

EN

WATER RECYCLING SYSTEM



EQUIPMENT

Hydrocyclonic recycling
system



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WATER RECYCLING SYSTEM: THE BEST SOLUTION TO OPERATE INDEPENDENTLY FROM WATER REFILLING

Thanks to the fine separation of the solid particles in suspension contained in the sucked water sludge, our recycling system allows to re-use such water without damaging the high pressure pump.

Main advantages:

- **MODULAR PACKAGE DELIVERING BETWEEN 200 AND 600 LITRES PER MINUTE OF RECYCLED WATER.**
- **CONTINUOUS FILTERING WITHOUT PERFORMANCE LOSSES**, by means of a sequence of some filters of different functions and sizes.
- **EASY TO USE BECAUSE THE SELF-CLEANING FILTERS DO NOT CLOG.** The rotor filter is equipped with a special mechanical scraping device.
- **A FINAL FILTERING SIZE OF 400 µm (ROTOR FILTER), 50 µm (CYCLONE FILTER) OR 15 µm (BATTERY OF HYDROCYCLONES) IS GUARANTEED** (with reference to particles that can damage the high pressure pump). The water is processed by different sequential filters: the first one (placed inside the tank) the so called “**rotor filter**”, with a filtering size of 400 µm, the second filter capable of a 50 µm (**cyclone filter**), and last filter with a filtering size 15 µm (**battery of hydrocyclones**).
- **WITH THE ADDITIONAL FLOCCULATING SYSTEM, POTENTIAL FILTERING DEGREE DOWN TO 5 µm.** Depending (based) on the working conditions and the characteristics of the collected sludge, the 3rd stage chemical (flocculant) filtering system combined with the standard first mechanical stages, allow to reach a potential 5 µm filtering degree.
- **LOW WEAR FOR THE HIGH PRESSURE PUMP.** The multiple filtering system preserves the pump against the rapid wear of moving parts.
- **THE SYSTEM AUTOMATICALLY CONVEYS THE SUCKED WATER DIRECTLY INTO THE SPECIFIC COMPARTMENT:**
 1. **SLUDGE COMPARTMENT**, decanting by gravity of heavy particles;
 2. **FIRST RECYCLED WATER COMPARTMENT (FOR VERSIONS WITH 3 COMPARTMENTS)**, first stage of filtering system;
 3. **SECOND RECYCLED WATER COMPARTMENT**, normally used for sewage line cleaning operations;
 4. **FRESH WATER (OPTIONAL)**, to be used by the operator for the final cleaning operation of the filters.
- **LOW WORKING COSTS THANKS TO THE CONTINUOUS WATER AVAILABILITY (LONG WATER AUTONOMY).** Recycling the water sucked from the sewage line, the equipment does not need to be refilled by fresh water, saving time and fuel consumption.
- **WITH THIS RECYCLING SYSTEM, THE SEPARATED SOLID PARTS DO NOT RETURN BACK INTO THE SEWAGE LINE.**
- **NO SAND-BLASTING EFFECTS, CONSEQUENTLY NO SEWER DAMAGES.**
- **FINAL DISCHARGE OF ONLY THICKENED SLUDGE WITH A MINIMUM PERCENTAGE OF WATER.**

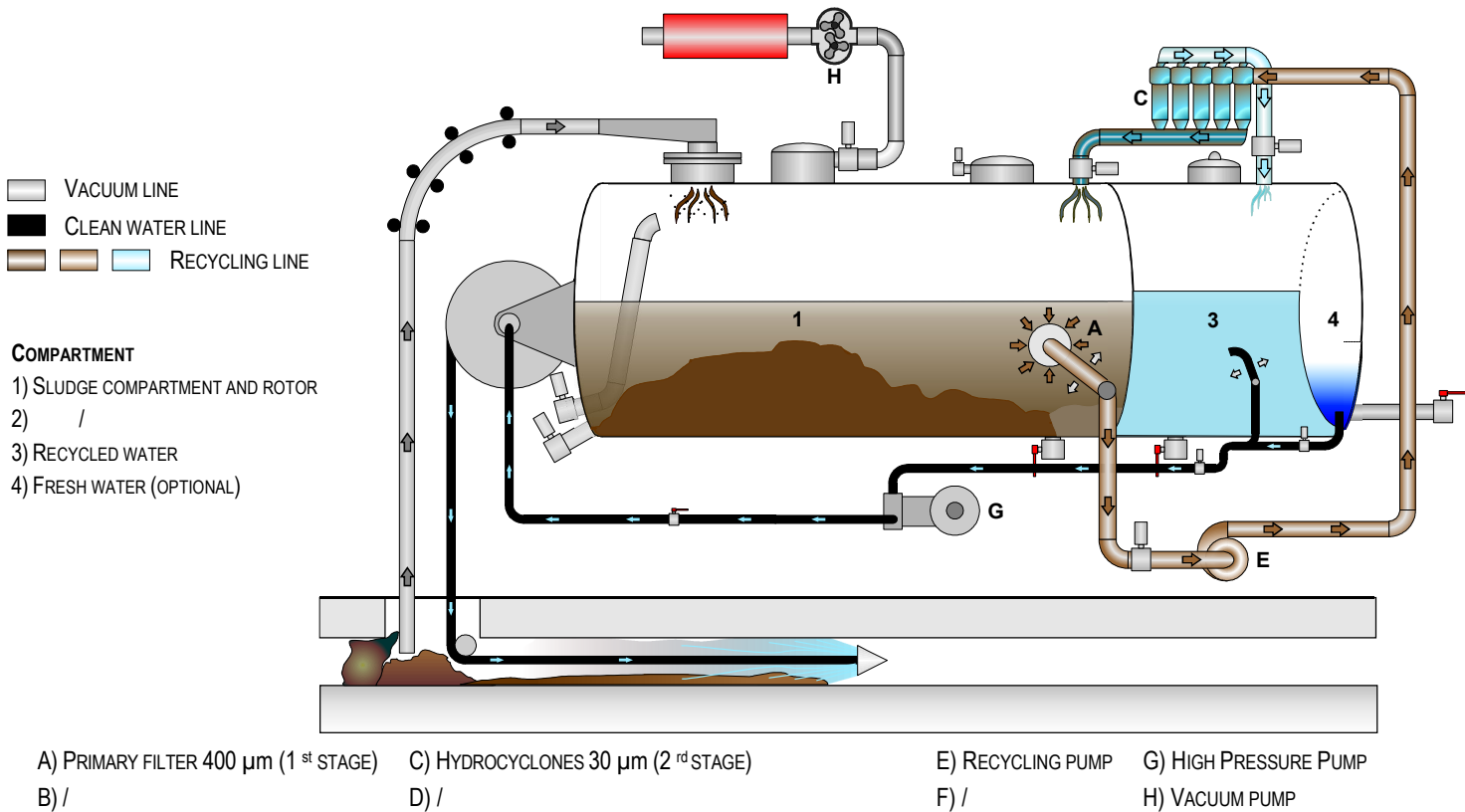
OPERATING DESCRIPTION – FILTERING STAGES

1. The polluted water sucked inside the tank is firstly processed by a primary filter (rotor filter) which separates the solids from the water down to about **400 µm** filtering degree;
2. Filtered water is conveyed to the filter cyclone type (for versions with 3 compartments), that performs processing of the water down to **50 µm**;
3. Finally, the water is processed inside of a battery of hydrocyclones, that performs further processing of the water down to **30 µm** in the absence of the second stage of filtration (see previous paragraph), or up to **15 µm** as the third stage of filtration.
4. Combining of the standard recycling system, with injection of flocculant in a number of selected points, it is possible to filter solid parts down to a potential size of **5 µm**.

MECHANICAL
FILTERING

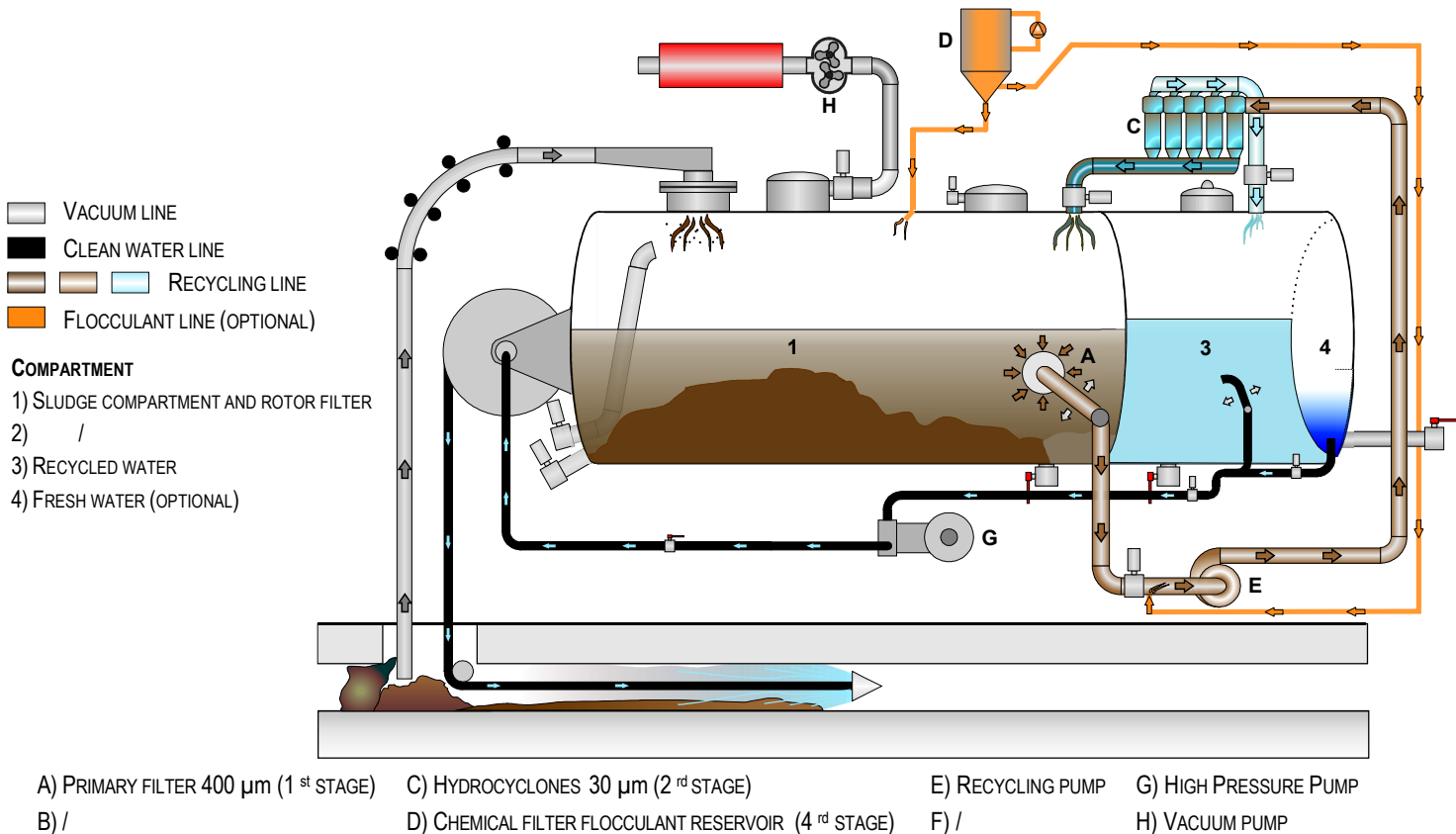
CHEMICAL
FILTERING

Recycling system principle - 2 Compartments with hydrocyclones



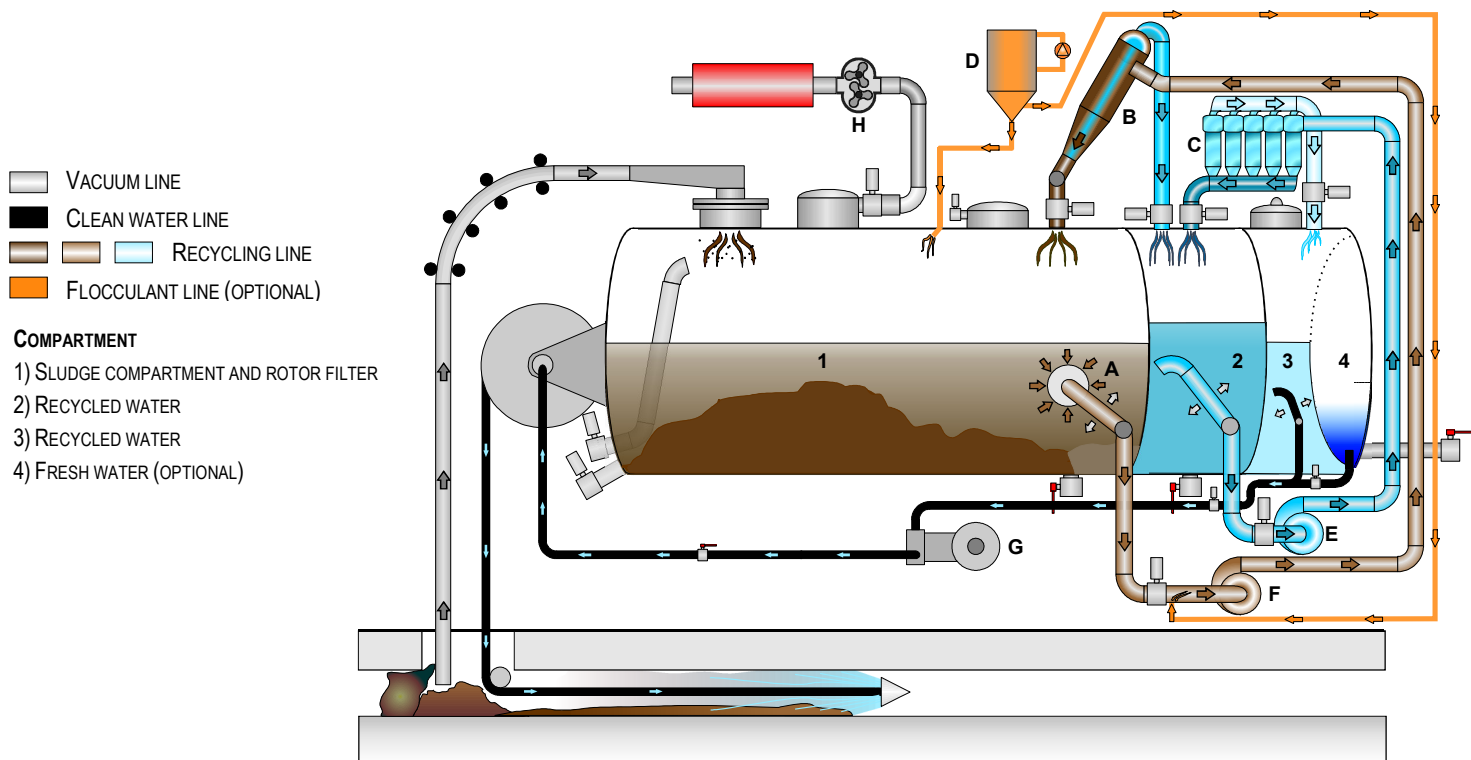
The compart. 4 corresponds to a clean water reservoir that can be used for cleaning purposes of the working area or for the cleaning of the equipment it self.

Recycling system principle - 2 Compartments with hydrocyclones and flocculant system



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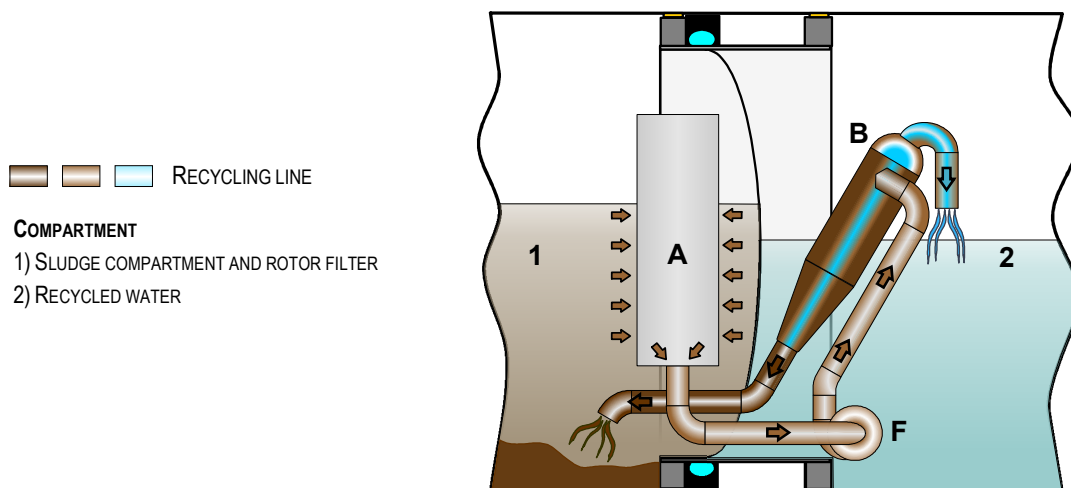
Recycling system principle - Compartments with primary cyclone, hydrocyclones, and flocculant system



The compart. 4 corresponds to a clean water reservoir that can be used for cleaning purposes of the working area or for the cleaning of the equipment it self.

Recycling system principle - Mobile partition

Volumes of compartment 1 and 2 (instead of being fixed volumes) can be changed by means of a movable partition. If this is the case, the recycling system requires the installation of both the gross filter and the cyclone filter directly on the movable partition.



A) PRIMARY FILTER 400 μm (1st STAGE)
B) CYCLONES 50 μm (2nd STAGE)

C) /
D) /

E) RECYCLING PUMP
F) /

G) /
H) /