

COMBY PLANTS RCS3

Compact Systems for sewage effluent pre-treatment



MACHINE DESCRIPTION

The sewage acceptance unit is a system studied to receive and mechanically pre-treat sewage with a single compact unit. The wastewater piping is connected to the **RCS3** at the inlet flange.

Sewage is filtered to remove large particles, thus sand is settled and washed. Finally grease and oily particles are floated and scraped from the sludge surface. The conditioned effluent is afterwards discharged into the biological wastewater treatment plant.

WORKING LOGIC FOR COMBY PLANTS RCS3

Solid large particle included in the waste are captured and removed by the inlet fine screws-creen. The screw removes and compact the screenings before discharge. Along the conveying section is installed a washing system consisting of a set of nozzles where pressurised water is sprayed into the screenings themselves.

The washing system allows to remove fecal matter from the screenings discharging a neat solid which can be landfilled without bothering of smells or leakages.

At the discharge a built-in compactor is installed reducing the screenings volume by up to 50%. Once screened the sludge enters the aerated sedimentation tank where sand deposits on the bottom of the tank, while organics are kept in suspension by the air injection. The coarse air bubbles allow to wash out the sand and the settling of sand with a reduced organic content. The extraction screw removes and discharges the sand into the sand bin.

The **RCS3** type is also equipped with a grease and oil skimmer. A travelling floating skimmer is installed in a side channel where grease are concentrate by the air pattern and segregate through a reverse Thomson-like baffle. The skimmer removes on a timer the floating parts and discharges them through a discharge pipe.

MAIN ADVANTAGES FOR COMBY PLANTS RCS3

1. No leaks, smells or aerosols generated by the system.
2. Designed to handle wastewater with high organic content.
3. No drives in contact with the sludge.
4. No concrete casting required.
5. Low operation and maintenance costs.
6. Low costs for installation and erection.
7. Excellent screening performance with up to 52% solids capture ratio.
8. Screening aperture: 3 to 6 mm diameter.

GENERAL DIMENSIONAL DATA FOR COMBY PLANTS RCS3

Capacity is shown in m^3/h assuming a 6 mm perforated screen. Compact plants are available also as extended version. The extended version have the two conveyors elongated to allow to discharge at a higher level. This configuration is particularly designed for installations underground or in deep channels or pits. Here we provide some information about technical nature for this type of units:

- Filtration with 6 mm perforated screen.
- Screenings removal and conveying to the discharge point with a single drive.
- Screenings volume reduction up to 50%.
- Sand removal up to 90% of sand having size 200 micron and bigger.
- Floating grease and oils reclaiming.
- Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.
- Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.

R.E.M. RCS3 can be equipped with the following accessories:

- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.



STANDARD DIMENSIONAL DATA FOR COMBY PLANTS RCS3

RCS3 MODELS	RCS3/10	RCS3/20	RCS3/30	RCS3/40	RCS3/60	RCS3/80	RCS3/100	RCS3/120	RCS3/150
A - mm	3869	4599	5178	6678	6748	9748	12733	8288	9833
B - mm	2656	2656	2656	2656	4131	4141	4141	4870	4790
C - mm	1074	1074	1074	1074	1430	1429	1429	1930	1929
Ø INLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø OUTLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø GREASE OUTLET - mm	DN150	DN150	DN150	DN150	DN150	DN150	DN150	DN150	DN150
FLOWRATES - m ³ /h	36	72	108	144	216	288	360	432	540

IMPORTANT THE DESIGN IS TAILORED FOR THE APPLICATION AND MAY BE MODIFIED DEPENDING ON CUSTOMER'S NEEDS.

Materials of construction for fabricated parts: Stainless Steel AISI304 / Stainless Steel AISI316

Materials of construction of spiral: Stainless Steel AISI304 / Stainless Steel AISI316 / High resistance steel HRS

