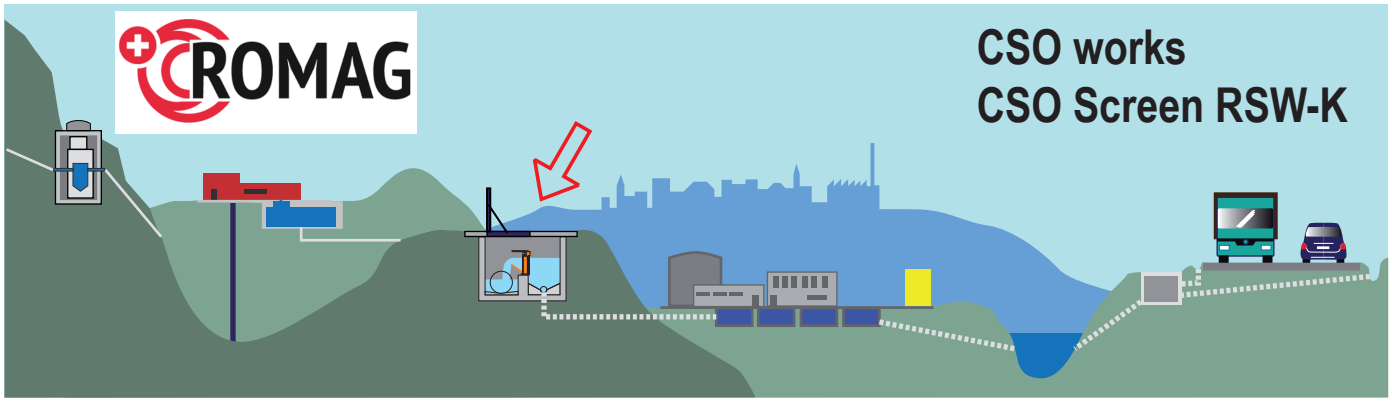


From the water catchment to the ecological treatment of the meteoric water : ROMAG solutions

Certified: ISO 9001 / ISO 3834-2

The basic information on all ROMAG CSO screens is summarised on sheet „CSO works, Overview of screening technology“, No. RD-3000-d. The function of the control system is described on sheet RD-3010-d. This present sheet describes the specific characteristics of the **ROMAG CSO screen RSW-K.**

WWTP Kolben, RSW-K 11x8/4
Weir wicket closed

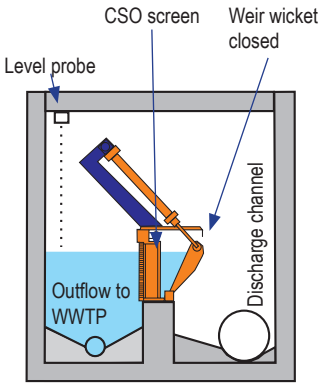
Benefits

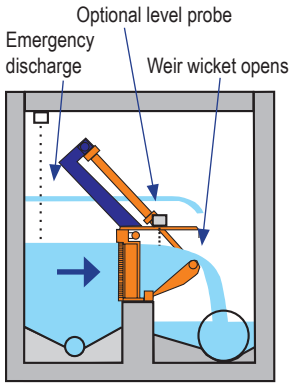
of the ROMAG high-performance CSO screen RSW-K:

- Optimum utilisation of available storage volume
- Dispenses with the need to make high investments in retaining capacity volume
- Drastically reduces the number of relief operations
- Prevents unnecessary contamination of the receiving water courses
- Allows reliable quantity measurements
- Has an increased efficiency when subject to part load
- Is safe and reliable to operate
- Permanently cleans mechanically
- Is corrosion-resistant
- Is rugged
- Requires little maintenance
- Transports the caught material from the inlet zone
- Materials either 316L or 304L

Function

The CSO screen RSW-K, fitted vertically between the discharge culvert and the relief sewer, reliably retains all visible solids





> 4 mm when the excess water flows through horizontally. It is mounted on the owner‘s prepared concrete sill. The height of the sill depends on the hydraulic survey. Type RSW-K is a combination of Type RSW and a controlled weir wicket, but the basic functions of the CSO screen are identical. The relief height can now be controlled on Type RSW-K with a control function. The weir wicket is controlled by two hydraulic cylinders. The aim of the control function is to discharge as little contaminated rainwater as possible into the relief sewer.

This works as follows: In basic position, the weir wicket is closed, i.e. no effluent or waste water can flow into the relief sewer. If the water level at the inlet end has reached a predetermined height, the weir wicket starts to open. A level probe which allows various level heights to be measured generates the signal. An optimum position of the weir wicket then corresponds to each signal. This achieves minimum discharge into the relief sewer. Cleaning is also performed by the cleaning carriage analogously.

Quantity measurement option:

A second level measurement system at the relief end and the fact that the position of the weir wicket is known by the displacement measurement system allows the relief rates to be detected, totalled and recorded permanently.

ROMAG CSO screen RSW-K, 14x8/4 for WWTP Telli at Aarau Switzerland

Design

The design of the RSW-K is identical to that of the RSW in the screen area. The same components are used. A rugged, moving weir wicket is attached by means of hinges and tight metal side panels in place of the static retaining panel. An all-round seal on the carrier frame of the CSO screen ensures tightness at three sides when the weir wicket is closed. When open, the weir wicket seals against the lateral guides. The weir wicket is driven by two control cylinders which move synchronously owing to the incorporated displacement measuring systems. The anchoring system of the control cylinders is integrated in the frame structure. The structure itself is thus not loaded additionally.
When the control cylinders are fully extended, the hydraulically calculated maximum angle of the weir wicket is reached. This prevents overloading of the screen surface owing to an excessively low relief height.

System planning

CSO screen RSW-K has already proven successful in very many applications. However, close cooperation with the offices and agencies involved is necessary in order to achieve a reliably operating installation. This is necessary in order to determine and comply with the hydraulic boundary conditions.
This concerns a streamlined feed to the CSO screen and discharge to the sewage treatment plant with the required downgrade:

- The caught material which is transported by the screen to a defined point must move continuously downwards into the discharge path. For instance, a shaft for the caught material may need to be used depending on local conditions.

WWTP Kolben, Level probe

WWTP Telli at Aarau, ROMAG CSO screen RSW-K 14x8/4 (Built in phase)

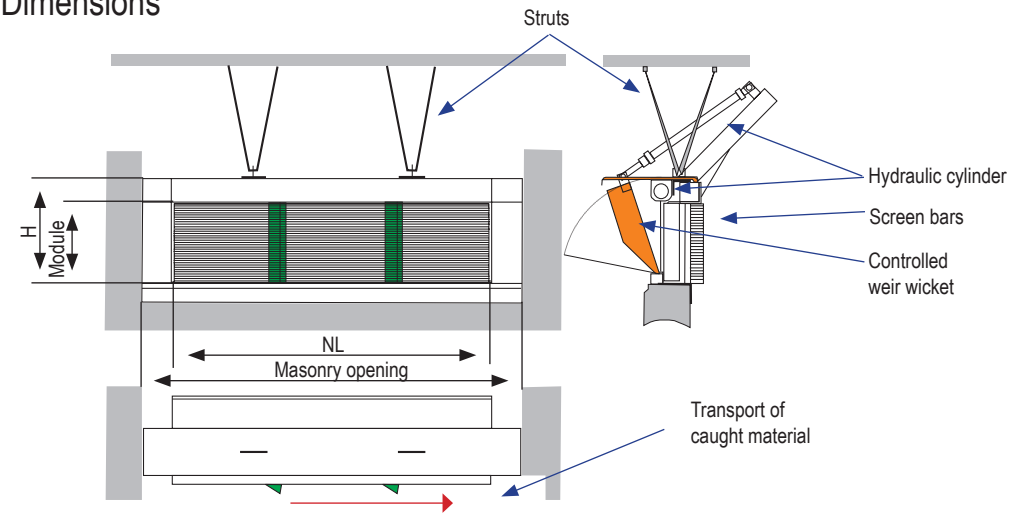
Preselection table

Nominal length **NL** in m		2	3	4	5	6	7	8
Tot.length in m		2.84	3.84	4.84	5.84	6.84	7.84	8.84
Masonry opening in m		3.00	4.00	5.00	6.00	7.00	8.00	9.00
Module	Height **H** mm	Average max. CSO screen capacity in m^3/s						
3	426	0.44	0.62	0.79	1.01	1.22	1.44	1.66
4	522	0.59	0.82	1.06	1.34	1.63	1.92	2.21
5	618	0.74	1.03	1.32	1.68	2.04	2.40	2.76
6	714	0.89	1.24	1.59	2.02	2.45	2.88	3.31
7	818	1.03	1.44	1.85	2.35	2.86	3.36	3.77
8	914	1.18	1.65	2.11	2.69	3.27	3.84	4.31
9	1010	1.33	1.85	2.38	3.03	3.67	4.20	4.85
10	1106	1.48	2.06	2.64	3.36	4.08	4.67	5.39
11a	1202	1.62	2.27	2.91	3.70			
11b	1252					4.49	5.13	5.92
12a	1298	1.77	2.47	3.17	4.03			
12b	1348					4.90	5.60	6.30
13a	1394	1.92	2.68	3.44	4.37			
13b	1444					5.13	6.07	6.82
14a	1490	2.07	2.88	3.70	4.71			
14b	1540					5.52	6.53	7.35

a = Height H for NL 2 to 5
b = Height H for NL 6 to 8

Such pictures are a thing of the past thanks to the use of the ROMAG high-performance CSO screen RSW-K.

Dimensions



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Date: June 2021