

ROTO-SIEVE® DRUM SCREEN



Läckeby Products manufactures, markets and sells Roto-Sieve drum screens, which separate solid particles and fibres from liquids by screening. The drum screens are based on proven technology with a self-cleaning function that delivers very good results and minimises maintenance.

With high operational reliability, a long service life and low energy consumption, Roto-Sieve drum screens are a proven good investment.

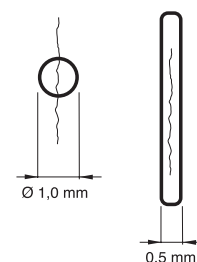
Due to its internal feed and circular perforations, Roto-Sieve offers the best separation that can be achieved mechanically. It has been shown in practice that a fibre or hair has a very small chance of orienting itself at a right angle and against the water current, so that it can pass through a round hole.

Technical features

- Low energy consumption
- High degree of separation
- High operational reliability
- Good utility in many applications

Process benefits

- Enhances processes, for instance in treatment works
- Reduces need for cleaning
- Makes servicing easier
- Reduces running costs of subsequent stages



The diagram shows a circular hole with \varnothing 1.0 mm on an internally-fed Roto-Sieve drum screen, compared with a 0.5 mm opening along the drum's rotating direction on an externally-fed screen.

Technical data

Drum screen, model		RS-11		RS-40				RS-51				RS-55		RS-60	
Capacity 1)	max l/s	5	9	15	30	15	30	30	90	30	90	135	100	290	
Length	mm	1230		1810				2770				2830		3980	
Width	mm	600		880				880				1210		1570	
Height	mm	1020		1300				1500				1870		2400	
Transport volume, incl. crate	m ³	1.59		2,70				4,64				9.41		17,64	
Gross weight	kg	170		310-330				420-450				550		1300-1350	
Net weight	kg	100		210-230				280-310				450		1200-1250	
Working load 2)	kg	120		250-270				380-410				620		1450-1500	
Inlet pipe	ext.Ø mm	125		200				250				300		506	
Outlet pipe 3)	ext.Ø mm	150		250				250	404	250	404	500		608	
Overflow outlet pipe	ext.Ø mm			150				200				250		404	
Drum rotation	rpm	25		14				14/22				14		12	
Spray header connection	ISO	G 3/4"		R 1"				G 1"				G 1		G1 1/2"	
Spray water pressure	min bar	4		4				4				4		4	
Spray water consumption	l/min	27		27				55				55		82	
Drum inclination, standard	°	6		6				2	6			6		6	
Drive motor - rated power	kW	0.25		0.37				0.55				0.55		1,1	
Drive motor - rated current (230/400V)	A	1.32/0.76		1.91/1.10				2.23/1.29				2.23/1.29		5.04/2.90	

- 1) Wastewater with a SS-load of 200 ppm and Ø 2.0 mm perforations. Flow speed reducer is recommended at high capacities.
2) Static weight with drum filled to the overflow level.

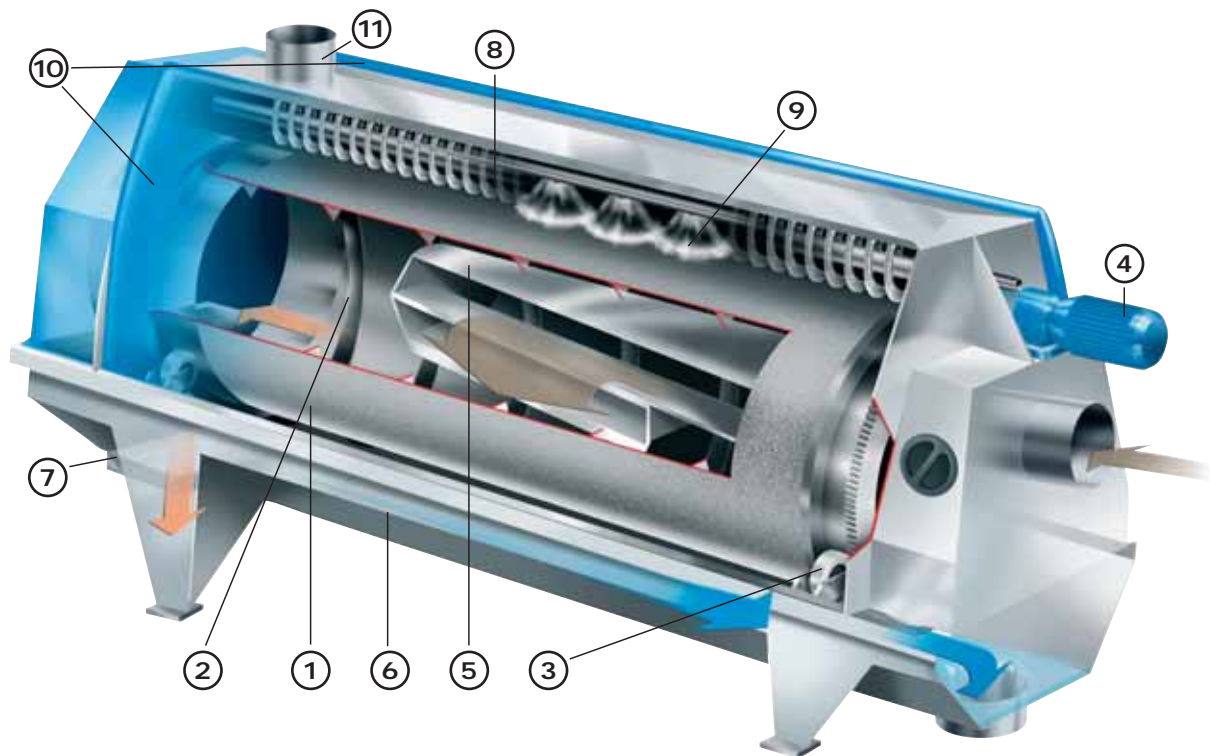
- 3) Sized for unrestricted gravity discharge.
4) With support drum (adds somewhat to weight).
5) 1.0 mm perforations reduce max. capacity by approx. 20%.

- 6) 0.8 mm perforations reduce max. capacity by approx. 35%.
7) Inlet pipe 6013 / 6024 reduces max. capacity by approx. 45%. Model 6013/6024-51 has outlet pipe Ø 300 mm.

Material

Part	Material	SS	W.Nr.	AISI	RS-11	RS-40	RS-51	RS-55	RS-60
Stand	Stainless steel	2333	1.4301	304	#	#	#	#	#
	Acid-proof steel	2343	1.4436	316)))))
Drum screen	Stainless steel	2333	1.4301	304	#	#	#	#	#
	Acid-proof steel	2343	1.4436	316)))))
Inlet pipe / Spray header	Stainless steel	2333	1.4301	304	#	#	#	#	#
	Acid-proof steel	2343	1.4436	316)))))
Splash guard	Stainless steel	2333	1.4301	304	#			#	
	Acid-proof steel	2343	1.4436	316)))
Brush	GPR					#	#		#
	Polypropylene/nylon				#	#	#	#	#

= Standard
) = Optional



Function

Roto-Sieve drum screens consist of a perforated drum (1) with internally fixed screw (2), which transports the separated particles out of the drum. The drum rotates on trunnion wheels (3) and is driven by a cog gear motor (4).

Incoming liquid is fed into the drum through an inlet pipe (5), which distributes the water over a large area of the drum's interior. During passage through the drum, the liquid is screened through the drum's perforations and collects in the trough (6) underneath. Separated particles are transported out of the drum through the screenings outlet (7). Dewatering continues throughout transport in the drum.

To prevent clogging of the unit's perforations, all drum screens are fitted with a rotating brush (8) and a spray header with spray nozzles (9). Roto-Sieve drum screens are completely encased in removable splash guards (10) and equipped with a ventilation exhaust (11) to improve the working environment.

Model 6013-11

The smallest model, with a flexible rubber coupling between the drum and motor. Two trunnion wheels. Removable steel splash guard on one side.

Model 4013-40

Equipped with two removable splash guards in glass-fibre reinforced plastic. Flexible rubber coupling between the drum and motor. Two trunnion wheels. Ventilation exhaust connection as standard.

Model 4024-40

Similar to model above, but with an overflow system and conductive electrode for switch-on signal.

Model 4013-, 6013- and 3013-51

The model illustrated above. Three removable splash guards in glass-fibre reinforced plastic, four trunnion wheels and pinion drive. Without overflow system. Ventilation exhaust connection as standard.

Model 4024-, 6024- and 3024-51

Similar to models above, but with overflow system and a switch-on/switch-off contact (microswitch) for signals.

Model 2013-55 and 2024-55

Similar to models XX13-51 and XX24-51, but larger, more robust version. Two removable splash guards in stainless steel. Ventilation exhaust connection as standard.

Model 4024-, 6024- and 3024-60

Available only with overflow system. Driven by a shaft-mounted geared motor. Four trunnion wheels. Smallest perforation is 1.5 mm. Ventilation exhaust connection as standard. Six removable inspection hatches in glass-fibre reinforced plastic and one in steel.

Design

As standard, Roto-Sieve drum screens are manufactured in five models and 14 variants for various flows, in stainless steel (1.4301) or acid-proof steel (1.4436). For certain models, splash guards are made in glass-fibre reinforced plastic. Brushes are manufactured in polypropylene/nylon. Standard drum perforations are 1.0-1.5–2.0-2.5 mm and the smallest perforations are 0.6 mm. As an option, the larger models can be supplied with overflow systems.



Roto-Sieve drum screens, model 51, installed at Kullavik treatment works in Kungsbacka.

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References

Läckeby Products has supplied more than 3,200 Roto-Sieve drum screens to both industrial and municipal plants worldwide.

Läckeby Products develops, designs and manufactures drum screens. Coordinated expertise and production ensures high quality service and delivery. Läckeby Products can also participate in the planning stage and take on responsibility for everything from dimensioning to installation. Through our involvement at the planning stage, we can offer a total process guarantee.



Roto-Sieve Drum Screen, model 11



Roto-Sieve Drum Screen, model 40



Roto-Sieve Drum Screen, model 51



Roto-Sieve Drum Screen, model 55



Roto-Sieve Drum Screen, model 60

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