

SALTEC Belt Thickener is a mechanical thickener that combines traditional proven technology with new innovation, design and manufacturing.



Functional description

SALTEC Belt Thickener (SBT) separates sludge and water by gravity and static filtration. This is a very gentle filtration which means that the sludge does not break. The ploughs (chicanes), that lays against the filter belt, is turning and lining the sludge which creates a space where filtrate water easily can drain through.

At the end of the belt, the sludge is pushed up into a sludge ramp to extend drainage time and gives a better result. The sludge ramp may be adjusted to adjust the DS-content on the outgoing sludge and gives more control of the result.

Mechanical thickening gives huge savings in transport, dewatering and digestion efficiency.

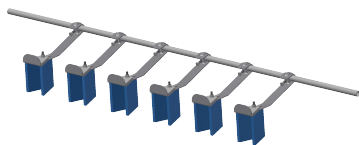
The thickener is manufactured in stainless steel AISI 316 with fully enclosed parts and suction sockets, which is also great for the environment.

Delivered with or without the Options.

- **The mixing tank** has an inlet of DN50 - DN150 for incoming sludge to machine.
- **Lubrication:** SBT has 4 lubrication points (2 rollers = 4 bearings) and these are lubricated from the outside of the machine.
- **Sludge mixer:** KICAB has a very efficient sludge-mixer (own design) for optimal mixing of polymer in the sludge which helps to reduce the consumption of flocculation agents.
- **Belt:** The filter belt is designed for an operating time of at least 10 000 operating hours.
- **Flush-water:** Flushing of the belt is done at a pressure of 6 bar to achieve maximum cleaning and keeps the belt from clogging. Filtrate water can also be re-used as flushing water.

Advantages SBT

- Compact, Automatic, Hygienic, CE approved.
- Gravity table technology gives best filtrate & highest capacity.
- Included XPI poly injector & SFM mixer ensures full mixing without reactor.
- Big inspection hatches for easy access and cleaning.
- Entirely from thick stainless steel incl. stainless steel motor ball valve.
- Simple, straight forward designed machinery for sludge treatment and poly preparation.
- Totally enclosed ventilated system.
- X-injector and Y-mixer included in delivery.
- Specially designed liftable plows.
- Effective design and manufacturing with the best materials available.



Sludge plows (chicanes)

Technical specification

Input data, Capacity, Consumption

Estimations based on experience. Precise results can be given after sludge analyse in KICAB in house laboratory and after further tests.

Capacitet Normal	1 - 200 m ³ /h
Final dry solid content	4 - 12 %
Capture rate	97 - 98 % without recycling
Consumption of polyelectrolyte	2-4 kg / ton DS
Filtrate water quality (Based on a 100% active substance - powder polymer)	100 - 400 mg/l SS
Consumption of wash water (Filtered centrate or process water can be used)	2 - 8 m ³ /h at 5 bar
Belt speed	7 - 12 m/min
Service availability SBT	2 h/week x 52 = 104 h/year
Other project specific conditions	None.

Options

- Electrical cabinet for controlling the thickener and peripherals.
- Sludge-sled for increased DS-content.
- KICAB Sludge mixer.
- Solenoid valve in brass.
- Paddle for hard-flocked sludge.
- Sludge pump.
- Polymer pump
- Sludge chute after the thickener for storage or pump etc.
- Elevated hood/hatch for easier and smoother inspection of the thickener.

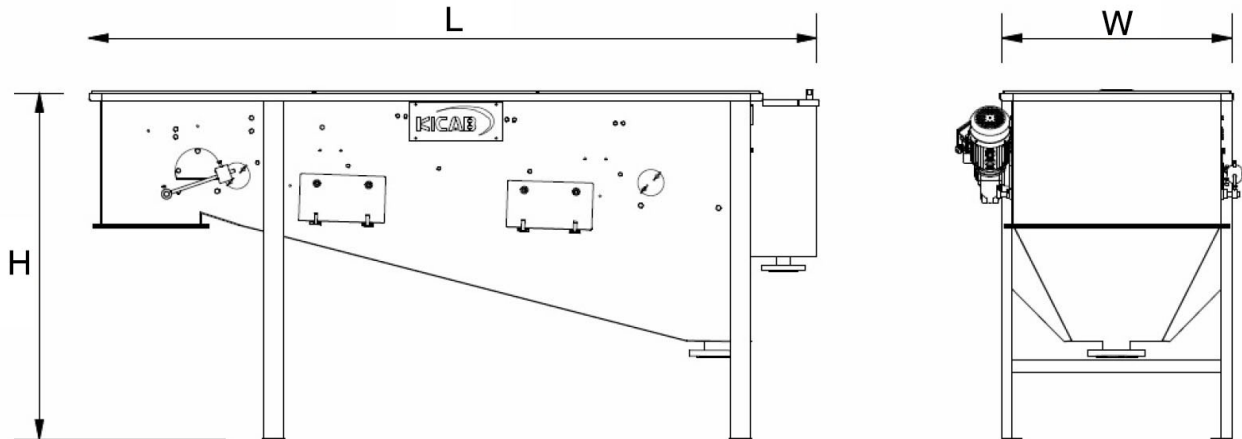


KICAB Sludge mixer

SBT Materials description

Machine frame		
Incl. Sludge feed and integrated collecting- and drainage throughs	Stainless steel	AISI 316
Horizontal dewatering section		
Belt support, framework, fixings, lateral retention plates	Stainless steel	AISI 316
Sliding strips	Plastic PE	
Seals	rubber profile, pluggable	
Additional dewatering device		
Plugs wedge	Plastic PE	AISI 316
Plugs body	Stainless steel	AISI 316
Transverse shafts and set collars	Stainless steel	AISI 316
Rollers		
Belt guide rollers	Stainless steel, coated with vestosint up to the bearings	
Drive roller	Stainless steel tube body, rubbery up to the bearings	
Bearings		
Bearing housings	Steel hot galvanized	
Roller bearings	FAG Spherical	
Labyrinth rings	Plastic PE 500	
Lubricating nipple	Stainless steel (flat headed according to DIN 3404)	AISI 316
Belt cleaning device		
Spray pipe / brush shafts	Stainless steel	AISI 316
Valves, nozzles, sealings, fasteners, hings, handles, hoses	Misc. industrial quality material	
Sludge retaining scraper (ramp)		
Scraper	Plastic PE	
Scraper blade	Plastic PE	
Sludge scraper		
Scraper	Stainless steel	AISI 316
Scraper blade	Plastic PE	Glass globe reinforced
Cover sheet	Stainless steel	AISI 316

Technical Description



Model	Length [mm]	Width [mm]	Height [mm]	Capacity [m³/h]	DS-Out [%]	Power [kW]	Rinse [m³/h]
SBT 30	2800	700	1250		4 - 12	0,55	
SBT 50	2800	800	1250	1 - 10	4 - 12	0,55	2,5
SBT 70	2800	1000	1250	10 - 25	4 - 12	0,55	
SBT 70L	3200	1000	1250	15 - 35	4 - 12	0,75	
SBT 90	2800	1200	1250	25 - 40	4 - 12	0,55	4
SBT 90L	3200	1200	1250	35 - 50	4 - 12	0,75	
SBT 120	2800	1500	1250	40 - 70	4 - 12	0,75	
SBT 120L	3200	1500	1250	50 - 80	4 - 12	1,5	
SBT 120XL	3500	1500	1250	80 - 90	4 - 12	1,5	
SBT 170	2800	2000	1250	70 - 90	4 - 12	0,75	6
SBT 170XL	3500	2000	1250	90 - 120	4 - 12	1,5	
SBT 220	2800	2500	1250	90 - 120	4 - 12	1,5	
SBT 220L	3200	2500	1250	120 - 150	4 - 12	1,5	14
SBT 270	2800	3000	1250	120 - 180	4 - 12	1,5	
SBT 270L	3200	3000	1250	150 - 200	4 - 12	1,5	

Capacity at DS-in 0,5-2%, DS-out 4-12%.

Process description

The flocculants is added to the feed pipe at the X-injector by eccentric screw pump. The sludge passes the injector and then the Y-mixer. This enables mixing flocculent with concentrated sludges without additional agitation or reaction tank. The feed pipe then enters the bottom of the feed chamber which leads up to the distributor funnel and from there out into the draining belt of the SALTEC Belt Thickener.

The filtrate water drains through the moving belt while the sludge on the belt is constantly gently rearranged by plows, improving throughput and thickening.

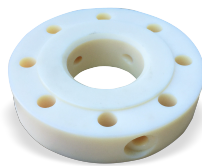
Before leaving the belt, the thickened sludge is retained by an adjustable sludge-ramp. This increases the retention time which also benefits the result.

The belt is cleaned by flush-water from the spray cleaning system. Filtrate- or process water can be used.

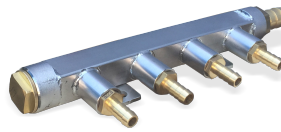
Included components:



* Solenoid valve



Polymer flange



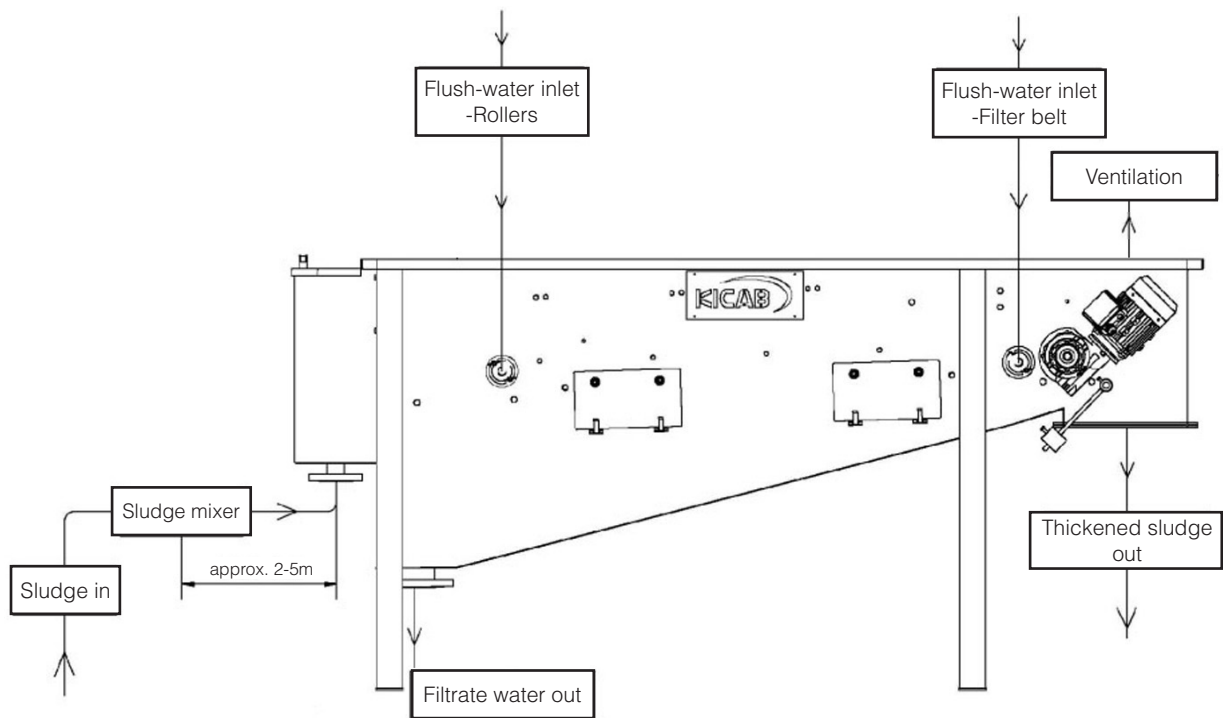
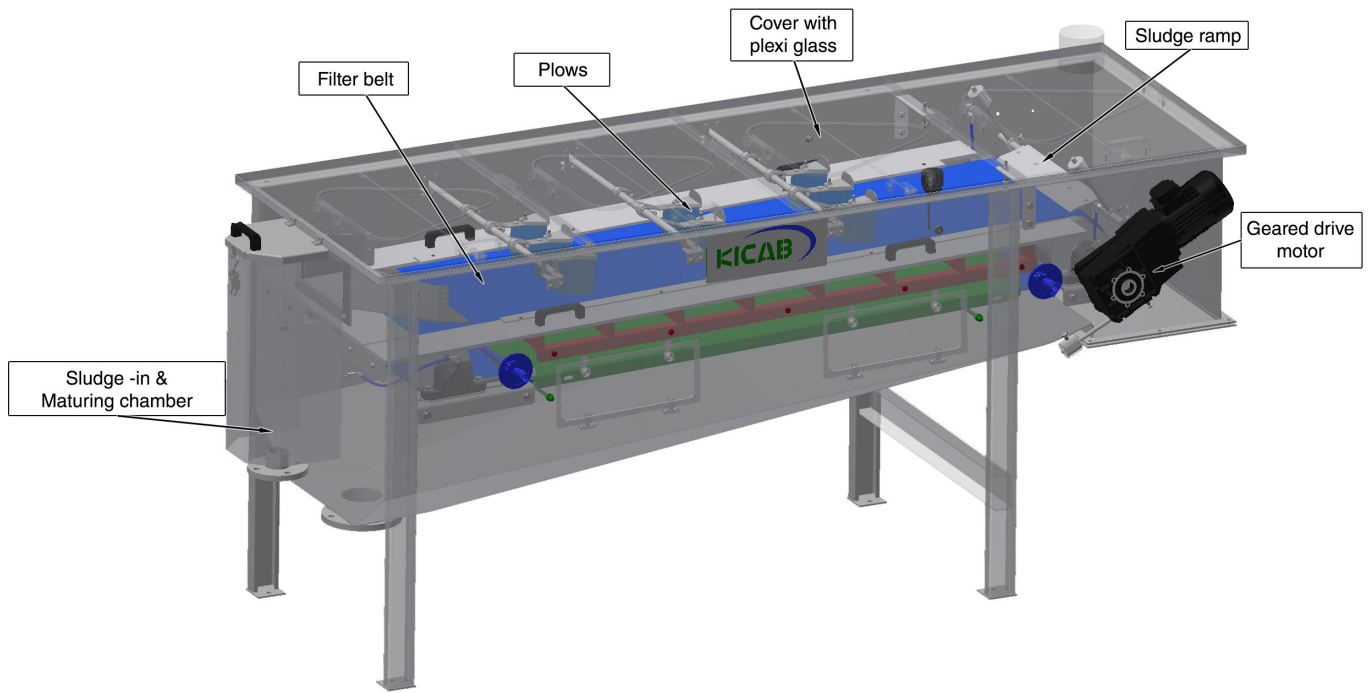
Polymer divisive

The following items is provided by the customer

All components not specified before, particularly:

- Homogenisation tank / Storage tank for sludge / filtrate
- Discharge chute.
- Mazerator, if required.
- Feed pump.
- Pipings and fittings.
- Flush-water pump.
- Filtrate / Reject water pump, if required.
- Pump for thickened sludge.
- Main control unit incl. PLC and frequency converters

Overview



The following is included with the delivery:

- Documentation (1x paper- and 1x digital CD manual) are included in our quotation.
- Polymer flange with Polymer divisive
- Aerosol protection.

The following is **NOT** included with the delivery:

- Shipping costs.
- Packaging costs.
- Layout drawings and reconstruction 765:- /h.
- Montage weekdays 695:- /h, Overtime weekdays 765:- /h.
- Startup and trim of equipment will be added at 695:- /h + travel expenses.

Customer commitment:

- Power supply for KICAB delivered equipment.
- Piping (rinse water, sludge in / out, polymer and reject) of delivered equipment.

Service

Service & Maintenance:

Our service organization consists of well-trained service technicians available to take scheduled and emergency service jobs. Service agreements can be offered.

With a service contract you can be assured of the product's function. Our contracted customers regularly make a scheduled visit and perform servo and maintenance programs. The action programme aims at preventing shutdowns and maintaining a safe function for the next service opportunity.

Quality policy:

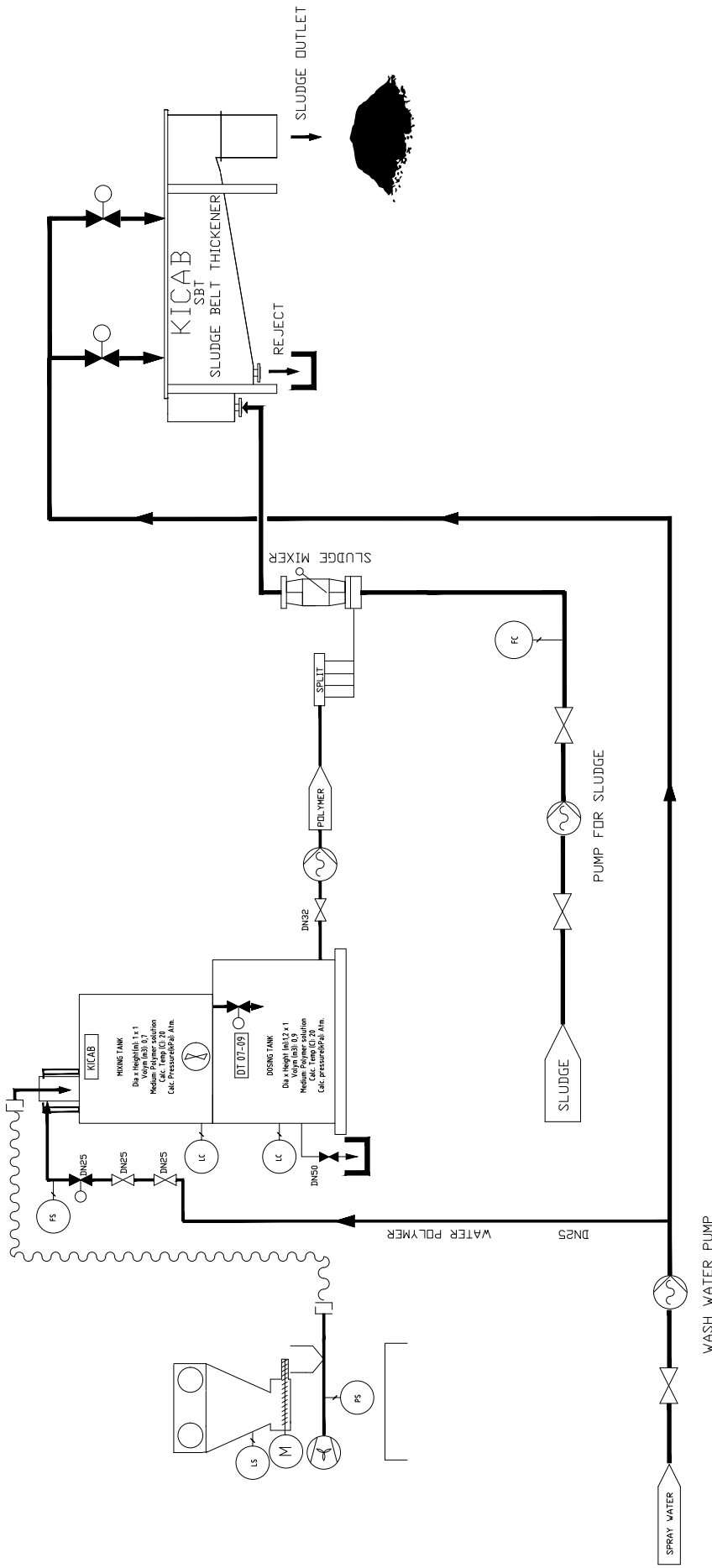
KICAB is committed to deliver high-quality products within the promised time and purpose. We strive to continuously improve ourselves and to know what our customers expect in our area.


Environmental policy:

KICAB strives to take environmental impact into account.

Changes made after ordering may affect costs and delivery times.

We reserve us for price increases caused by increased material prices, salaries, duties, rates and government fees.



Designed by Jeffrey Denian	Checked by	Approved by	Date 2017-01-12	Format A3
			SLUDGE THICKENING FLOWCHART Edition 1	Scale Sheet 1 / 1
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