POZZI LEOPOLDO

RHeX

new

Modular shells

Enhanced rotating heat exchanger

The natural evolution of the winning RCR design

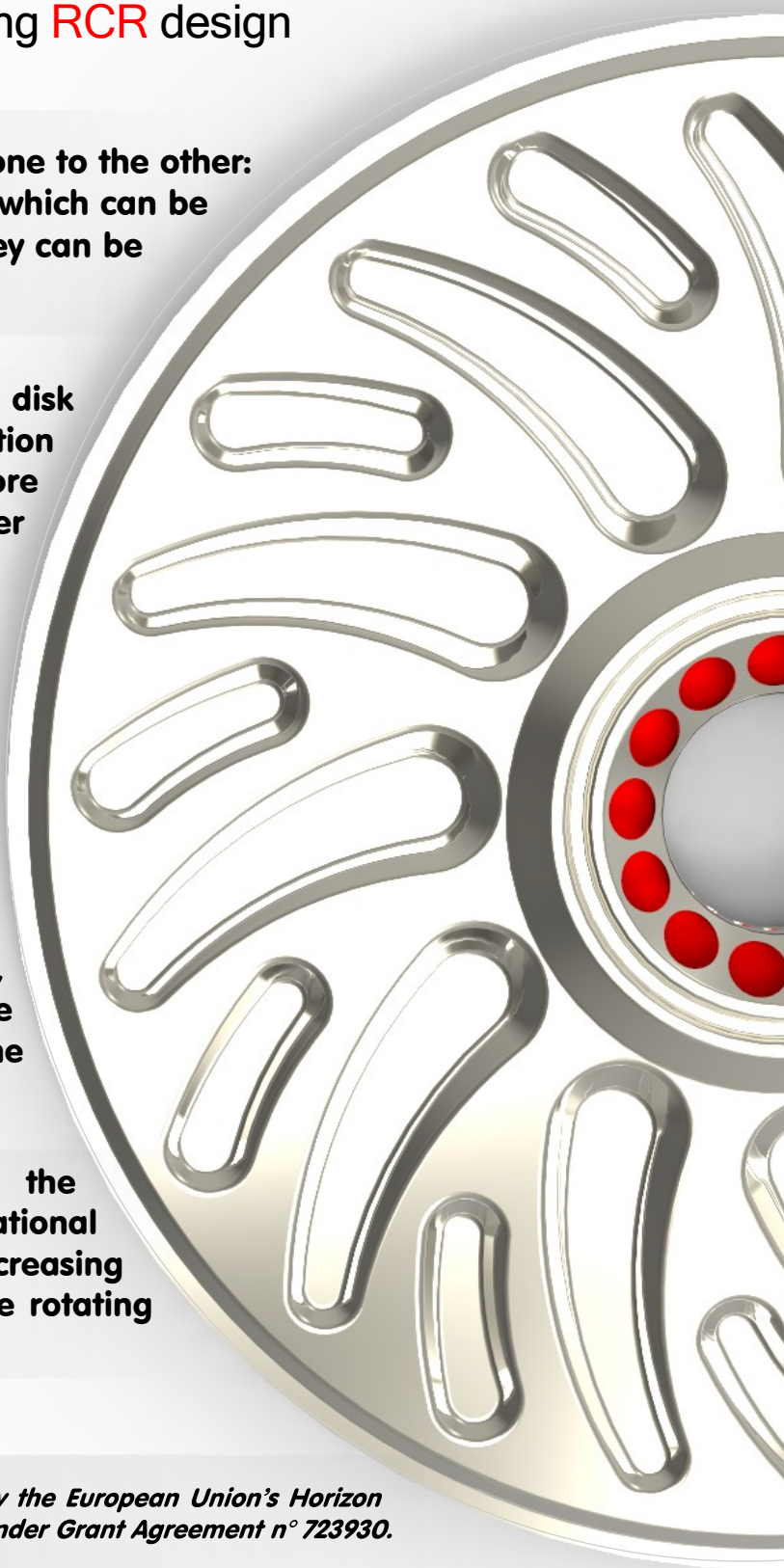
Lenticular shells are not any more welded one to the other: the new design makes them modular units which can be mounted freely on the supporting shaft. They can be thus removed and interchanged.

The new patented blade design of the disk dimples allows for a positive "pushing" action on the effluent, making the unit even more suitable for thick and heavy fluids and further reducing the generated pressure loss.

The reticular structure of the dimples and their new welding structure create a much more pressure resistant disk: with a bursting pressure of 36 bars, it safely allows for a rated inner pressure of 5 bars.

The reduced disk pitch increases the compactness of the exchanging surfaces, making it possible to significantly increase heat transfer in the same footprint of the original RCR design.

The better fluid-dynamic control of the generated turbulence allows for higher rotational speed of the exchanging surfaces, thus increasing the self-cleaning, anti-fouling action of the rotating exchanger.



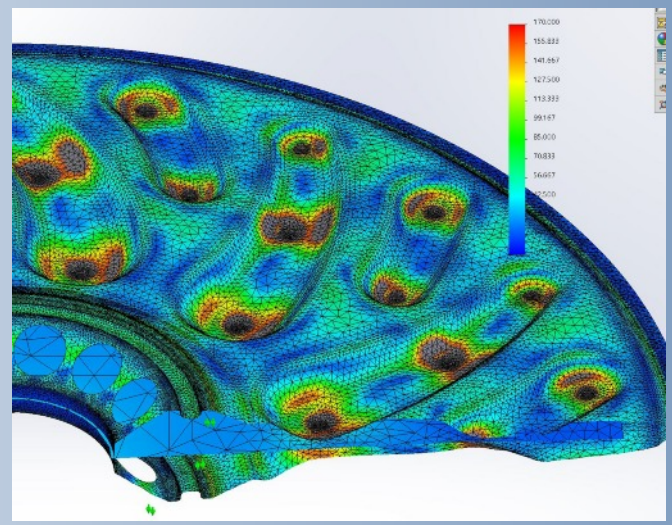
The RHeX project has received funding by the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement n° 723930.

How to turn an acclaimed winner into an even better performer

With more than 5,000 units sold worldwide, the **RCR rotating heat exchanger** has gained a "*de facto*" status as ***best practice*** to recover heat from very polluted streams. Time passes and technology advances, thus, after 25 years of undisputed success, we completely re-invented the best heat recovery unit on the market.
A painstaking computer-simulation engineering effort has brought to the development of what will be the next standard self-cleaning exchanger. The new design has been granted an International Patent in 2013 and it is ready for the market.

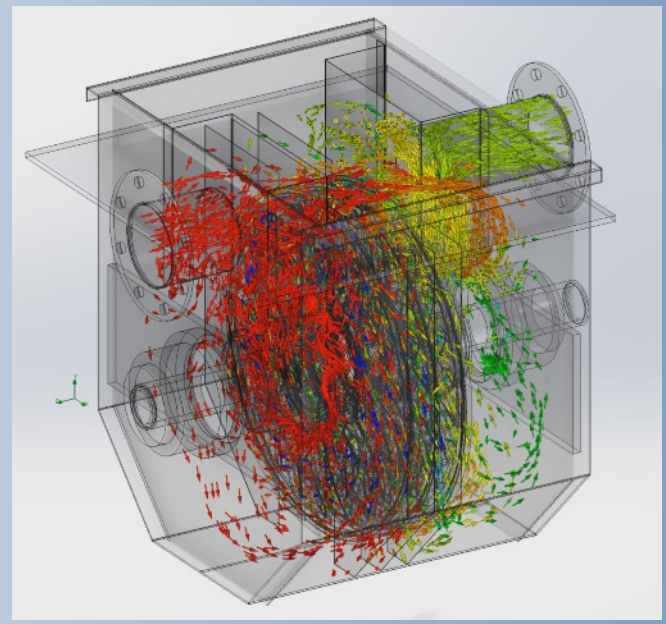
Accurate finite-elements analysis has allowed a dramatic improvement of the structural rigidity and the pressure resistance of the disks, while the novel teardrop shape of the reinforcing dimples has proven to enhance the dynamic flow pattern of the fluid in the exchanger.

Technology towards lower maintenance



Particle-motion and thermal analysis have refined the exchanger physical details to improve heat transfer while minimizing boundary layer conditions and increasing the dynamic shear stresses near the surfaces in order to enhance the self-cleaning action of rotation.

Technology towards higher efficiency.



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