



Abstract

A German company, specialised in industrial wastewater treatment combining several processes, seeks licensees for a patented vortex separation technology. The system can be adjusted to individual wastewater treatment requirements and is characterised by reliability, safety and better performance, as well as low energy and maintenance requirements.

Description

A German company is specialised in the treatment of industrial wastewater containing hydro-carbons.

The engineering and construction of the respective plants is targeted at offering efficient and economically sensible plants.

Therefore, they combine physical, physico-chemical and biological wastewater treatment processes. The products are special plants, optimised for customer demands (partly produced by hand).

They offer wastewater treatment plants from different divisions, like separation, treatment, pumping, clarification, cleaning, special plant construction, water recycling.

In the area of separation, the company has developed a new patented vortex separation technology with flow energy process. The related research and development was based on contemporary considerations involving natural physical processes. The system's new spiral shape was derived from the motion mechanisms of the galaxies which cause separation of light bodies inwards towards the centre and heavy ones outwards.

Four different laws of nature have been combined in a single system, in which the only source of energy needed is a drop of approximately 10 cm.

Centrifugal and centripetal forces separate sludge particles and light substances in the waste water. A pulsating force supports the coalescence effect (fine separation) of oil droplets and it influences the sludge sedimentation process favourably.

Using the adhesive force, the system's inner wall is coated with a composite material that attracts oil. Thus there is an additional attraction to the centripetal force, which already causes the droplets to move towards the inner wall. The droplets merge, become larger and rise quickly towards the surface. There the oil accumulates at the centre due to a slow circulatory flow.

The oils are removed via a funnel situated there. Because of the vortex energy with suction effect, a vortex is formed at the centre. Oil droplets move towards the oil removal and subsequently the oil collection compartment while the purified residual water makes its way onto the outflow.

A basic system is available which can be adjusted and individually tailored to specific applications.

The basic system contains all the important components, such as sludge trap, light liquid separator, coalescence separator, automatic closure devices and sampling system and can be supplied in the nominal sizes 3 to 150 l/s.

Innovations and advantages of the offer

- High reliability surpasses present-day German and European standards and laws
- Ecologically friendly and economically sensible solution
- All components in a single structure
- Small container volume
- High safety
- Low maintenance
- Low disposal costs



PROTECTING MAN AND ENVIRONMENT

Technology Offer

Waste water treatment by new vortex separation technology with flow energy process (08 DE 0855 0IPD)



Current and Potential Domain of Application

Due to the flexibility of the system it can be adjusted to many applications:

Waste water from industry, refineries, oil exploration, airports, barracks, scrap yards, premises of car dealers and haulers, facilities for washing of cars, metal working business, bilge water, drainage of large tank farms.

For further information (including IPR status) please contact:

Susanna Chericoni
Phone: 39 050 931620
Fax: 39 050 931640
Email: s.chericoni@cpr.it