Elvis Settnøy

Markedsansvarlig Midt- og Nord-Norge

The Company Structure

HUBER SE

Egenkapital: ca.94 millioner NOK

Aksjonærer: Huber familien

Styre:
Georg Huber (CEO)
Dr.-Ing. Oliver Rong (Vice CEO)
Rainer Köhler
Dr.-Ing. Johann Grienberger

Omsetning:
HUBER SE: ca. 1 milliard NOK
HUBER Group: ca. 1.5 milliard NOK

Ansatte:
HUBER SE: over 700 personer
HUBER Group: over 1100 personer

Rainer Köhler | Georg Huber (Vorsitzender) | Dr.-Ing. Oliver Rong (stellv.Vorsitzender) | Dr.-Ing. Johann Grienberger

Markedsområder

Mekanisk avløpsrensing

Slambehandling

Membran, Filtrering, Flotasjon

Green Building Varmegjenvinning

Industri

Global Service

Rustfri produkter

Forskning og utvikling

Rensekrav i Norge med utløp til sjø

Kapittel 12: (mindre enn 50 PE)

Utslipp til mindre følsomt område:

a) 20% reduksjon av SS-mengden beregnet som årlig middelverdi av det som blir tilført renseanlegget, eller

b) 180 mg SS/l ved utslipp beregnet som årlig middelverdi.

Kapittel 13: (utslipp mindre enn 2000 PE til ferskvann/ elvemunning, eller mindre en 10 000 PE til Sjø)

Utslipp til mindre følsomt område: (Kommunene er forurensningsmyndighet)

a) 20% reduksjon SS

b) 100 mg/l SS

c) Sil med maks 1mm åpning

d) Slamavskiller

Kapittel 14: (utslipp større enn eller lik 2000 PE til ferskvann/ elvemunning eller større en 10 000 PE til Sjø) (FM)

a) PRIMÆRRENSING:

a. BOF_5 -mengden i avløpsvannet reduseres med minst 20% av det som blir tilført renseanlegget eller ikke overstiger 40 mg O_2 /l ved utslipp og

b. SS-mengden i avløpsvannet reduseres med minst 50% av det som blir tilført renseanlegget eller ikke overstiger 60 mg/l ved utslipp.

b) SEKUNDÆRRENSING:

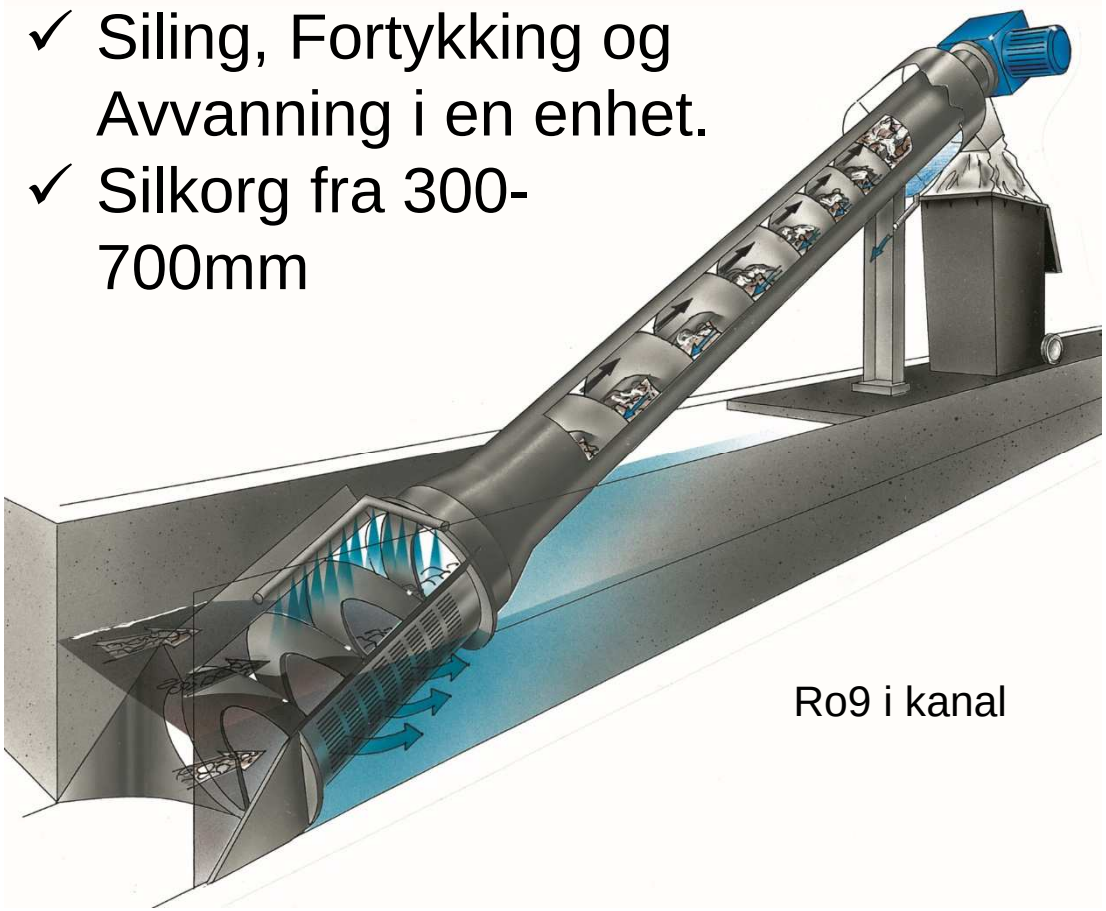
a. BOF_5 -mengden i avløpsvannet reduseres med minst 70% av det som blir tilført renseanlegget eller ikke overstiger 25 mg O_2 /l ved utslipp og

b. KOF_{CR} -mengden i avløpsvannet reduseres med minst 75% av det som blir tilført renseanlegget eller ikke overstiger 125 mg O_2 /l ved utslipp.

Rotamat® Ro9

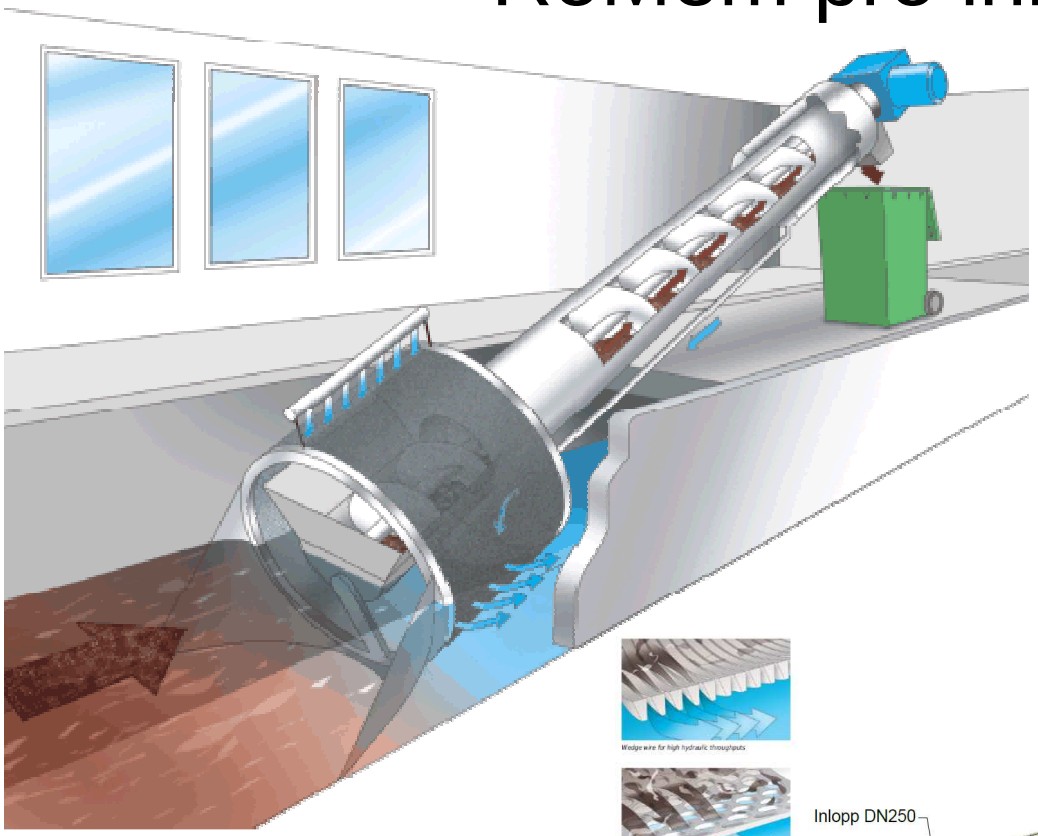
Ro9 i tank

- ✓ Passende rensing
- ✓ Forbehandling
- ✓ Siling, Fortykking og Avvanning i en enhet.
- ✓ Silkorg fra 300-700mm



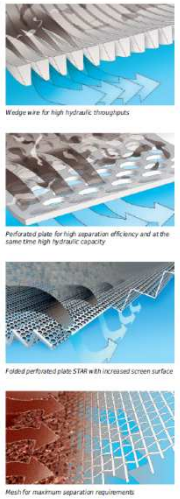
Ro9 i kanal

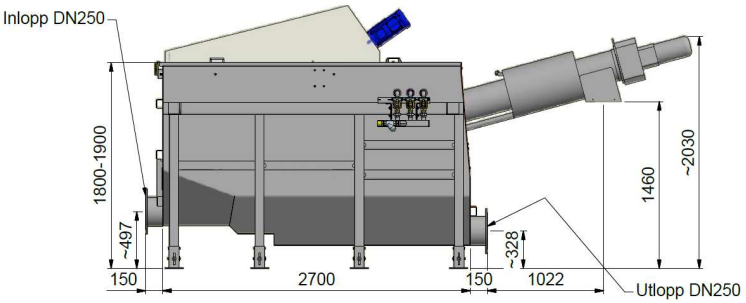
RoMem pro inkl. avvanner

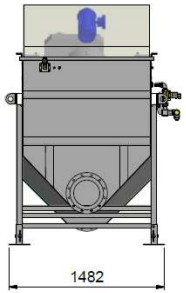


- Rensegrad 25-80% SS
- TS opp til 30%
- Trommel fra 700-3000 mm
- Liten driftskostnad
- Enkelt vedlikehold
- Flere alternativ avvannere
- Stålduk fra 100 my
- Stort dykket areal
- Driftes på nivå

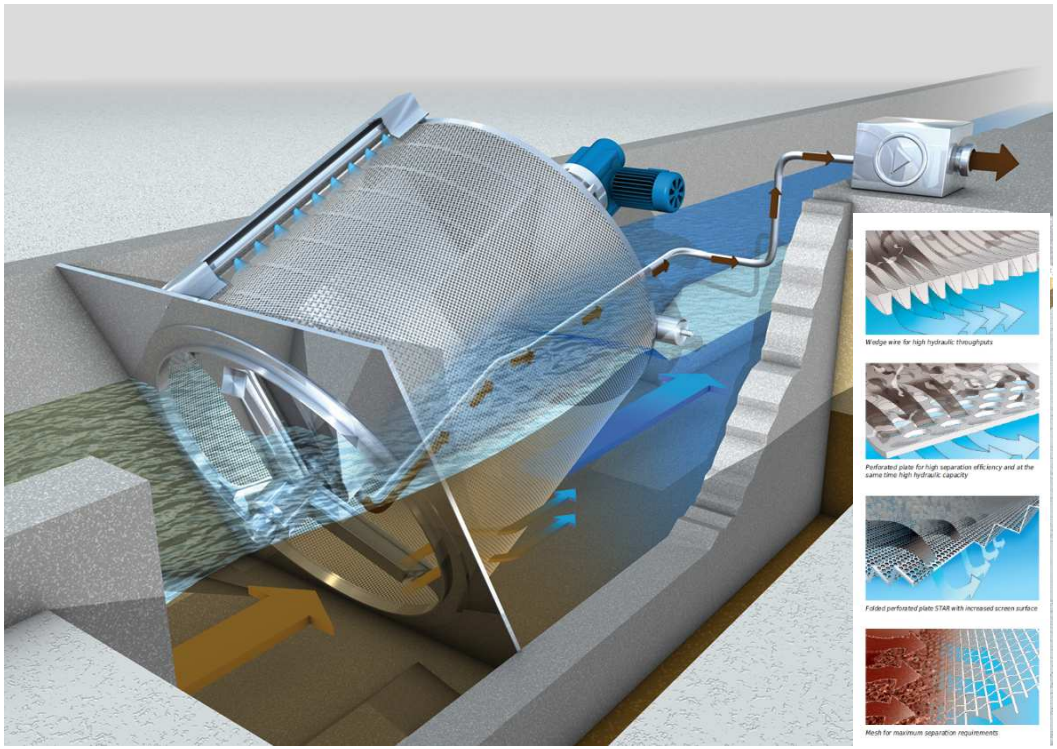
Ingen forbehandling er nødvendig







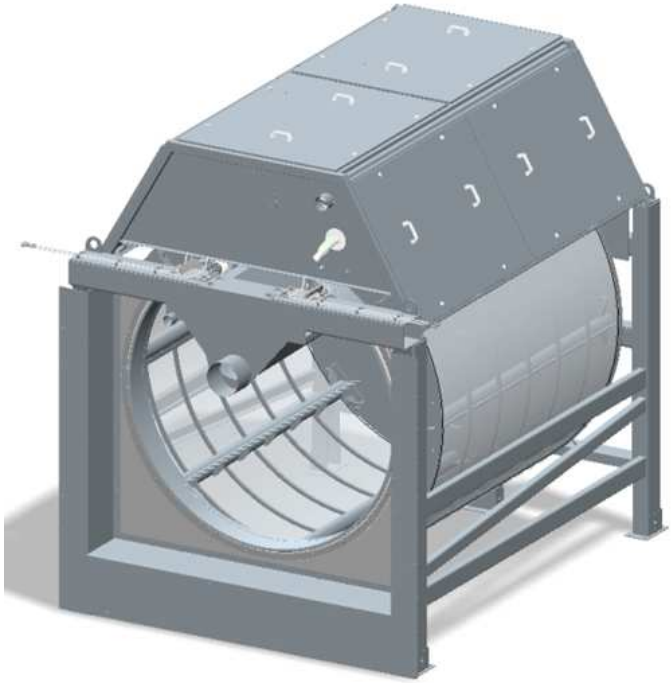
Trommelfilter RoMem Liquid

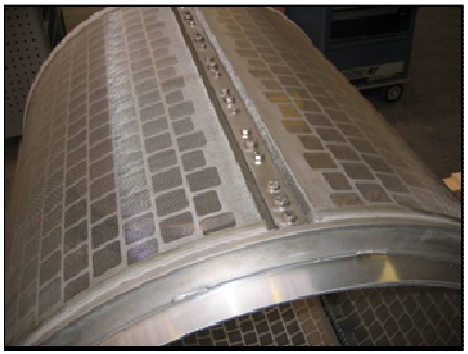


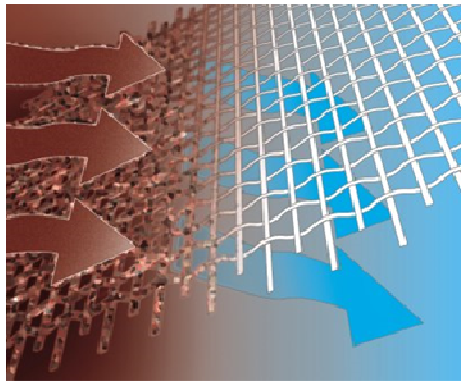
- Rensegrad 60-80% SS
- Liten driftskostnad
- Trommel fra 700-3000 mm
- Enkelt vedlikehold
- Stålduk fra 100 my
- Stort dykket areal
- Driftes på nivå
- Flere alternativ avvannere
- Leveres i kanal og tankversjon

Trommelsil- et godt alternativ for Primærrens !

Trommelsil LIQUID-Mesh





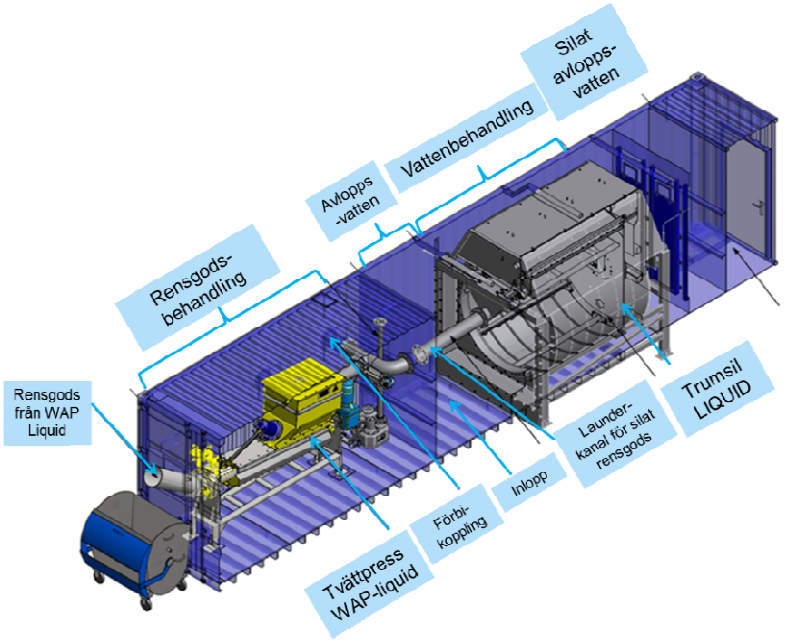


- Stålduk fra 100my<
- All opplagring over vannivå
- Bygger filtermatte der vanntrykket er lavest.
- Bruker renset avløpsvann til spyling
- Stort dykket areal sikrer rensegraden ved alle variasjoner av vannkvalitet

- Rensegrad 60-95% SS Reduksjon (også i regnværsperioder)
- Ingen behov for Polymer ell.
- Stort dykket areal pr maskin opp til 22,5 m2 (Båndsil maks 2,5 m2)
- Grundig utprøvd og testet i Europa og Norge
- Første primærrenseanlegg solgt i Norge

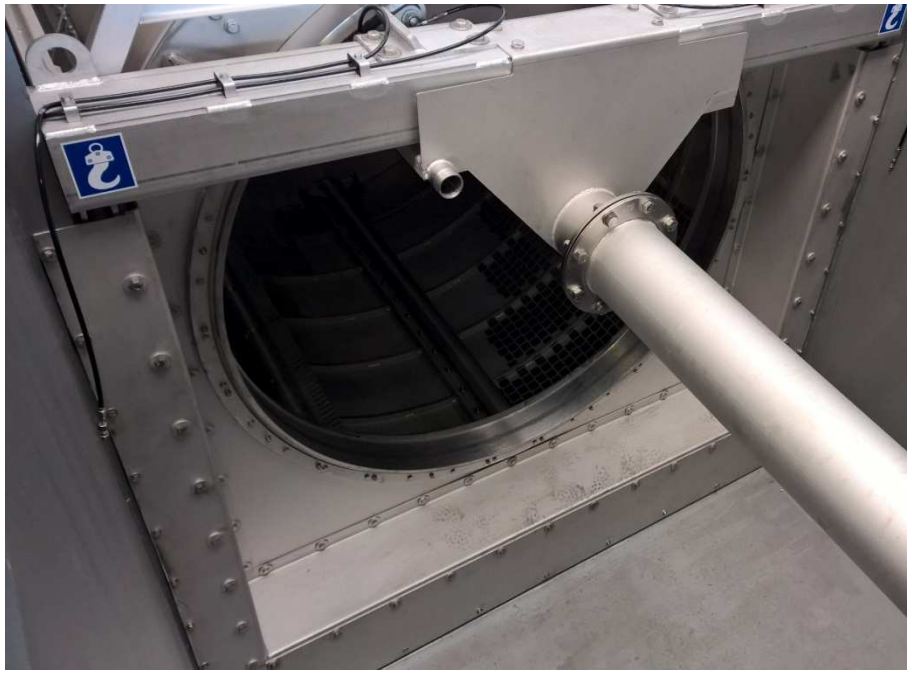
Trommelsil LIQUID Mesh

- Med HUBER'S Trommelsil LIQUID ble primærrensekravene innfridd med god margin.
- Testet over flere uker i Norge
- Tørrvær og Regn
- Rensegrad snitt 69% SS red.
- Liten driftskostnad
- Kan leveres i tank eller kanal.
- Bruker renset avløpsvann til renspyling.
- Høytrykk ved behov. (rent vann)
- Mange alternativ til avvanning fra Huber.



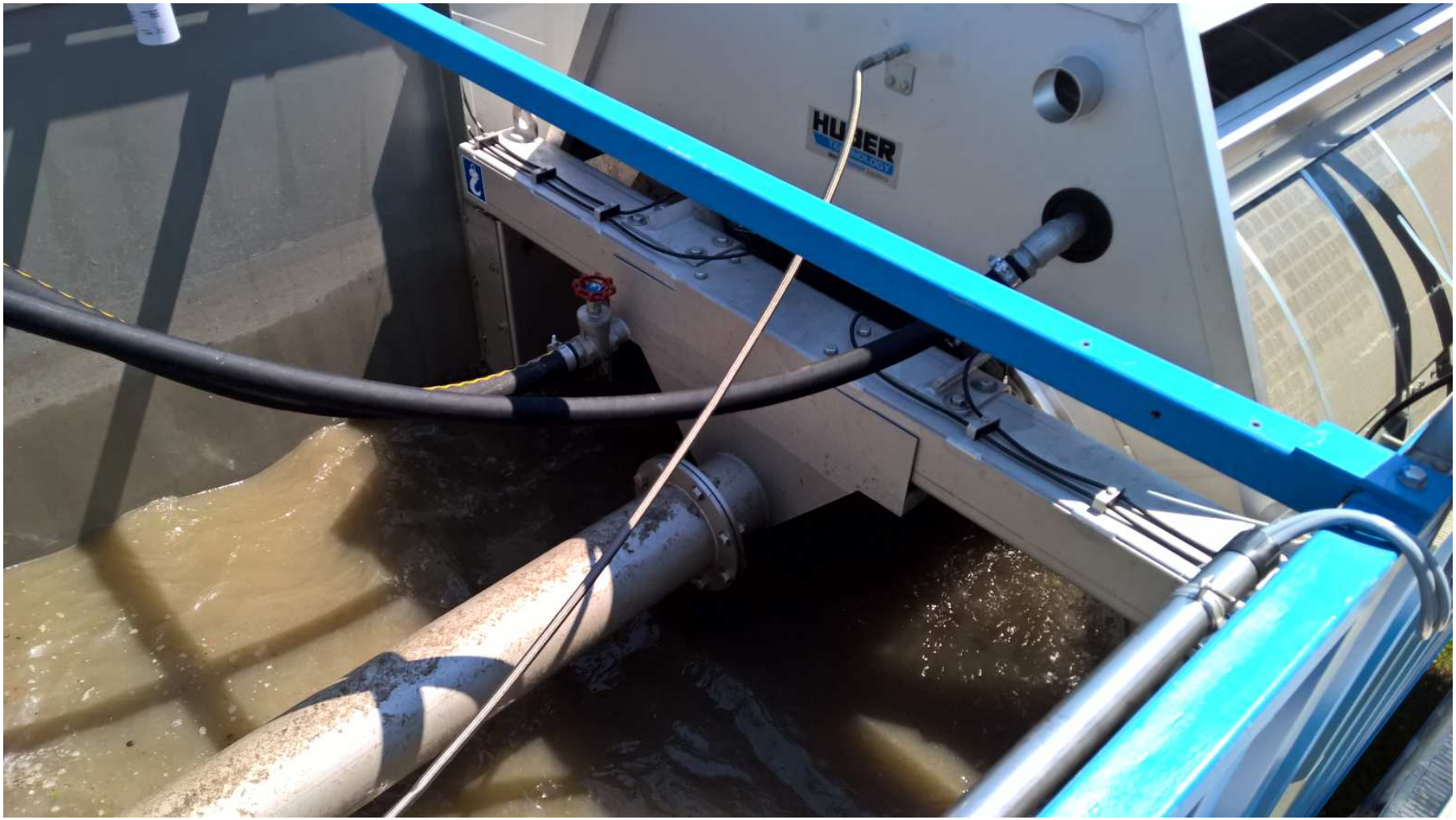
Trommelsil montert i test-kontainer

Trumsil LIQUID Mesh 2200/0,3 i en container



Inloppssektion på trumsil LIQUID Mesh 2200/0,3. Utlopp med hjälp av gravitation med launderkanal till nästa behandlingssteg

Trommelsil montert i test-kontainer



Innløet på trumsil LIQUID Mesh 2200/0,3.

Trommelsil montert i test-kontainer

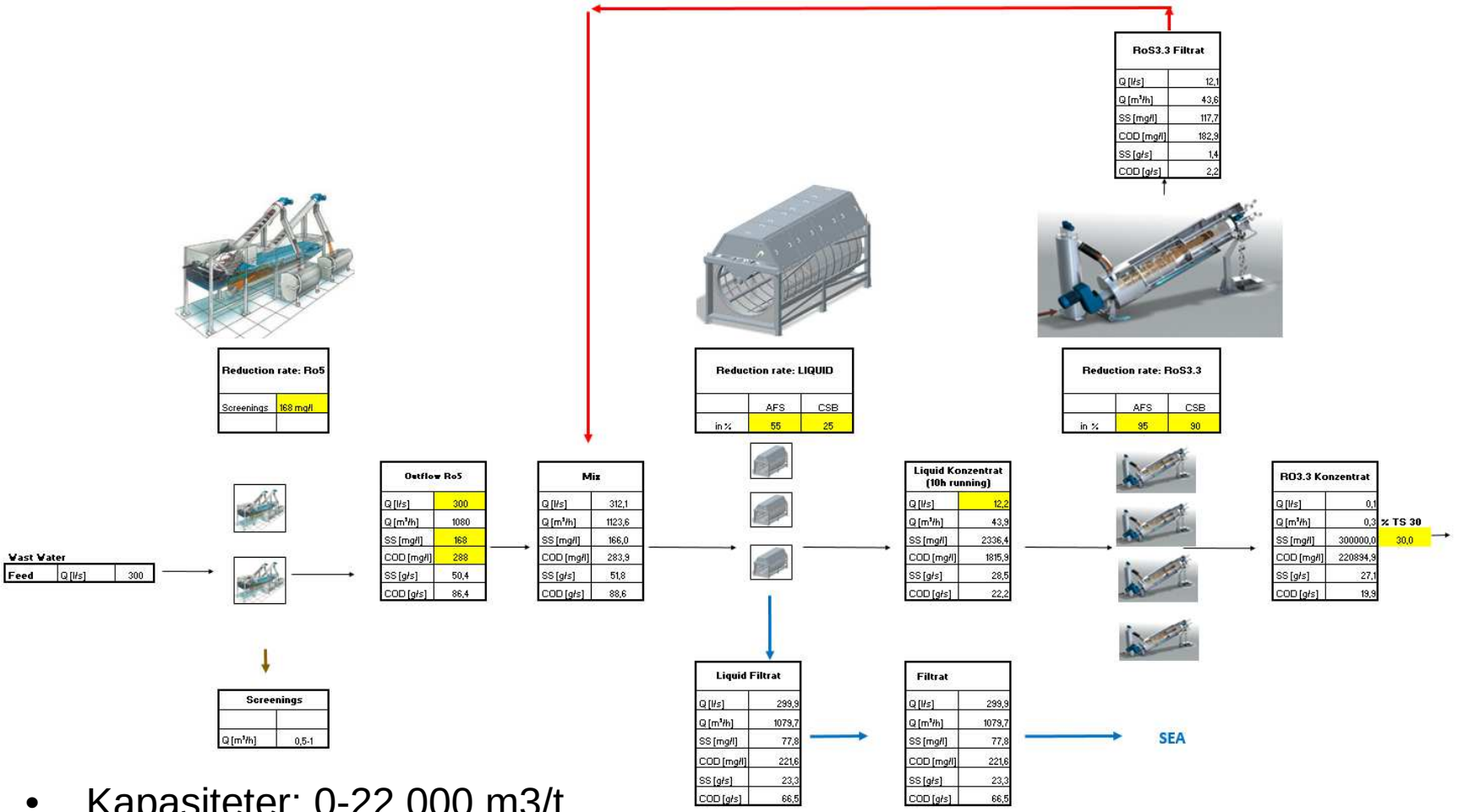
Utloppssektion på trumsil LIQUID Mesh 2200/0,3.

Prøveresultat Vestlandet: SS/ BOF (COD)

	Date	time	SS-Inlet [mg/l]	SS-Outlet [mg/l]	SS-Reduction [%]	COD-Inlet [mg/l]	COD-Outlet [mg/l]	COD-Reduction [%]
1	10.8	11:20 -11:40	108	37	66	337	256	24
2	10.8	14:27 -14:47	172	30	83	446	295	34
3	11.8	16:09 -16:36	158	26	84	490	319	35
4	11.8	09:02 -09:10	259	52	80	359	240	33
5	11.8	10:50 -11:16	206	62	70	465	259	44
6	11.8	11:30 -11:31	209	80	62	430	297	31
7	11.8	12:30 -13:30	258	92	64	676	360	47
8	12.8	09:15 -09:15	314		76	625	249	60
9	12.8	11:06 -11:22	334	62	81	676	311	54
10	12.8	12:04 -12:20	308	122	60	609	252	59
11	15.8	09:37 -09:45	259	75	71	545	240	56
12	15.8	12:08 -12:27	425	128	70	807	357	56
13	15.8	13:56 -14:16	300	114	62	655	402	39
14	16.8	08:40 -09:10	280	78	72	556	345	38
15	16.8	10:47 -10:57	257	74	71	556	280	50
16	16.8	11:55 -12:15	300	117	61	623	330	47
17	16.8	12:40 -13:00	377	137	64	779	272	65
18	16.8	14:05 -14:17	358	144	60	724	455	37
19	17.8	09:00 -09:08	260	93	64	514	281	45
20	17.8	11:06 -11:16	339			677	378	44
21	17.8	12:06 -12:16	484	109	78	878	342	61
22	17.8	16:29 -16:30	442	129	71	970	481	50
23	18.8	09:12 -09:20	300	93	69	497	231	54
24	18.8	11:43 -11:46	432	159	63	772	437	43
25	18.8	13:02 -13:20	403	113	72	739	368	50
26	19.8	12:48 -13:10	468	152	68	930	509	45
27	22.8	08:56 -09:10	273	84	69	483	283	41
28	22.8	10:52 -11:00	392	120	70	783	417	47
29	22.8	11:27 -11:37	424	140	67	973	525	46
30	22.8	13:50 -14:05	406	141	65	893	636	29
31	23.8	08:35 -09:07	300	102	66	655	361	45
32	23.8	10:10 -10:14	417	130	69	1068	441	59
33	23.8	10:14 -10:16	354	145	59	636	415	35
34	23.8	10:16 -10:21	403	151	63	769	402	48
35	23.8	10:21 -10:31	446	155	65	827	368	56
36	24.8	09:12 -09:19	285	57	80	523	220	58
37	24.8	10:40 -10:45	350	88	75	702	396	44
38	24.8	10:50 -10:50	360	100	72	645	336	48
39	24.8	14:05 -12:25	202	89	56	426	292	31
40	24.8	14:40 -15:00	156	64	59	347	227	35
	average		319	101	69	652	347	46

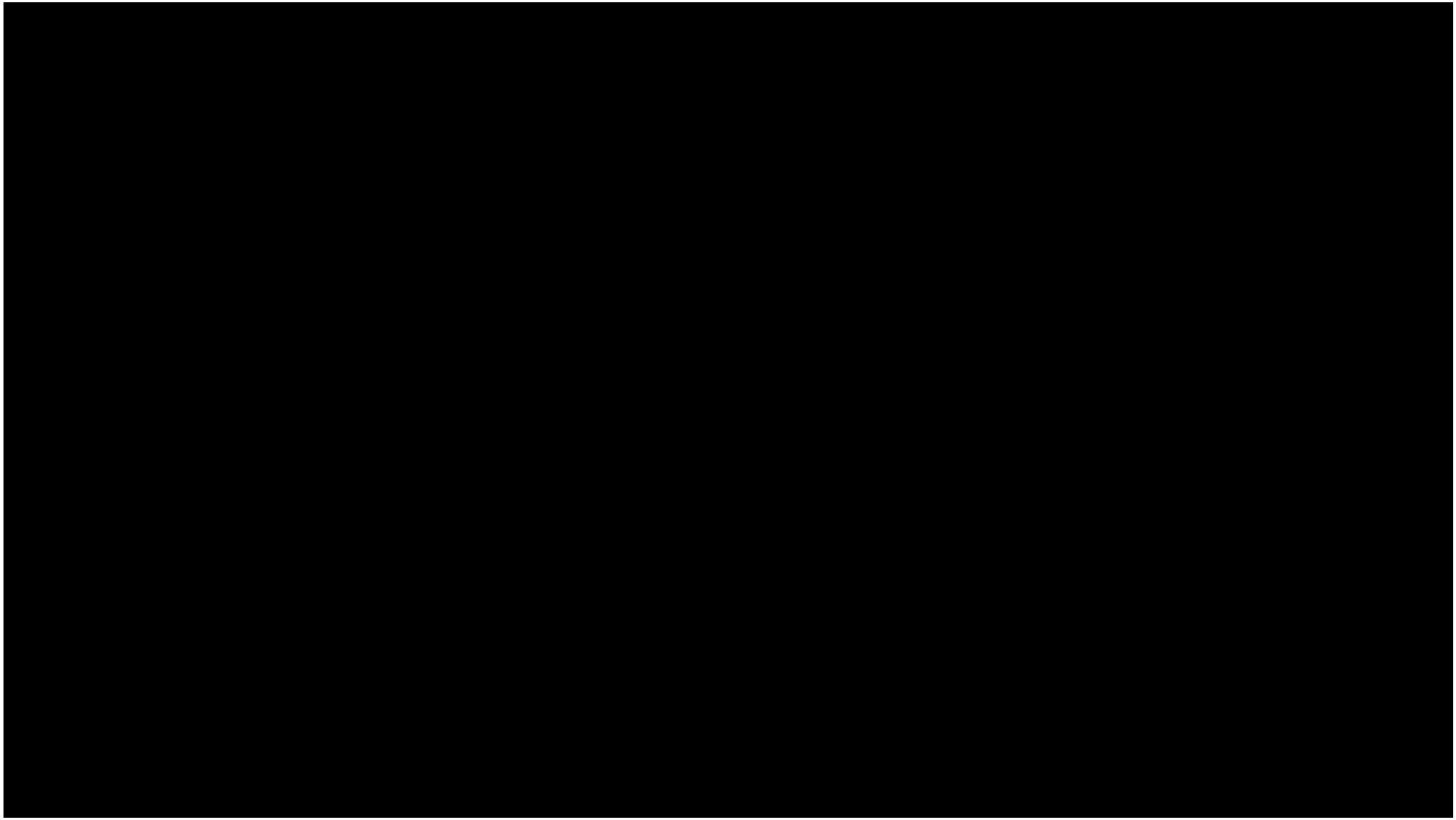
- Prøver tatt ut 2-5 ganger pr døgn.
- Snitt SS 69 %
- Snitt BOF 46%
- God margin for Primærrensekravet
- Uten kjemikalier
- Flere alternativer avvannere uten at rejekt påvirker resultatet mer enn 0,2-0,8%

Eksempel på massebalanse



- Kapasiteter: 0-22 000 m3/t
- Stort dykket areal opp til 22,5 m2 pr sil (Ø2,2 x 4m lengde)
- 80% av trommel er dykket
- SS Reduksjon: 60-80%
- BOD Reduksjon: 30-70%
- TS på slam: 25-40%

Trommelsil Primærens Kapt:14



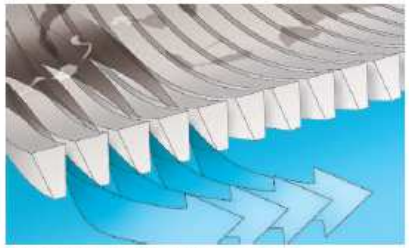
Huber Rotamat

Drum Screen LIQUID ww

HUBER Drum Screen LIQUID with wedge wire drum, wedge wire sizes 0.5 / 1 / 2 / 3 mm.

Solids retention with high throughput capacities of up to 10,000 m³/h per machine.

Typical applications:
Mechanical pretreatment on sewage treatment plants, industrial solids-liquid separation



Wedge wire for high hydraulic throughputs

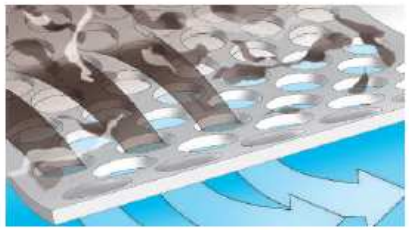
Drum Screen LIQUID pp

HUBER Drum Screen LIQUID with perforated plate, perforations 1.5 / 1 / 2 / 3 mm.

High separation efficiency and retention of fibres and hair.

Typical applications for 1 and 2 mm perforation:
Protection of hollow-fibre membrane filtration plants

Typical applications 3 mm perforation:
Protection of plate membrane filtration plants



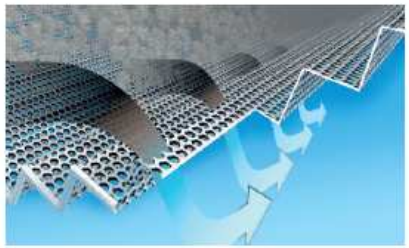
Perforated plate for high separation efficiency and at the same time high hydraulic capacity

Drum Screen LIQUID star

HUBER Drum Screen LIQUID with folded perforated plate, perforations 1 / 1 / 1.5 / 2 mm.

Increased screen surface for higher throughputs.
High separation efficiency and retention of fibres and hair.

Typical applications:
Protection of membrane filtration plants



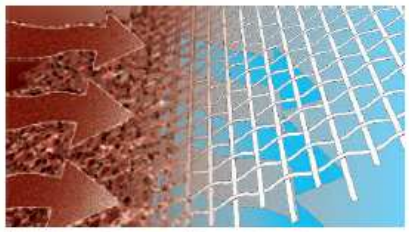
Folded perforated plate STAR with increased screen surface

Drum Screen LIQUID mesh

HUBER Drum Screen LIQUID with mesh, mesh sizes from 0.2 up to 0.75 mm.

Maximum separation efficiency and reduction of COD and BOD by 20 – 40%.

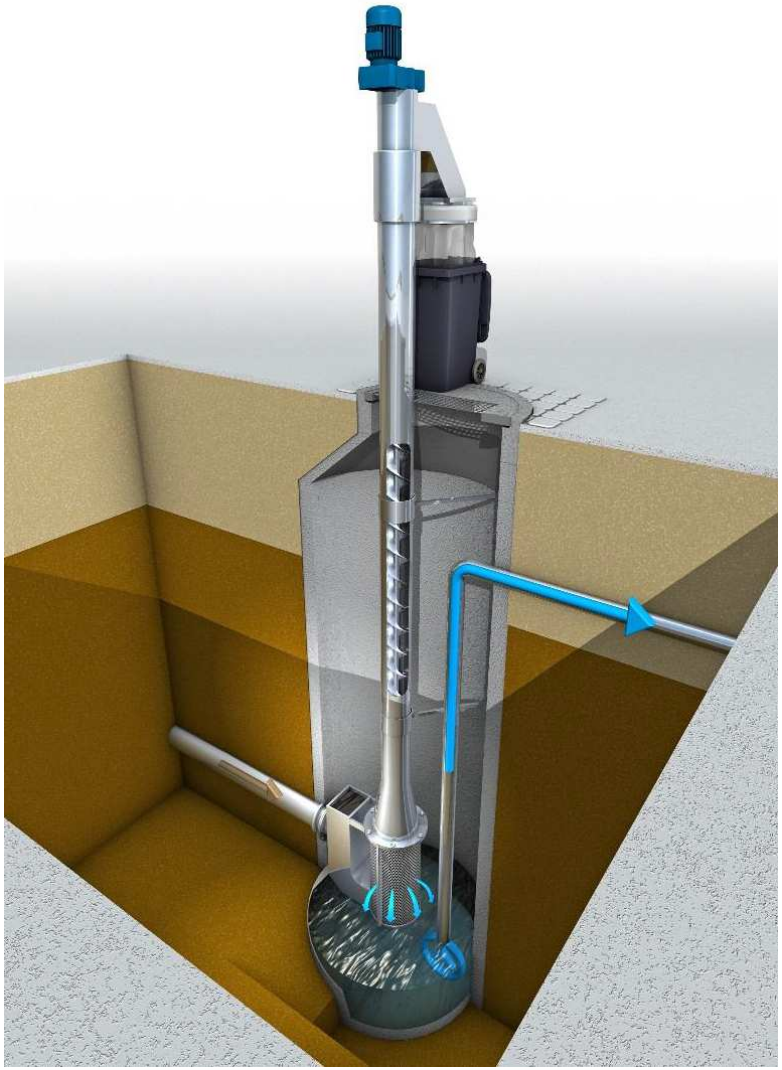
Typical applications:
Load reduction in the preliminary treatment stage
Replacement for primary settlement tank
Sea and river outfall applications



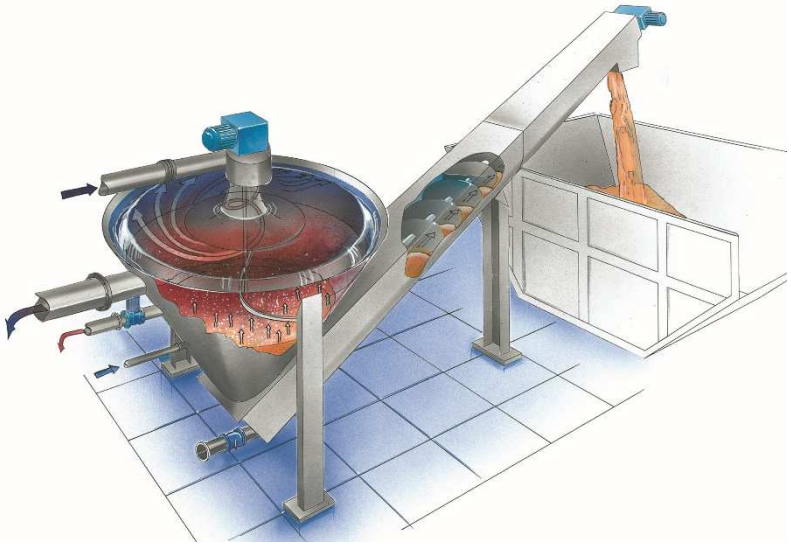
Mesh for maximum separation requirements

Ro5 Kompakt.anl. Grovrist, luftet Sand og Fettfang

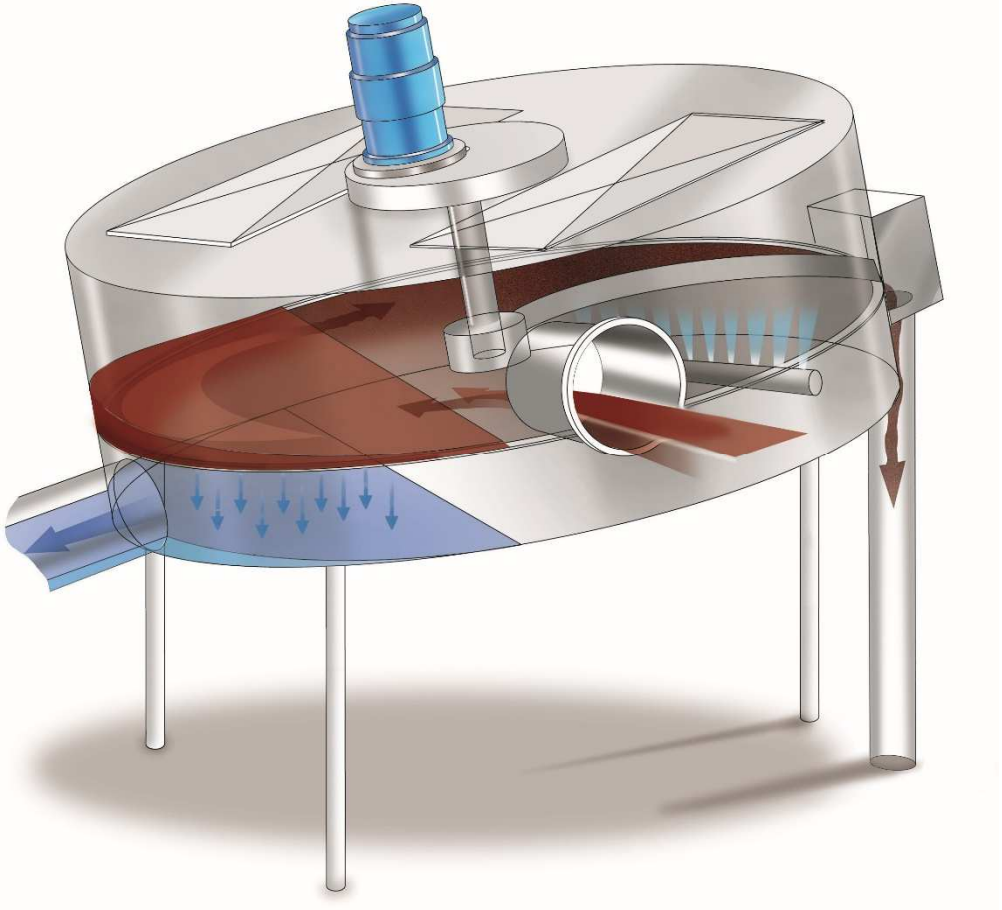
Pumpestasjonssil RoK4



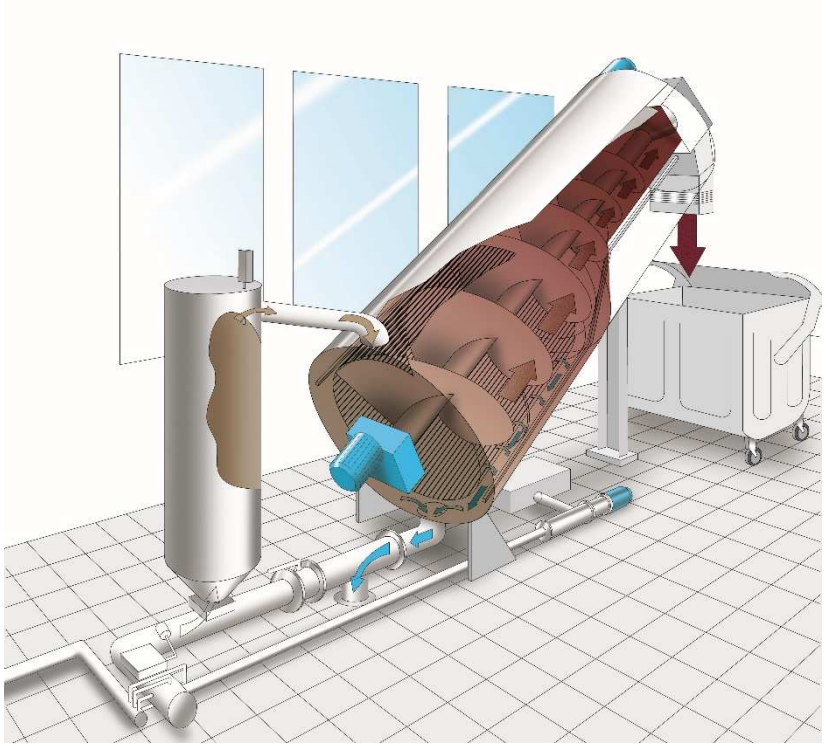
Sandvasker RoSF4



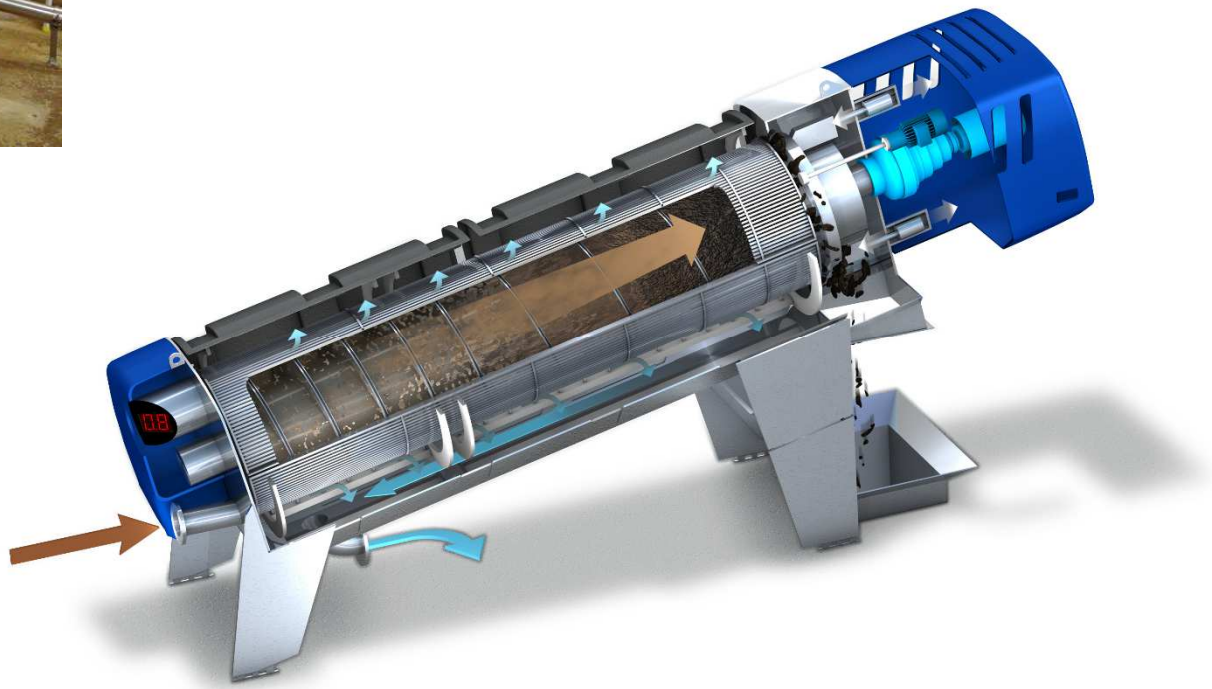
Slamfortykker RoS2S



Slamavvanner RoS3 S-Press

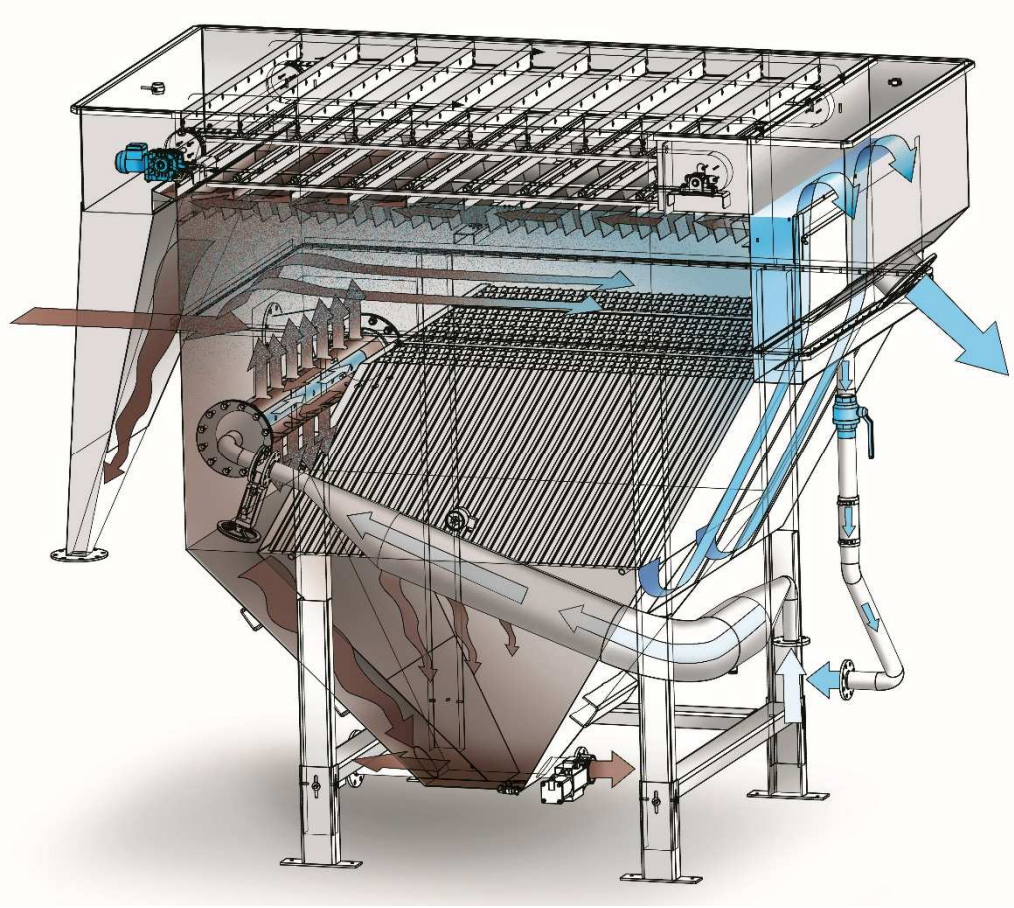


Slamavvanner Q-Press



RoS 3 Slamavvanner

Flotation HDF (DAF)

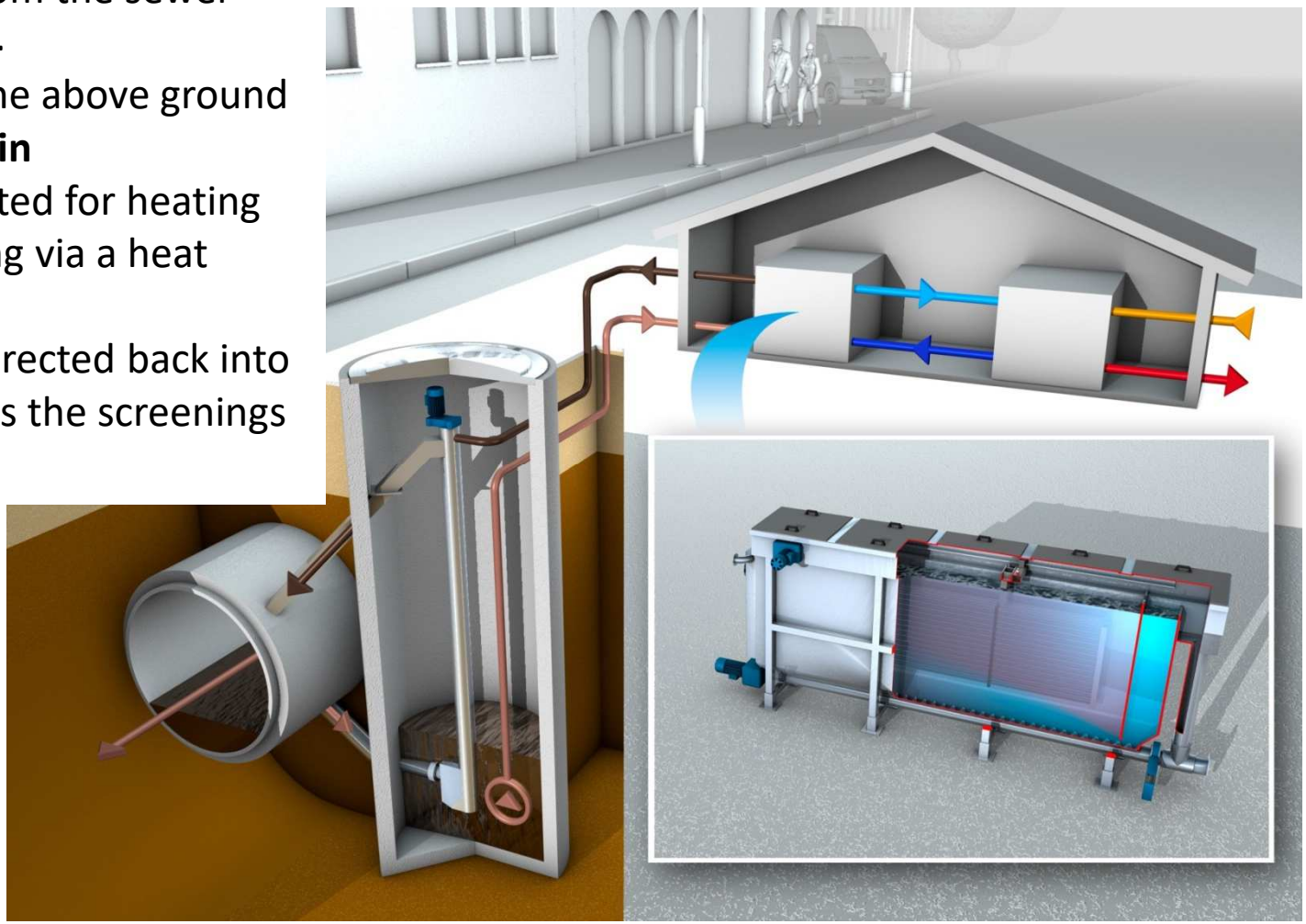


Sekundærrensing:

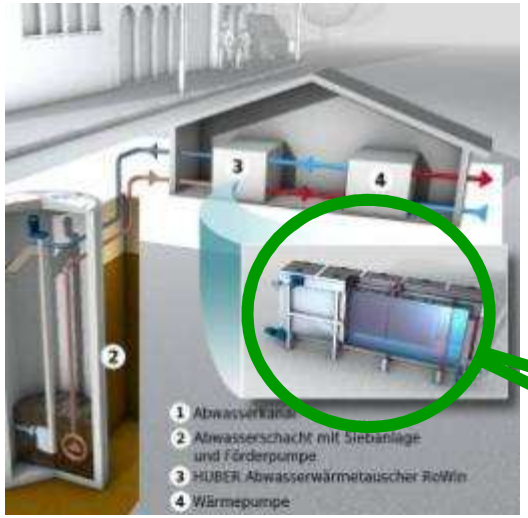
- 90% Fosforreduksjon
- 75% BOF reduksjon

Huber ThermWin® Solution

1. Draw waste water from the sewer and screen it in **RoK4**
2. Pump the water to the above ground heat exchanger **RoWin**
3. Energy can be extracted for heating or dumped for cooling via a heat pump
4. The waste water is directed back into the sewer and flushes the screenings back, too.

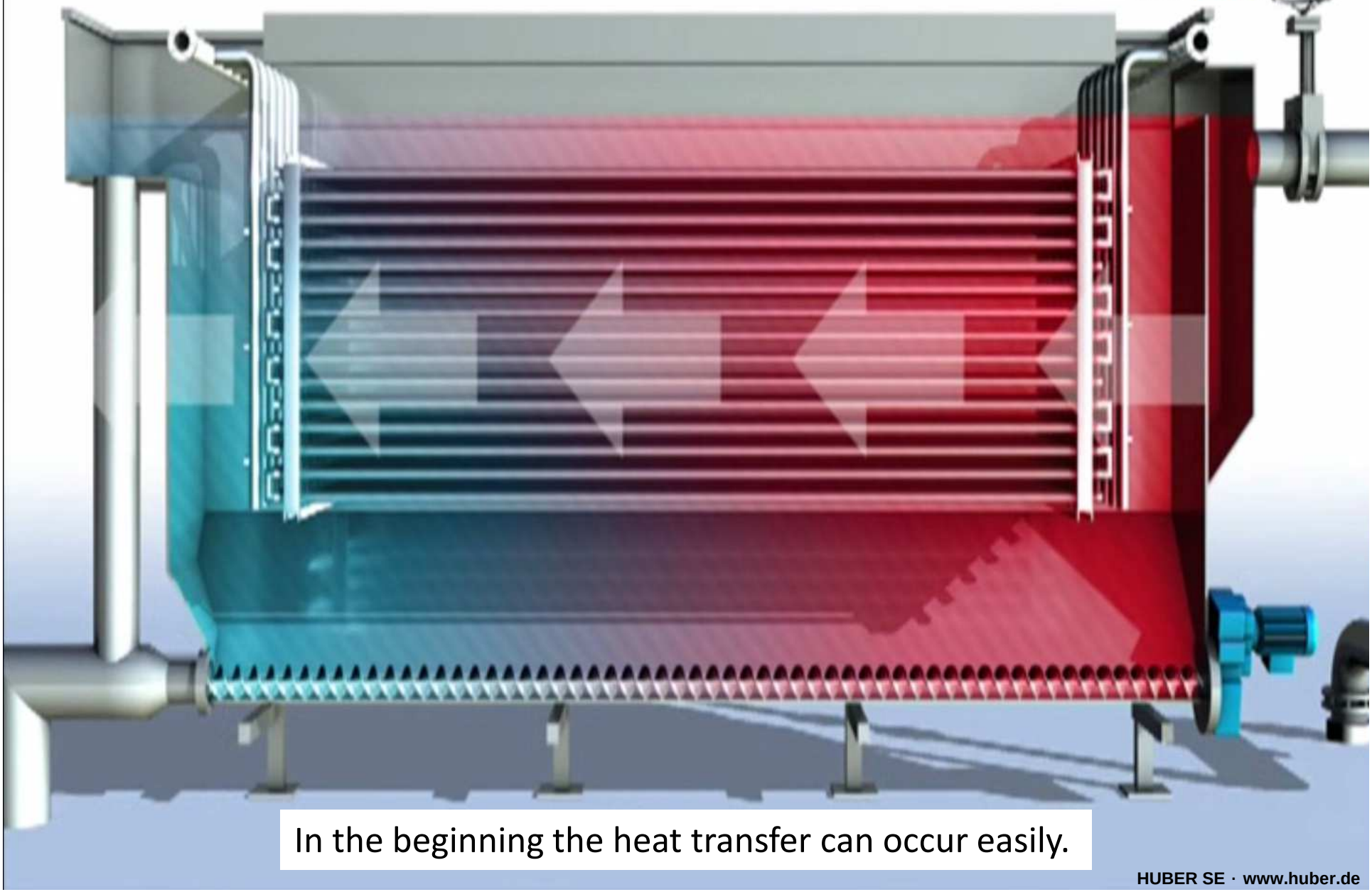


Wintower (Winterthur, CH)



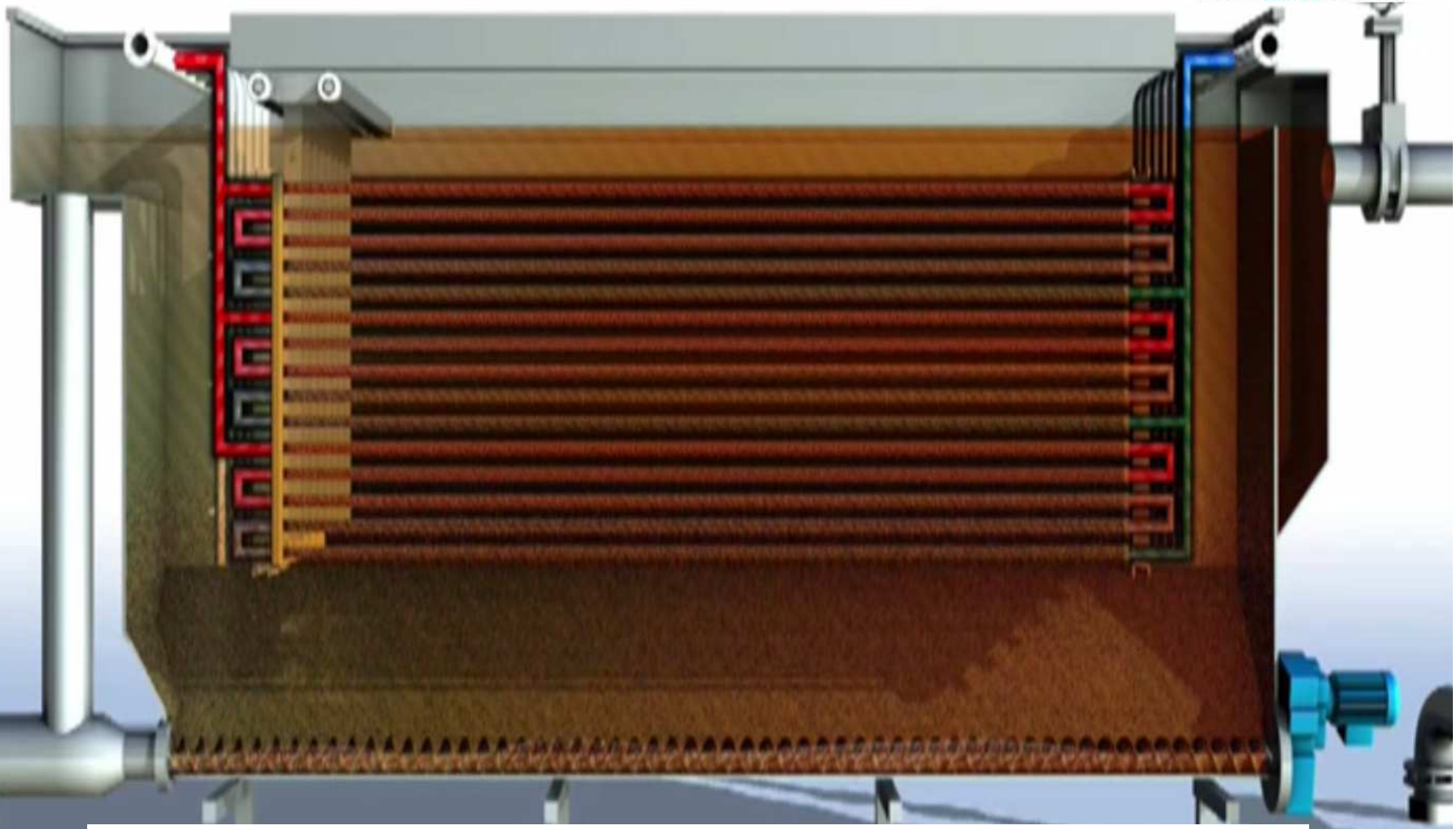
2 x heat exchanger RoWin BG 8

Automatic cleaning unit



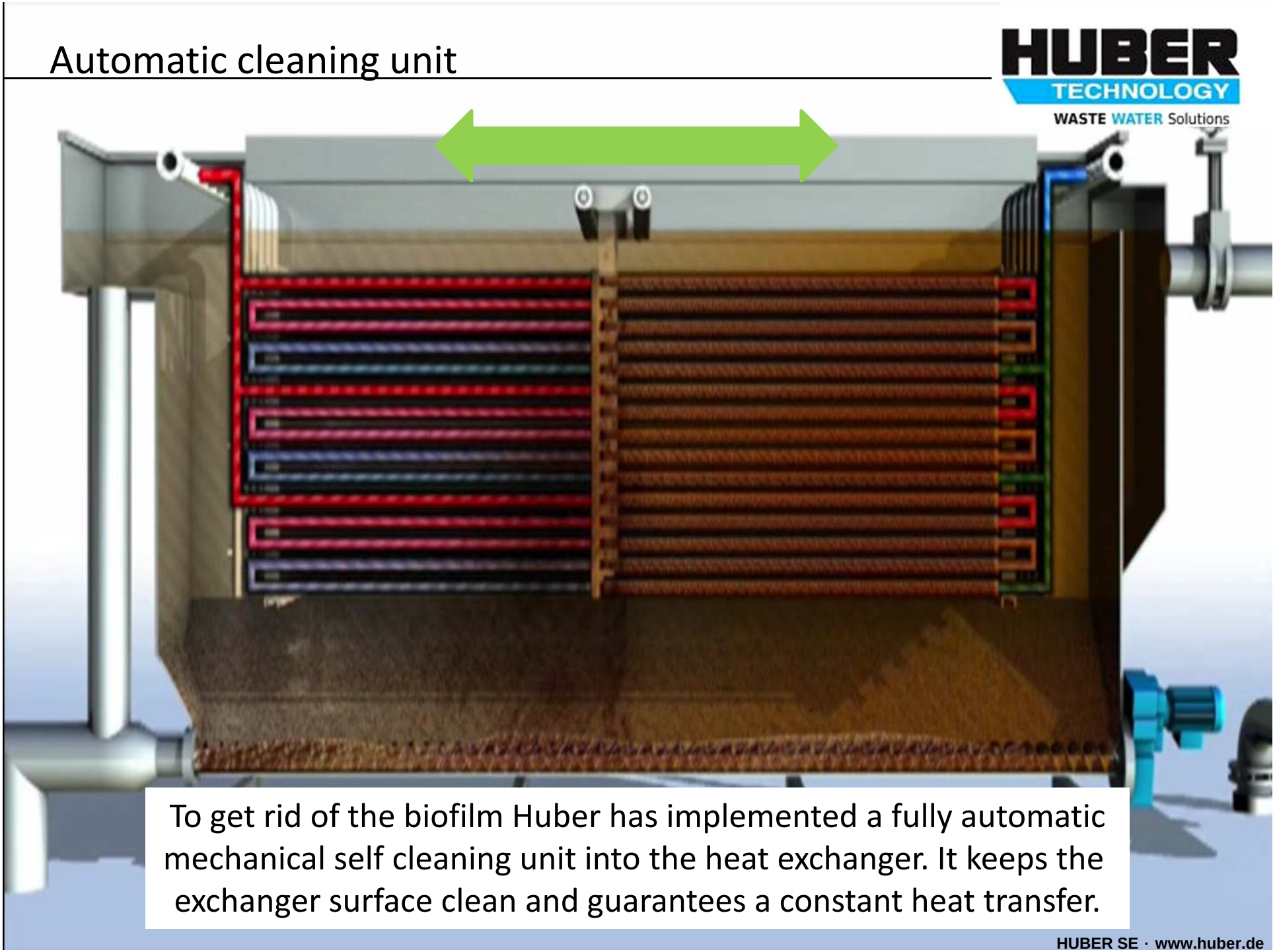
In the beginning the heat transfer can occur easily.

Automatic cleaning unit



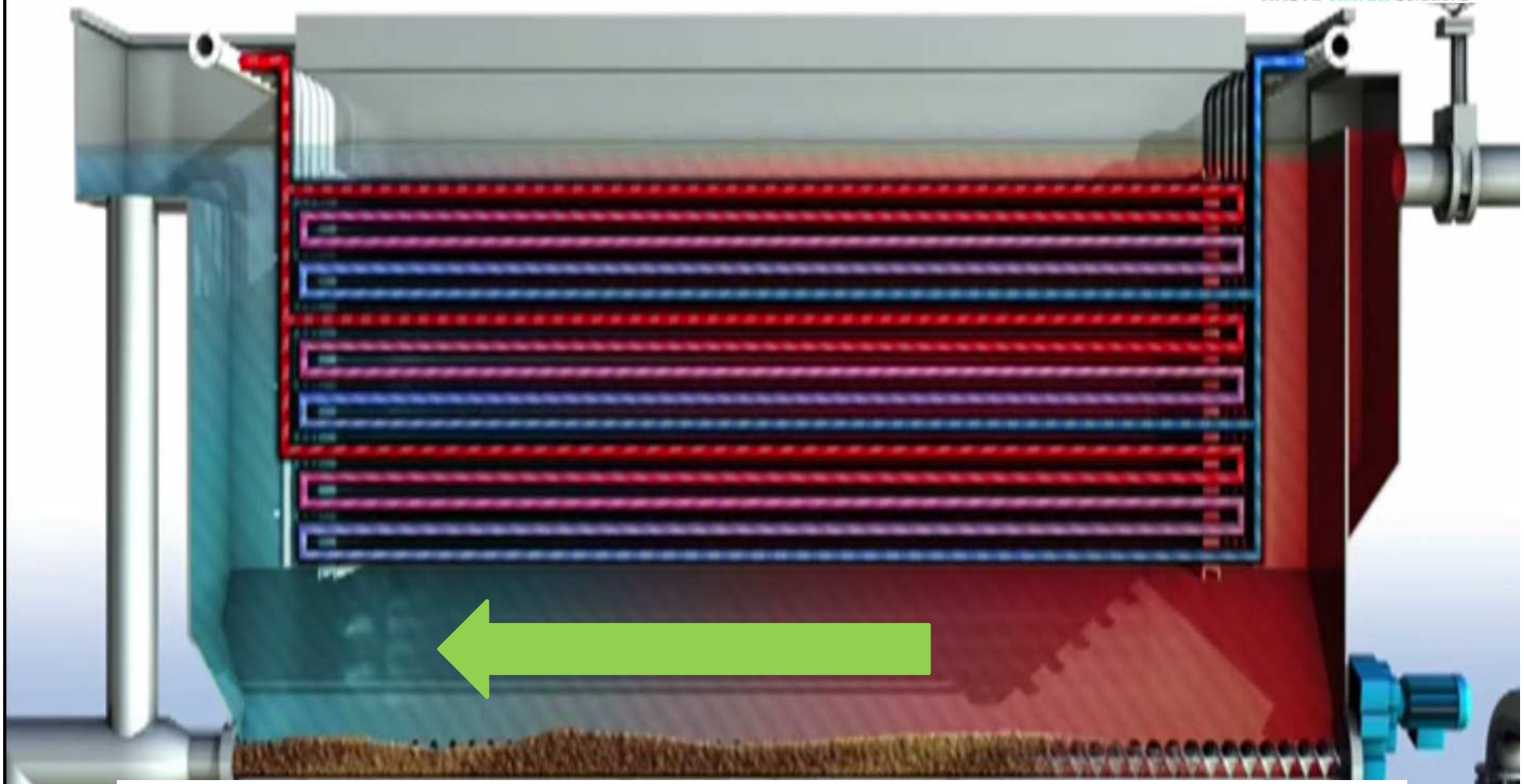
After some operational hours biofouling will occur and hinder
The heat transfer. Reduction in heat transfer due to biofilm up to 60%

Automatic cleaning unit



To get rid of the biofilm Huber has implemented a fully automatic mechanical self cleaning unit into the heat exchanger. It keeps the exchanger surface clean and guarantees a constant heat transfer.

Automatic cleaning unit



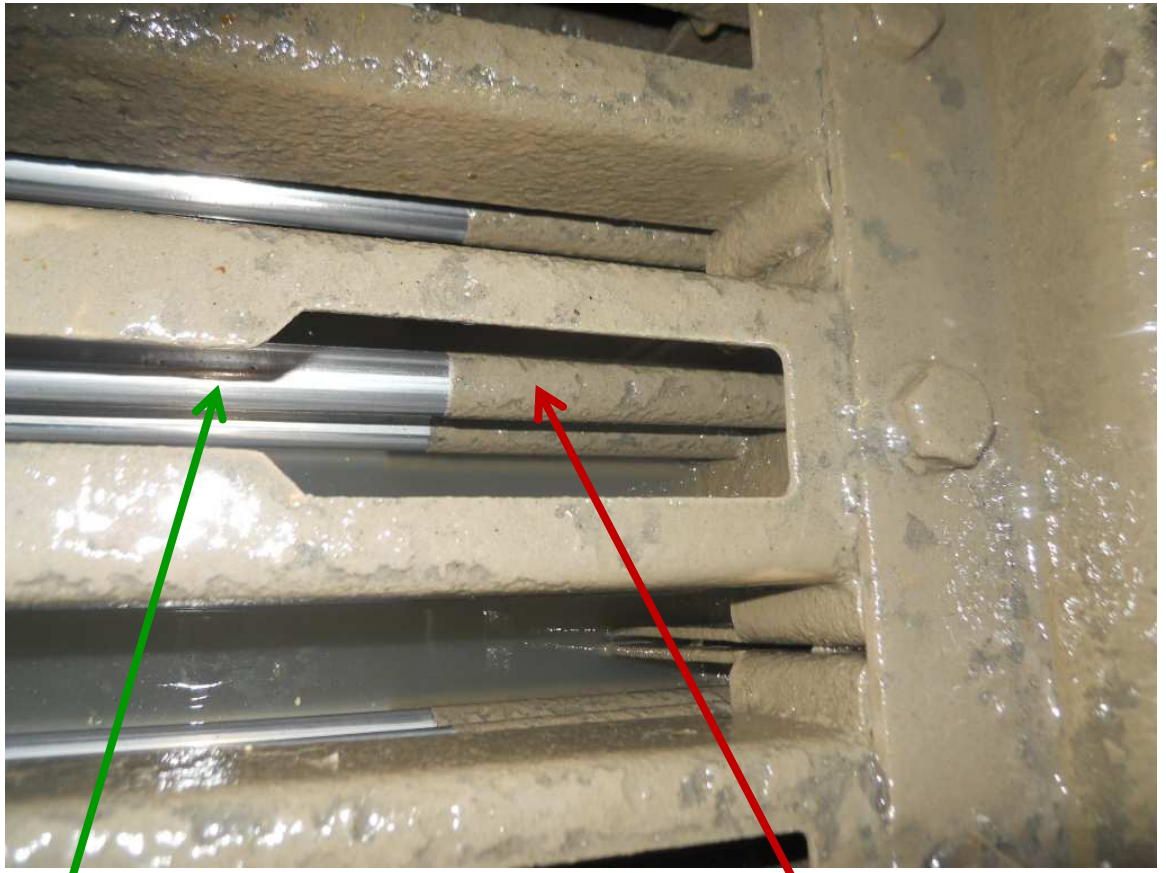
The solids settle down and get transported by means of a screw towards the outlet valve. From there they are flushed back to the sewer with the outpouring water.

Automatic cleaning unit

Do you want your heat exchanger to look like this?

Plate heat exchanger with 12mm plate spacing

Or like this?



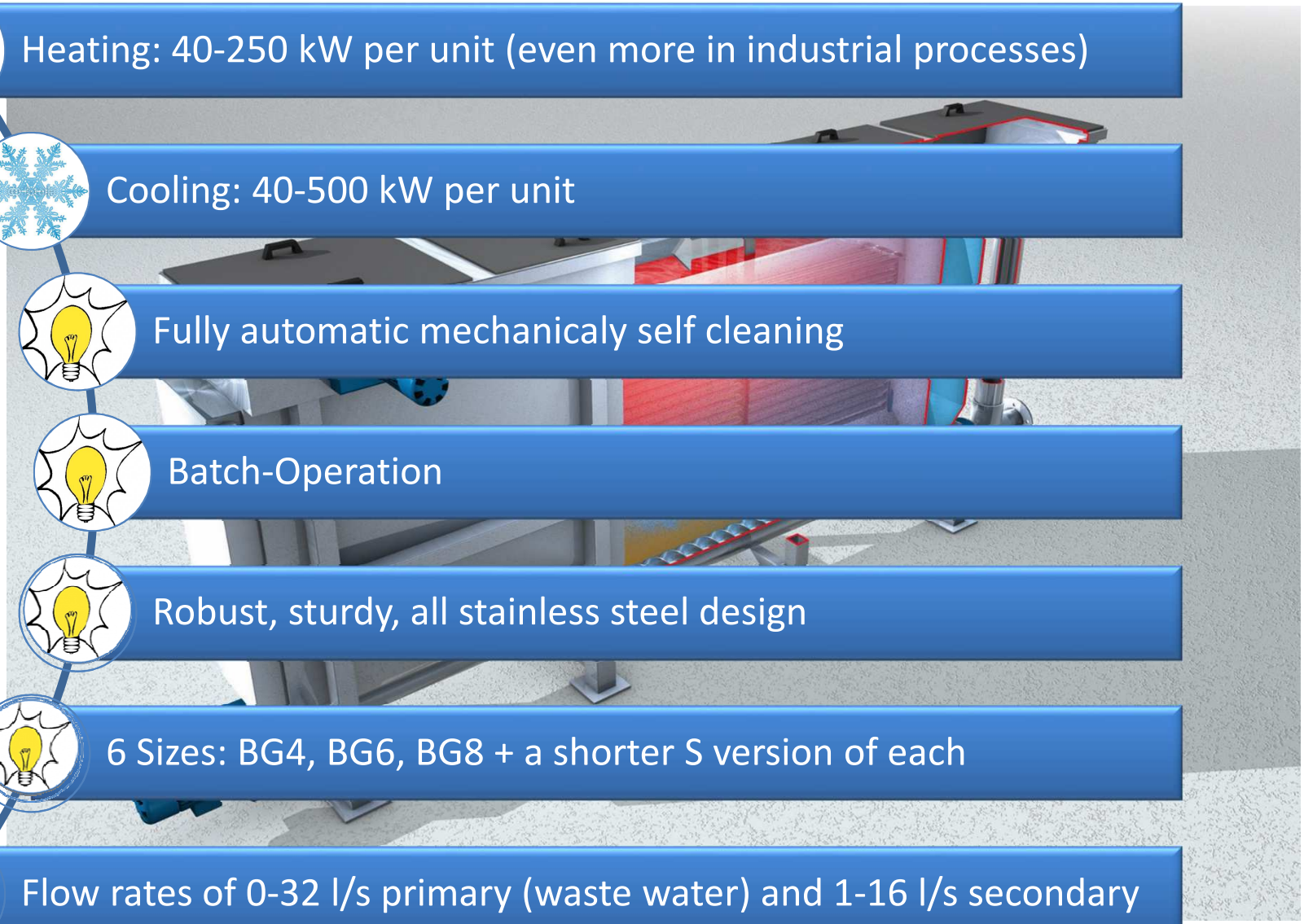
cleaned heat exchanger surface

Huber RoWin

heat exchanger surface with biofilm

Huber Waste Water Heat Exchanger RoWin

HUBER TECHNOLOGY
WASTE WATER Solutions

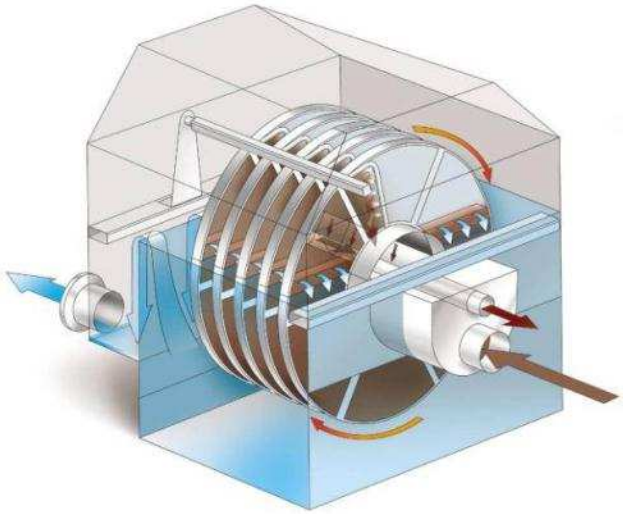


- Heating: 40-250 kW per unit (even more in industrial processes)
- Cooling: 40-500 kW per unit
- Fully automatic mechanicaly self cleaning
- Batch-Operation
- Robust, sturdy, all stainless steel design
- 6 Sizes: BG4, BG6, BG8 + a shorter S version of each
- Flow rates of 0-32 l/s primary (waste water) and 1-16 l/s secondary

Finsiling

HUBER Trommelfilter LIQUID (Stålduk fra 100 mµ)

HUBER Disc Filter RoDisc®



HUBER Disc Filter RoDisc®

HUBER Disc Filter kassett

Vaskepresser/ Ristgodsvasker

HUBER Vaskepresse WAP® SL HP

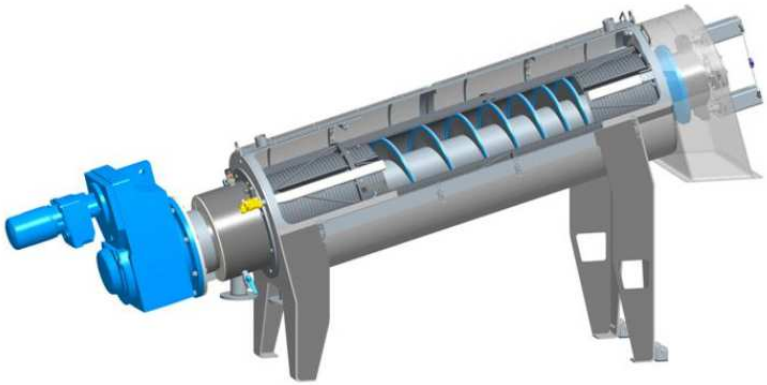
Slam fra Vaskepressen

HUBER Vaskepresse WAP® SL – Utvendig installasjon

Launder kanal (Vaskekanal fra rister til vaskepresse)

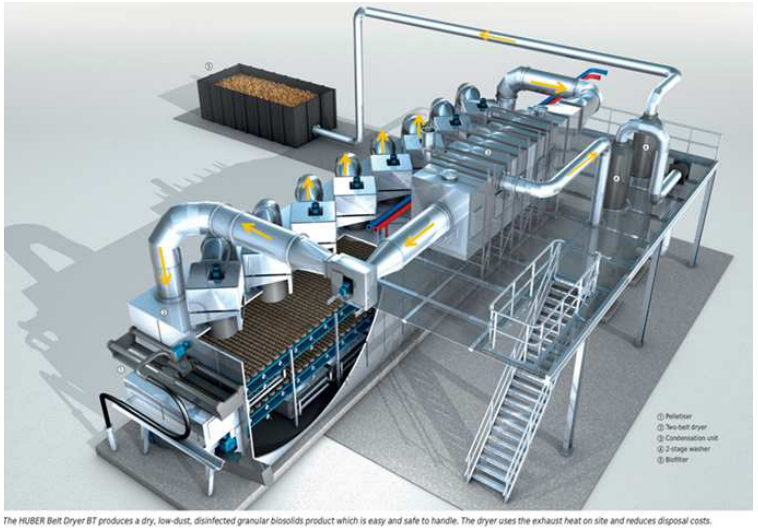
Slam Avvanning

Avvannet slam fra testkontainer



HUBER Skruepresse Q-PRESS®

HUBER Skruepresse Q-PRESS®



HUBER Båndtørk BT >90% TS

Sandfang og Sandvaskere

HUBER komplettanlegg ROTAMAT® Ro 5 (Grovsil, Sand og fettfang)

HUBER Coanda Sandvasker RoSF4

HUBER RoFas Septicmottak

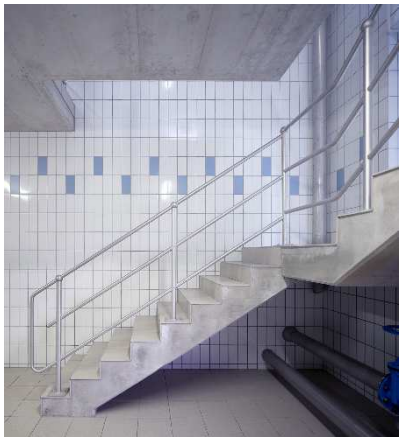
Overløp og Stormvannsrensing

HUBER Storm Screen ROTAMAT® RoK1 at an overflow discharge

HUBER Pumping Station Screen ROTAMAT® RoK4

HUBER Pumping Station Screen ROTAMAT® RoK4

Rustfri produkter



Rustfri produkter

Burglary-resistant stainless steel manhole cover SD3

Manhole covers SD8: back-up proof, load-bearing

Double-wing safety door TT2.2 / WK3

Pressure door TT7 with central lock and spotlight

HUBER Global Service

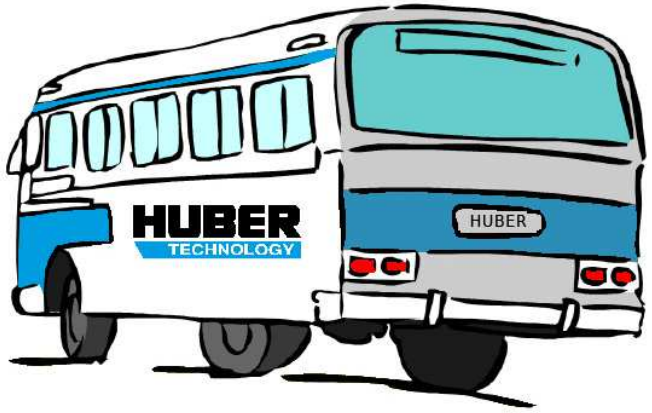
HUBER repair service – quickly available competence on site

HUBER Service Experts – worldwide activ for best support on-site

Studieturer til HUBER SE hver høst.

Besøker:

1. Fabrikken
2. Flere renseanlegg
3. Knytter kontakt med andre kunder
4. Besøker BMW eller Audi fabrik
5. Sosialt



Meld deg på nyhetsbrevet på:

www.huber.no

Meld interesse:

www.huber.no/Arrangementer

Ta kontakt: Elvis@huber.no Tlf: 97 15 35 14