RHeX

WASTEWATER ENERGY SOURCE

PURE INNOVATION MEETS SUSTAINABILITY

RHeX is a non-conventional rotating heat exchanger especially designed to **recover otherwise wasted energy** out of **polluted wastewater**. Traditional industrial and civil heat exchangers (shell and tube, plate, pipe in pipe, etc.) tend to clog, foul or otherwise lose efficiency when processing dirty fluid, as they are not suited for dirty water heat recovery from mechanically polluted effluents.

RHeX instead is an **innovative waste heat recovery unit** in the way it harvests energy from fluids with high levels of mechanical impurities: by holding a **constant rotation** of the exchanging surfaces (the discs), it is able to **keep itself clean**, thus maintaining a **constant efficiency**.

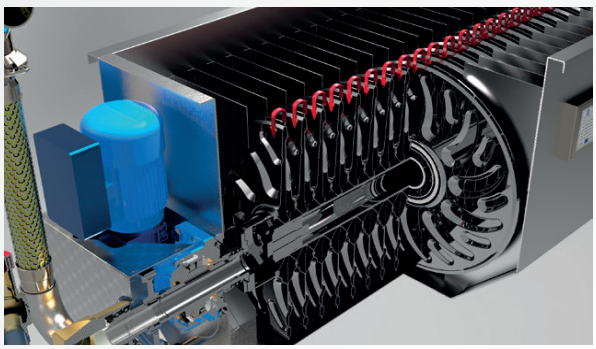


Fig. 1 – Cross section of a RHeX unit.

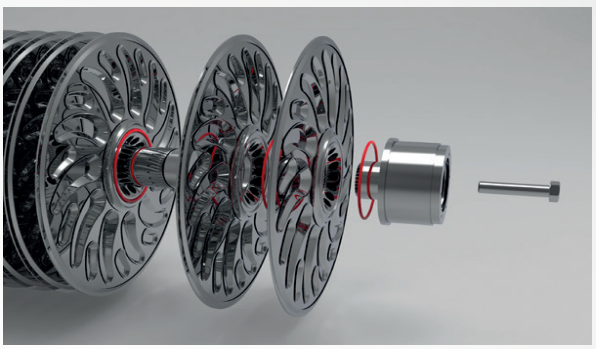
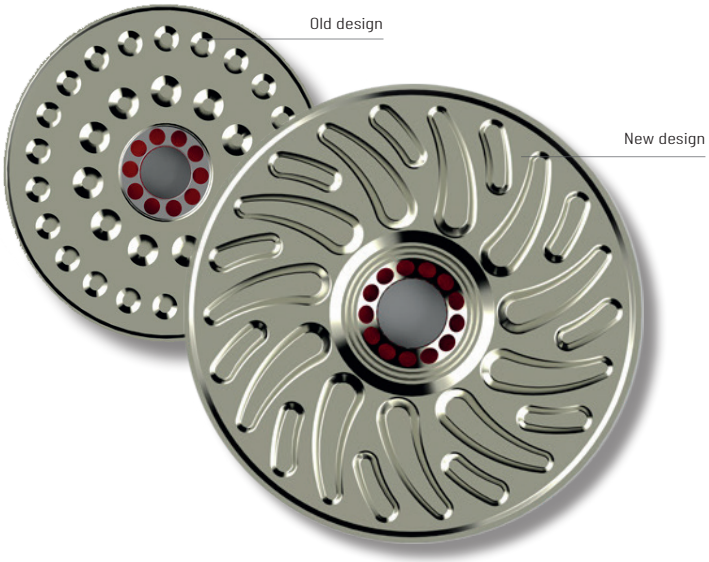


Fig. 2 – Modular design of new RHeX rotor.

WHY IS THE **RHeX DIFFERENT**

The patented RHeX design consists of two main elements: a stainless-steel trough, in which the dirty effluent flows by gravity, and a series of exchanging shells connected to a long hollow shaft, i.e. the rotor, inside which the clean process water flows, rotated by a small electric motor.

By keeping all pollutants in suspension, the stirring action of the rotation maintains the actual surface of the disks clear, thus increasing the constant thermodynamic efficiency of the exchanger.



INNOVATION

Continuous research is constantly improving RHeX technology

1. **Lenticular shells:** modular units easier maintenance

2. **New patented blade design of the disk dimples:** pumping action, better self cleaning ability

3. **Improved reticular structure of the dimples:** higher pressure resistance

4. **Reduced disk pitch:** more compact design, higher efficiency

5. **Better fluid-dynamic control:** higher turbulence & efficiency, better self cleaning

REQUIREMENTS

NO FILTER

NO CLEANING

COMPACT UNIT

QUICK & EASY INSTALLATION

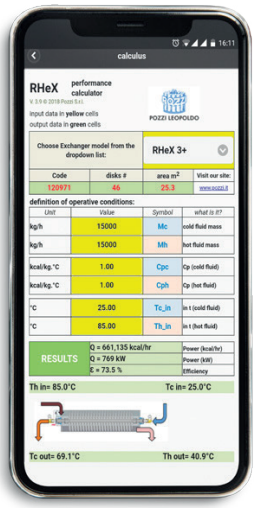
EXPECTED **SAVINGS**

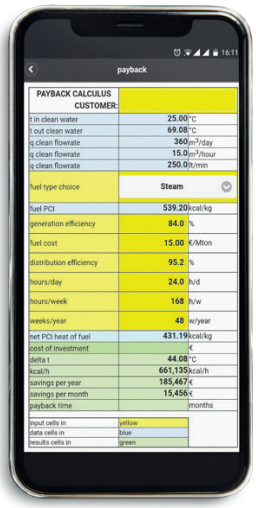
POZZI has developed also an **innovative simulation program**, which can calculate the resulting temperatures and energy savings when using RHeX in your process.

The high efficiency of RHeX gives a very quick return on investment, easily within 6 months*.

* Payback is dependent on plant conditions and local energy costs

For the **high reliability** and **high efficiency**, as well as **fast payback**, POZZI RHeX has been selected by many organizations as a valuable innovation that is **financially profitable** while being sustainable and **planet friendly**.





ENVIRONMENTAL IMPACT OF RHeX

RHeX is an **environment friendly solution** while also financially profitable for the end user/investor. **In industrial applications, a single RHeX 30 unit can recover in excess of 3 GW of thermal energy per year**. This not only equates to about 89,000€ saved in energy costs (steam at 15 €/Mton), but it also affects positively the environment.

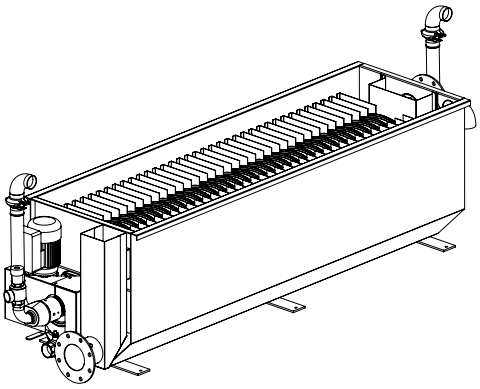
In fact, the alternative for producing this same amount of thermal energy would be burning 276,000 Sm3 of natural gas, equal to 540 Mtons of released CO2. **An impact on the environment that would require planting 700 trees to counteract.**

Throughout the years, POZZI has already installed more than 5,500 rotating heat recovery units around the world... a large forest, indeed.

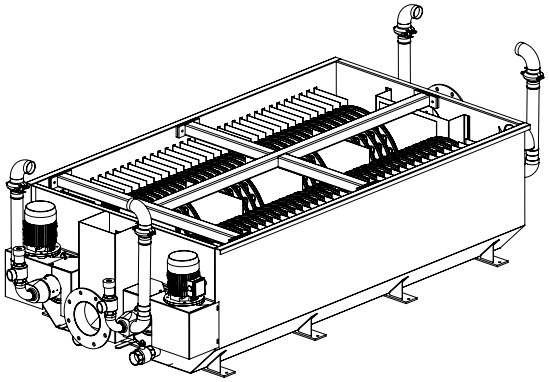
The RHeX project has received funding by the European Union's **Horizon 2020 Research and Innovation Program** under Grant Agreement n. 723930.

OUR TESTIMONIALS

RHeX **SINGLE–ROTOR UNIT**



RHeX **TWIN–ROTOR UNIT**



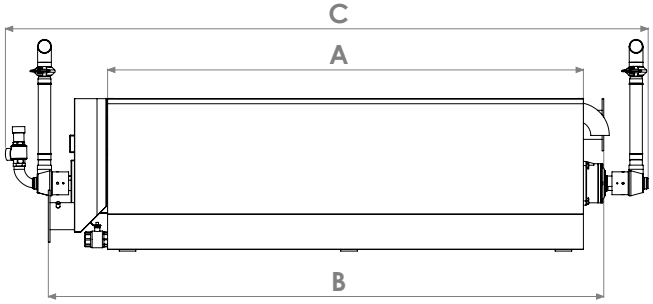
RHeX **SINGLE–ROTOR UNIT**

MODEL	A mm	B mm	C mm	D mm	Code	Suggested max flow m³/h
RHeX 20	1683	2066	2485	735	120868	9,6
RHeX 20+H	1683	2066	2485	885	120868H	9,6
RHeX 30	2288	2671	3090	735	120871	14,4
RHeX 30+H	2288	2671	3090	885	120871H	14,4
RHeX 2+	2096	2305	2889	735	120968	12
RHeX 3+	2892	3101	3680	735	120971	16

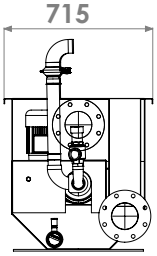
RHeX **TWIN–ROTOR UNIT**

MODEL	A mm	B mm	C mm	D mm	Code	Suggested max flow m³/h
RHeX 40	1683	2043	2485	735	120872	19,2
RHeX 40+H	1683	2043	2485	885	120872H	19,2
RHeX 50	2013	2373	2815	735	120873	24
RHeX 50+H	2013	2373	2815	885	120873H	24
RHeX 60	2288	2648	3090	735	120874	28,8
RHeX 60+H	2288	2648	3090	885	120874H	28,8
RHeX 4+	2096	2305	2889	735	120972	24
RHeX 5+	2528	2737	3410	735	120973	30
RHeX 6+	2892	3101	3680	735	120974	32

RHeX **SINGLE / TWIN**



RHeX **SINGLE ROTOR UNIT**



RHeX **TWIN ROTOR UNIT**