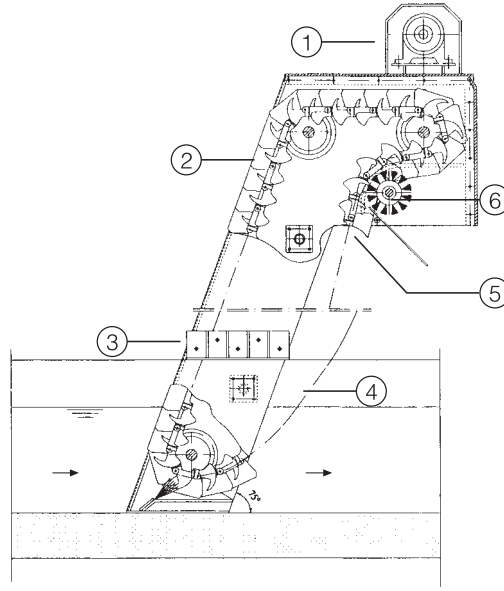
CHANNEL MOUNTED PKI



Plastic Conveyor Screen (PKI)

With polyamide screen elements that are highly resistant to many chemicals and a wide range of pH values, this model provides a great superiority particularly in industrial wastewater treatment plants. In addition, it is one of the models with minimum need for maintenance in our product portfolio because of its simple operational principle.

It is comprised of frame, screening filter elements and cleaning brush. With a wheel and chain mechanism sliding on a rail system which is arranged according to the channel depth, screen elements lift the wastes to discharge level without any need for further equipment.



- ① **Tahrik grubu** / Drive unit
- ② **Taşıyıcı halka** / Carrier hook
- ③ **Montaj plakası** / Assembling plate
- ④ **Zincir** / Chain
- ⑤ **Şüt** / Chute
- ⑥ **Fırça** / Brush

SPECIFICATIONS

Bar spacing	1 - 15 mm
Mounting angle	60 - 85 degrees
Belt speed	2 m/min
Rated power	0.37 - 0.75 kW
Screening capacity	0.5 - 1.5 ton/h
Discharge height (from operation level)	0.80 - 4.00 m
Channel width	0.40 - 1.20 m

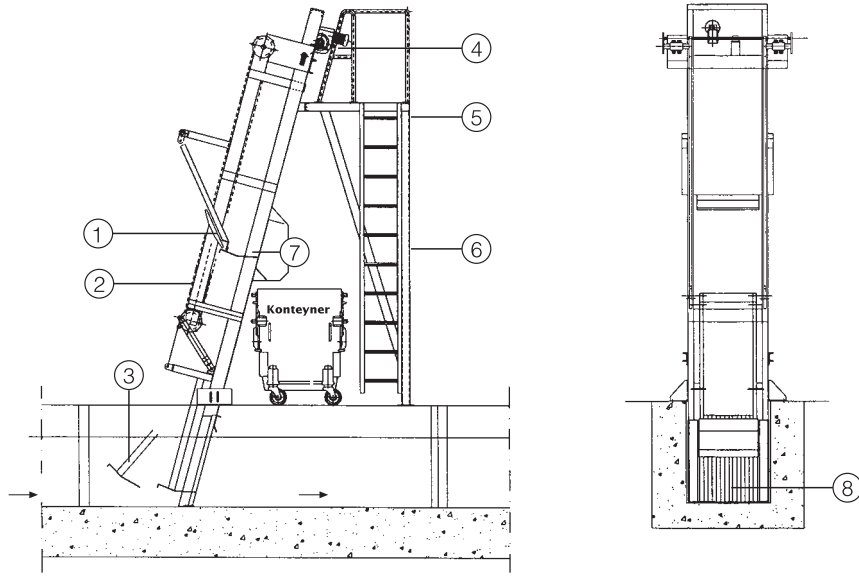
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CHANNEL MOUNTED LMI



Linear Mechanical Screen (LMI)

Since it does not have any moving parts that operate underwater, wastes do not stick to the screen and inhibit its operation. It can work, if required, even in very deep channels with no limit to channel height.



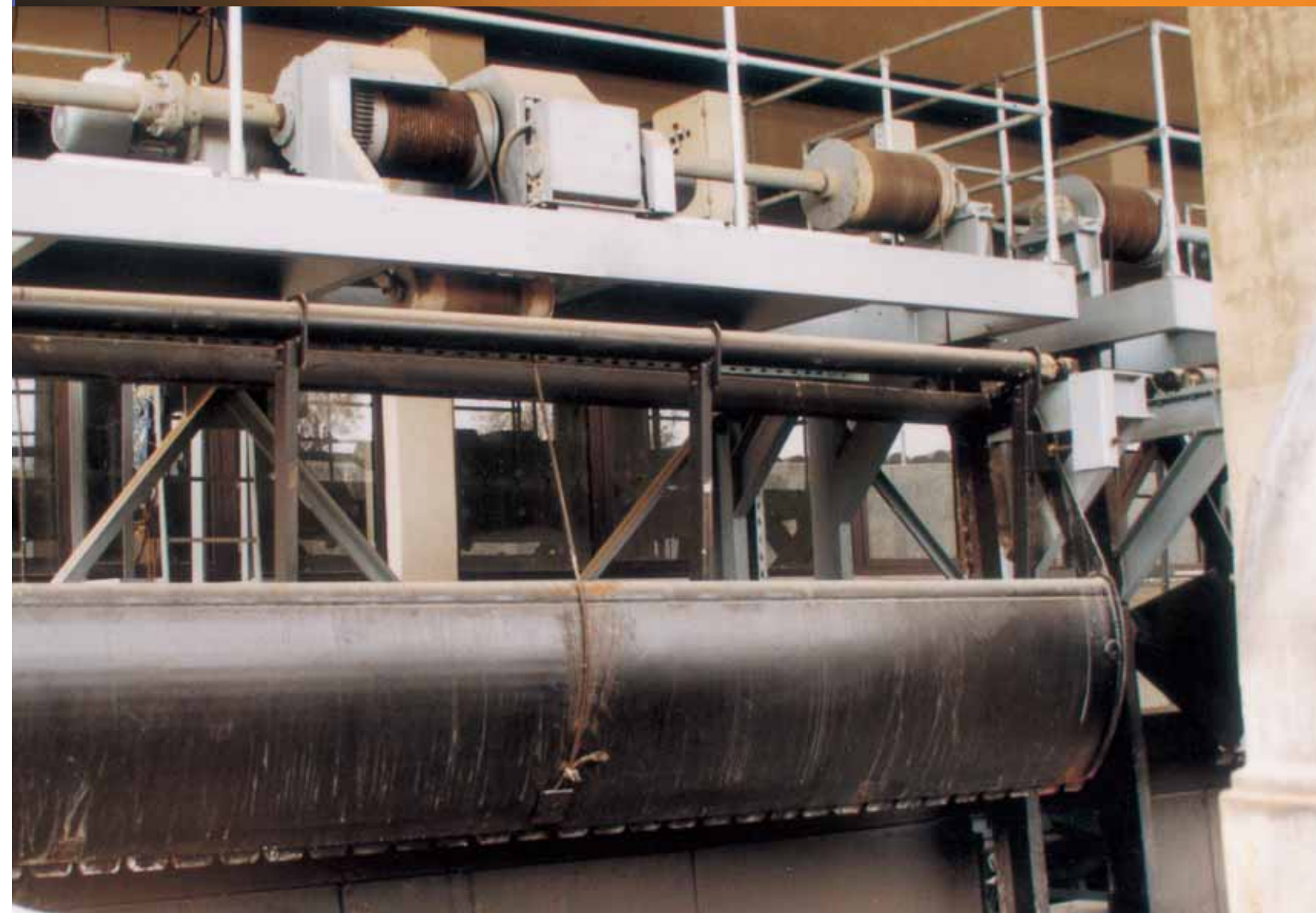
- ① Karşı sıyrıcı / Pivoting wiper
- ② Zincir / Chain
- ③ Tarak / Rake
- ④ Tahrik grubu / Drive unit
- ⑤ Platform / Platform
- ⑥ Merdiven / Ladder
- ⑦ Deşarj şütü / Discharge chute
- ⑧ Izgara / Screen

SPECIFICATIONS

Bar spacing	10 - 50 mm
Mounting angle	60 - 75 degrees
Speed	10 m/min
Rated power	0.75 - 1.1 kW
Discharge height (from operation level)	800 – 2000 mm
Channel width	800 – 2200 mm

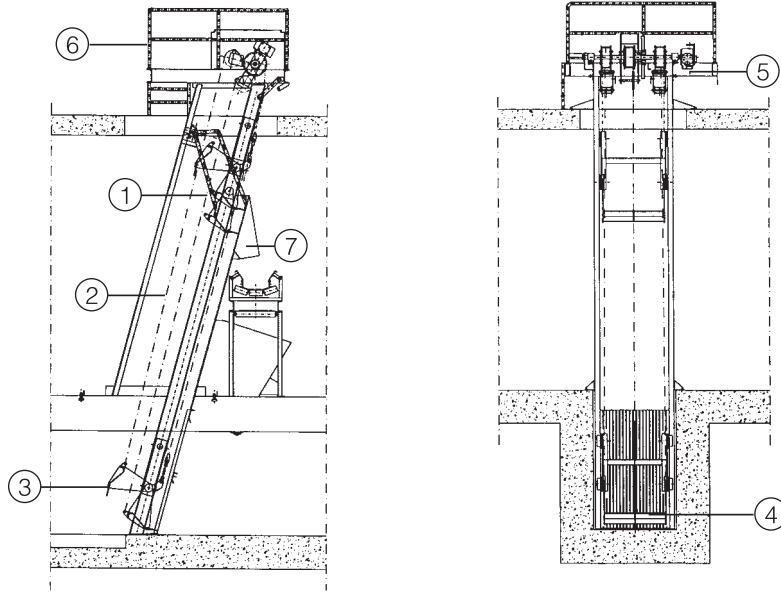
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CHANNEL MOUNTED HKI



Cable Operated Screen (HKI)

Where the water level is high, this is the best solution. It is widely preferred and implemented in pumping stations where level differences are high.



- ① Karşı sıyrıcı / Pivoting wiper
- ② Halat / Cable
- ③ Kepçe / Grab
- ④ Izgara / Screen

- ⑤ Tahrik grubu / Drive unit
- ⑥ Platform / Platform
- ⑦ Deşarj şütü / Discharge chute

SPECIFICATIONS

Bar spacing	10 - 50 mm
Mounting angle	60 - 75 degrees
Speed	10 m/min
Rated power	0.75 - 1.1 kW
Discharge height (from operation level)	800 – 2000 mm
Channel width	800 – 2500 mm

CHANNEL MOUNTED KGI



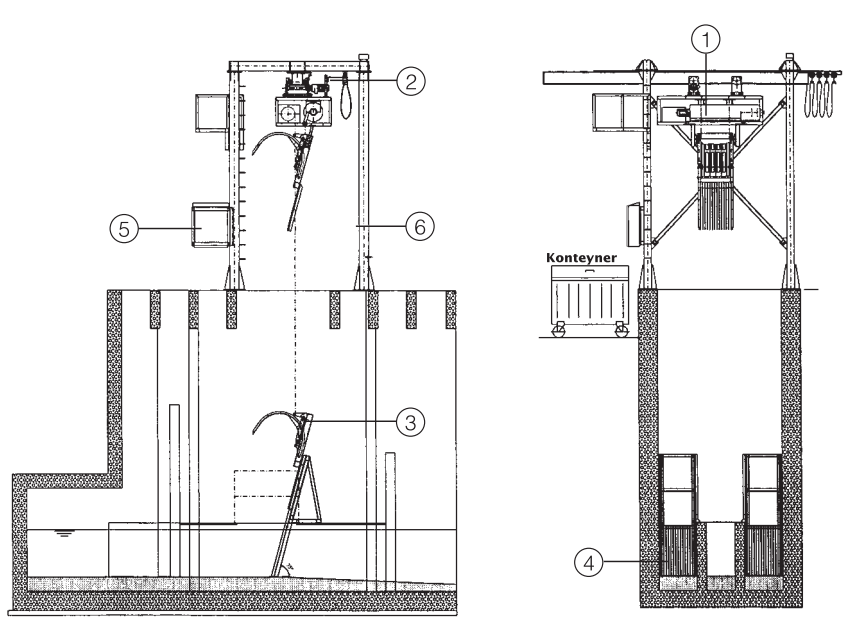
Travelling Grab Screen (KGI)

Travelling Grab Screen is the most economical solution for cases where the channel width is large or where there is a need to clean several screen channels constructed in parallel. It is generally used as a coarse screen with a bar spacing 40 mm or greater.



This type of screen consists of a mobile grab rake that can travel in horizontal and vertical direction. The travelling grab rake is automatically or manually stopped over each screen group and lowered onto the screen in open position by the built-in lifting device. The screenings accumulated on the screen are collected by the grab rake that closes when it reaches the bottom of the screen. The grab rake full of screenings is lifted to ground level by the lifting device and it travels to a waste container where it discharges its contents.

The opening and closing of the grab rake is carried out by a built-in hydraulic unit.



- ① **Kaldırma grubu / Lifting apparatus**
- ② **Kablo sıyırıcı / Cable carrier**
- ③ **Kepece / Grab**
- ④ **Izgara / Screen**
- ⑤ **Pano / Control panel**
- ⑥ **Kolon / Column**



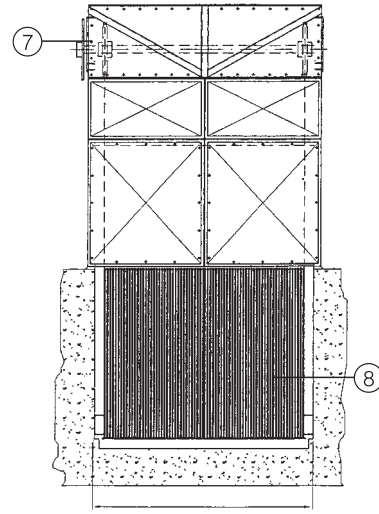
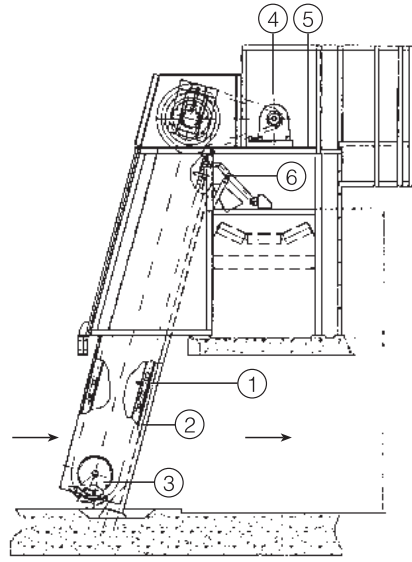
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CHANNEL MOUNTED OTI



Multi-raked Mechanical Screen (OTI)

The chain mechanism, to which multiple rakes are mounted, is placed in front of stationary bars. The number of rakes varies according to the amount of solid material in the wastewater to be screened.



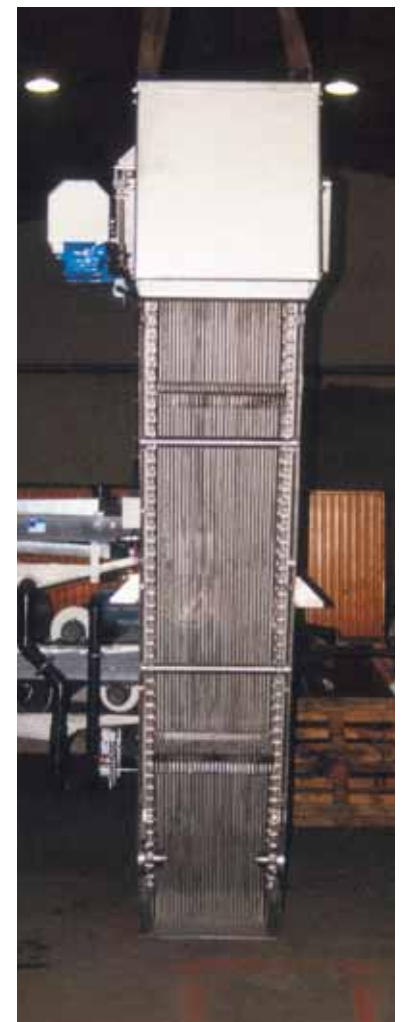
- ① Sıyrıcı / Multi-rake
- ② Zincir / Chain
- ③ Dişli grubu / Chain gear
- ④ Dişli kutusu / Gear box
- ⑤ Platform / Platform
- ⑥ Şok emici / Shock absorber
- ⑦ Üst dişli / Top gear
- ⑧ Izgara / Screen

SPECIFICATIONS

Bar spacing	5 - 50 mm
Mounting angle	60 - 80 degrees
Speed	10 m/min
Rated power	0.75 - 2.2 kW
Discharge height (from operation level)	800 - 2000 mm
Channel width	800 - 3000 mm

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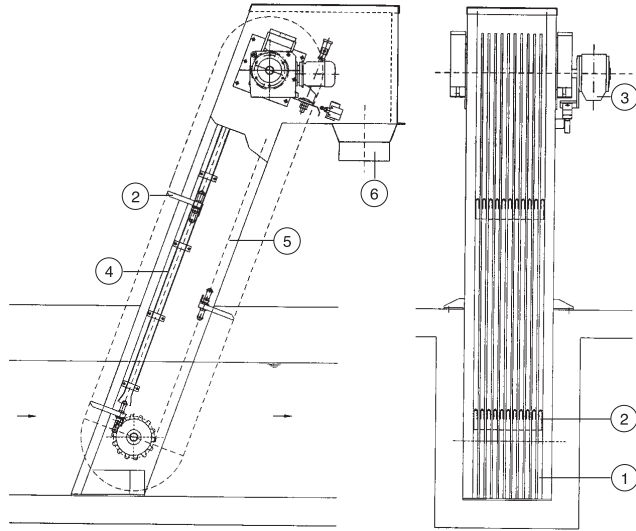
CHANNEL MOUNTED ATI



Back Raked Mechanical Screen (ATI)

The chain mechanism, to which multiple rakes are mounted, is placed in the back of stationary bars. The number of rakes varies according to the amount of solid matter in the wastewater to be screened. It is used mostly in plants with narrower channel widths. Bar spacing can be made 5 mm or greater.

- ① **Izgara çubuğu**
Stationary bar
- ② **Sıyırma tarağı**
Rake
- ③ **Tahrik grubu**
Drive unit
- ④ **Zincir klavuzu**
Chain guide
- ⑤ **Zincir**
Chain
- ⑥ **Boşaltma şütü**
Discharge chute



SPECIFICATIONS

Bar spacing	5 - 50 mm
Mounting angle	60 - 85 degrees
Speed	10 m/min
Rated power	0.37 - 0.75 kW
Discharge height (from operation level)	800 – 2000 mm
Channel width	400 – 1500 mm

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CHANNEL MOUNTED AND INLINE SSS

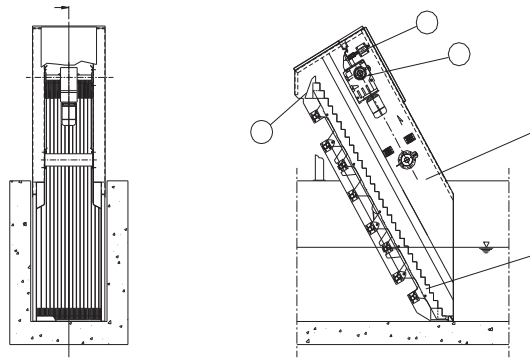


Step Screen (SSS)

It has step-shaped conveying lamas that pass through step-shaped stationary bars. The conveyor action carries the wastes, held by screens, continuously one step up and takes them out of the channel.

The screening field widens in parallel with the increasing water level since the steps are in the same shape from the channel base to the discharge chute.

Step screen is in the class of fine screens. Their most significant feature is that the wastes increase screening performance by forming a kind of filtration surface on the steps.



- ① **Sase / Frame**
- ② **Izgara çubukları / Screen**
- ③ **Tahrik grubu / Drive unit**
- ④ **Tork limiter / Torque limiter**
- ⑤ **Jut / Discharge chute**

Bar spacing	3 - 6 mm
Mounting angle	50 - 60 degrees
Speed	5 m/min
Rated power	0.75 - 3.0 kW
Discharge height (from operation level)	800 – 3000 mm
Channel width	500 – 2000 mm

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CHANNEL MOUNTED AND INLINE SKI

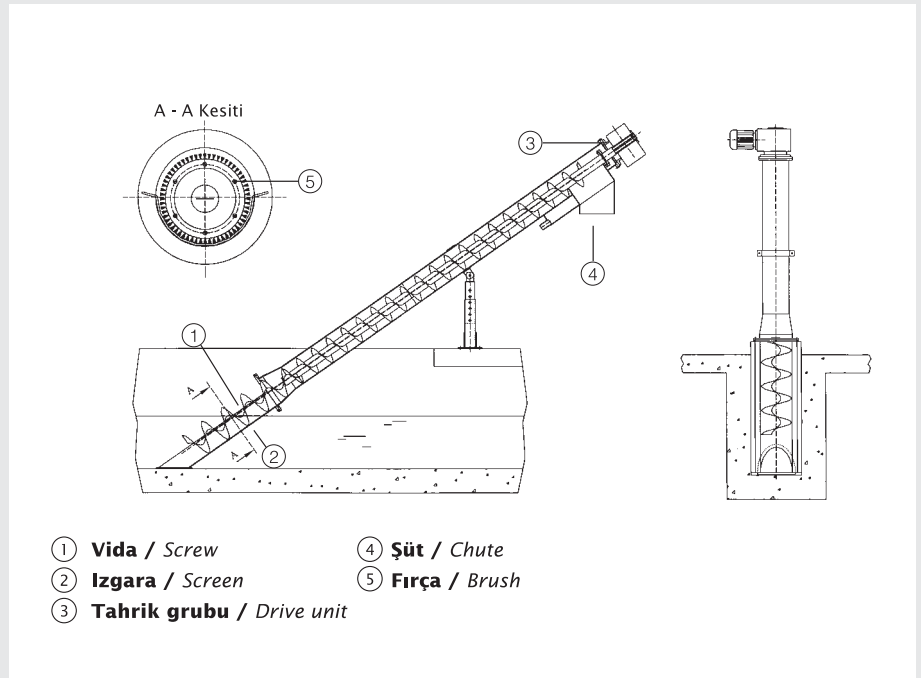


Helical Basket Screen (SKI)

It consists of a cylindrical screen and a spiral that cleans it. Its most important feature is that it does not require the use of the screening press because it simultaneously performs squeezing while conveying the screenings out to the channel. It is widely used in industries such as malt drinks, textile, paper, and slaughterhouse wastewater treatment plants.

Since the bar spacing is only 1-6 mm, it is one of the screens with narrowest bar spacing. It is ideal for narrow channels.

Where the wastewater is transferred through a pipeline, it can be suitable for flanged connection by a steel inlet reservoir.



Model	Max. capacity (m ³ /h)*	Screw diameter (mm)	Waste outlet diameter (mm)	Power (kW)
SKI 300	90	300	3230	1.1
SKI 400	125	400	3230	1.1
SKI 500	145	500	3230	1.1
SKI 600	200	600	3230	1.1

* Capacity values are given for clean water and 1 mm spacing.

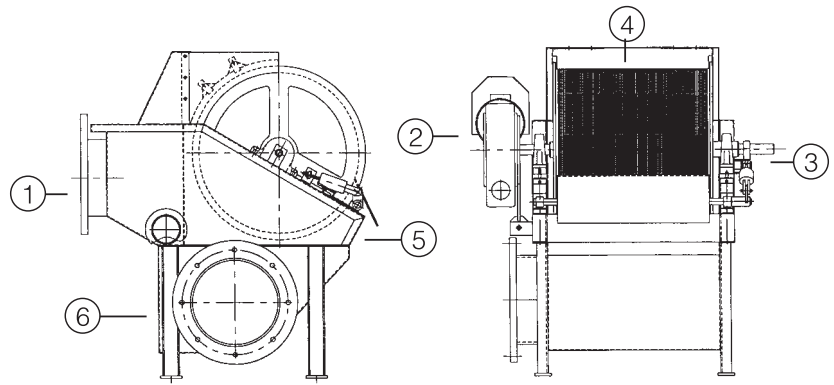


Externally Fed Rotary Drum Screen (DAT)

It is a very fine screen mounted to the pipeline. It is used mostly for the very fine screening of suspended solid wastes of 0,25-3,0 mm. Externally Fed Rotary Drum Screen is widely preferred in food, textile, sugar industries and paper mills.

The rotary sieve is manufactured through high frequency welding of V-notched wedge wires, coiled in spiral with a special device. Because of this wire provided, it is practically impossible for the sieve to be clogged and the permeability rate is very high.

Alternative covering systems can be offered for cases where it is required to prevent water from splattering around. The screenings collected on the outer surface of the rotary sieve can be scraped with a scraper blade and discharged either to a waste container or directly to the conveyor system. A pressurized water spraying system is present on the inner surface of the rotary sieve against any possibility of clogging. It is generally used with a timer.



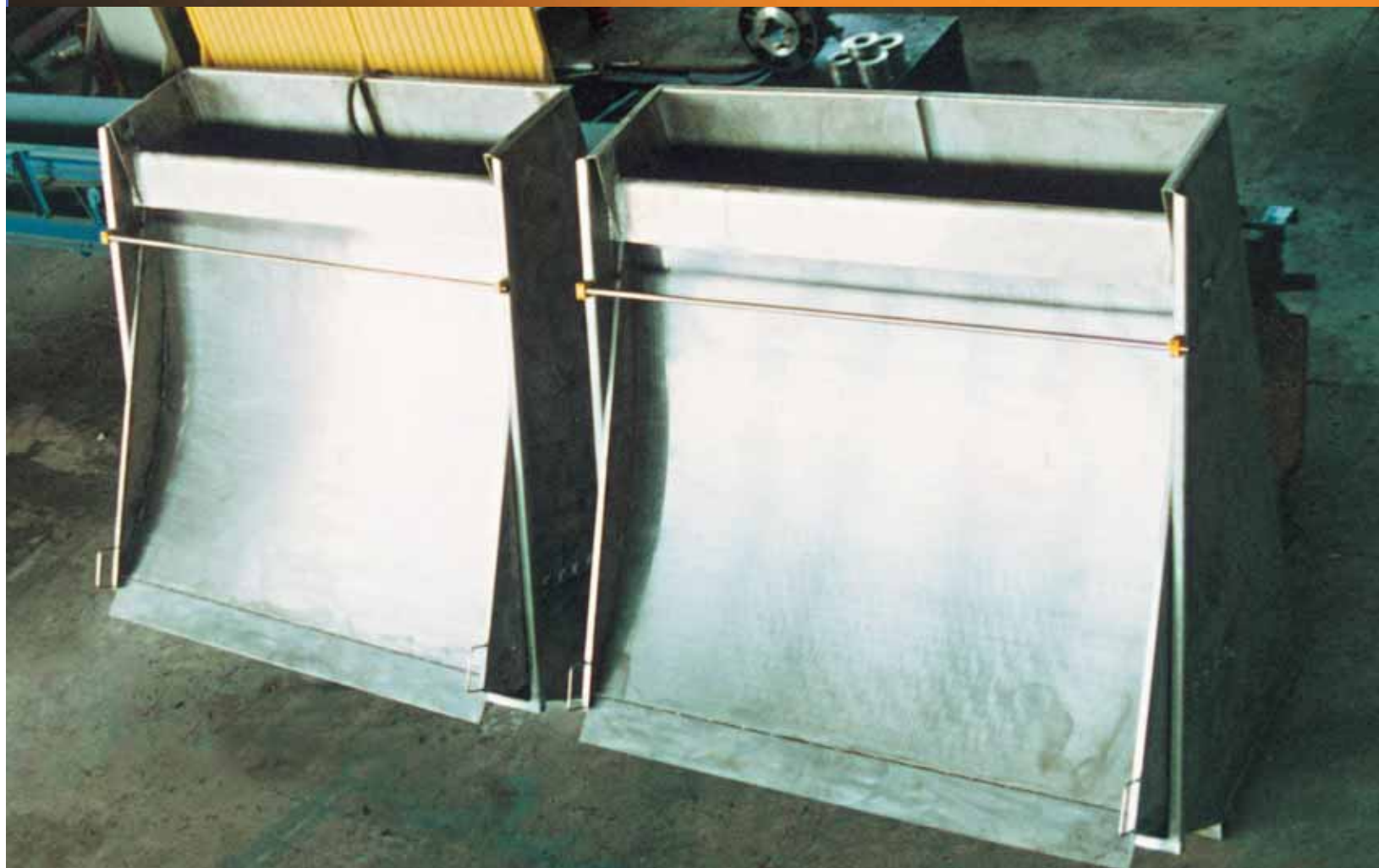
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|--|-------------------|
| ① Atık su giriş / Waste water inlet | ④ Izgara / Screen |
| ② Tahrik grubu / Drive unit | ⑤ Şüt / Chute |
| ③ Yıkama suyu giriş / Wash water inlet | ⑥ Çıkış / Outlet |

Model	Capacity (m ³ /h)*	Rotary drum length (mm)**	Rotary drum diameter (mm)**	Inlet diameter (mm)	Outlet diameter (mm)	Power (kW)	Wash water (lt/min)***
DAT 80	83	600	300	100	150	0.37	7.5
DAT 160	171	600	600	200	250	0.55	15
DAT 240	256	600	900	200	250	0.55	20
DAT 320	342	600	1200	250	300	0.55	25
DAT 480	511	600	1800	300	350	0.55	40

* Flow rates are given for clean water and 1 mm bar spacing.

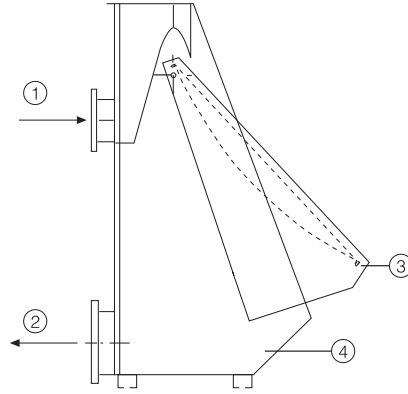
** Wash water pressure is 5 bars.

*** Larger models are available upon request.



Static Screen (STE)

In static screen, there is no mechanical part. It fine screens by gravity. It is comprised of a frame, unique screen configuration manufactured from stainless steel wedge wires, and water distribution weir. With Static Screen, retention of particles from 0,25 mm to 2 mm size is possible. It is widely used at the treatment plants of textile, food, and alcohol industries and paper mills.



- ① **Atık su giriş / Waste water inlet**
- ② **Temiz su çıkış / Clean water outlet**
- ③ **Şüt / Chute**
- ④ **Gövde / Frame**

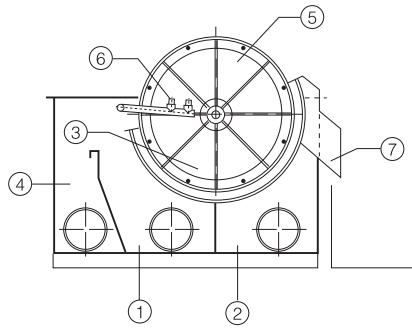
Model	Capacity (m ³ /h)*	Screen width (mm)	Inlet diameter (mm)	Outlet diameter (mm)
STE 500	45	500	NW 200	NW 250
STE 1000	85	1000	NW 200	NW 250
STE 1500	131	1500	NW 200	NW 300
STE 2000	180	2000	NW 200	NW 300

* Flow rates are given for 1 mm bar spacing and 200 mg/lt.



Rotary Disc Screen (DDE)

Rotary Disc Screen is a fine screen for filtration between 20-200 microns. Preferred especially in textile industry and paper mills, this screen is used for protection of heat exchangers and for process water preparation purposes. It is comprised of disc pairs covered with stainless steel sleeve, bearing systems, water distribution weir and water spraying system.



- ① Besleme bölümü / Inlet chamber
- ② Boşaltma bölümü / Discharge chamber
- ③ Filtrasyon bölümü / Screening chamber
- ④ Taşkan / Overflow
- ⑤ Elek çifti / Screen disc pair
- ⑥ Ters yıkama nozulları / Water spraying nozzles
- ⑦ Atık boşaltma / Screening discharge

Model	Capacity (m ³ /h)*	Disc diameter (mm)	Disc pair	Screening area (m ²)	Wash water (lt/sec)	Power (kW)
SDD500.1	11	500	1	0.14	0.40	0.37
SDD500.2	22	500	2	0.28	0.80	0.37
SDD500.3	34	500	3	0.42	1.20	0.37
SDD750.1	41	750	1	0.46	0.56	0.37
SDD750.2	83	750	2	0.92	1.12	1.1
SDD750.3	124	750	3	1.38	1.68	1.1
SDD750.4	166	750	4	1.84	2.24	1.1
SDD1000.2	196	1000	2	1.96	1.44	1.5
SDD1000.3	294	1000	3	2.94	2.16	1.5
SDD1000.2	357	1200	2	3.10	1.60	1.5
SDD1000.3	535	1200	3	4.65	2.40	1.5
SDD1000.4	713	1200	4	6.20	3.20	1.5

* Given flow values are for clean water and for screen opening of 1 mm. Please consult Sismat for selection.



Internally Fed Rotary Drum Screen (IAT)

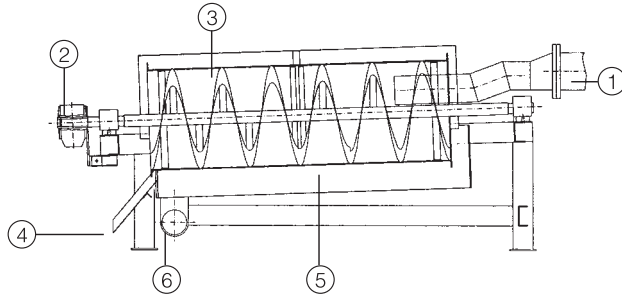
It is comprised of a drum, manufactured as perforated plate or wedge wire, bearing system, water distribution weir and water spraying system.

Internally Fed Rotary Drum Screen is mostly used when the solid matters in wastewater are highly dense and inclined to settle down.

It is widely preferred in the treatment plants of slaughterhouses, alcohol industries, leather industry (and others using the rendering process).



- ① **Giriş**
Inlet
- ② **Tahrik grubu**
Drive unit
- ③ **Spiral**
Spiral
- ④ **Atık deşarj**
Screening discharge
- ⑤ **Tambur elek**
Drum sieve
- ⑥ **Temiz su çıkış**
Clean water outlet



Model	Capacity diameter (m ³ /h)*	Rotary drum length (mm)**	Rotary drum diameter (mm)**	Inlet diameter (mm)	Outlet diameter (mm)	Power (kW)	Wash water (lt/min)***
IAT.100	100	500	1200	125	150	0.25	20
IAT.250	250	600	1800	200	200	0.37	27
IAT.400	400	800	2000	250	300	0.55	37

* Flow rates are given for clean water and 1 mm bar spacing.

** Wash water pressure is 5 bars.

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SCREENING COMPACTOR SSC



Screening Compactor (SSC)

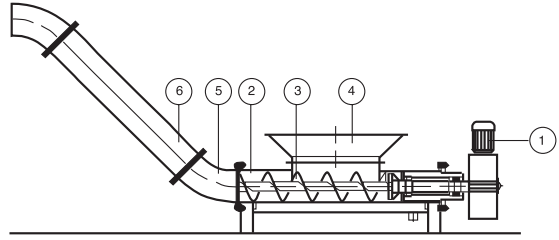
All screenings removed by screens always contain water and thus their volume is swollen. Our Screening Compactors are capable of dewatering the screenings up to 70% dryness and also compacting their volume down to a ratio of 1/10, which leads to a lower transportation cost.

Under the spiral, V-notch wedge wire or perforated meshes are used according to the application area.

If the wastes have a sticky character or are very thin, brushes are attached to the edge of the spiral.



- ① **Motor redüktör**
Motor & reducer
- ② **Pres gövdesi**
Press body
- ③ **Sıkıştırma vidası**
Compacting screw
- ④ **Yükleme kutusu**
Hopper
- ⑤ **Yönlendirme dirseği**
Direction bend
- ⑥ **Sıkıştırma tüpü**
Pressing tube



Model	Capacity (m ³ /h)*	Spiral diameter (mm)	Power (kW)
SSC 200	0.50 - 1.50	200	1.5
SSC 300	1.50 - 3.00	300	3
SSC 400	3.00 - 6.00	400	4
SSC 500	6.00 - 9.00	500	5.5

* Values are for entry-level waste amount.

PRE-TREATMENT EQUIPMENT

- Screens
- Screening Compactor
- Grit Classifier

TREATMENT EQUIPMENT

- Screw Pump
- Surface Aerators
- Scrapers
- Thickeners
- Flow Control Devices

DEWATERING EQUIPMENT

- Pre-dewatering Belt
- Beltpresses
- Filterpresses
- Chemical Preparation and Dosing Units

PACKAGE TYPE BIOLOGICAL TREATMENT PLANT

- BIOPAK

FILTRATION UNITS

- Pressure Sand Filter
- Ion Exchanger
- Activated Carbon Filter

OTHERS

- Screw Conveyor
- Belt Conveyor
- Double Shaft Mixer
- Container Station
- Oil and Grease Separators

SİSMAT ULUSLARARASI ARITMA MAKİNALARI İNŞAAT MÜHENDİSLİK SAN. VE TİC. LTD. ŞTİ.

Gebze Organize Sanayi Bölgesi,
İhsan Dede Cad. 800. Sk. No: 802
Gebze 41480, Kocaeli/Turkey

Tel : +90 262 751 12 54
Fax : +90 262 751 12 56
info@sismat.com.tr

www.sismat.com.tr