

Breaking barriers. New fluid dynamics takes flight. Towards innovative designs. Advanced technologies that result in the most advanced pumps. Making them as light, reliable and energy-efficient as possible. On our way to the future's beating heart.

# BRONSWERK<sup>®</sup> HEAT TRANSFER

Dynamic Heat Exchange Solutions

Radiax<sup>®</sup>

## The field of operation of New Fluid Dynamics



“Yes is my answer, what’s your question?” Now that is typical for our organisation. Not only is our know-how extremely extensive, we actually make this know-how applicable. That’s why we can always provide an optimal answer to our clients’ questions.”

Frans Hermkens – Senior Sales Manager Bronswerk

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Bronswerk solves heat transfer and fluid-flow problems. We optimise existing processes and develop innovative products. This allows us to offer our clients the most efficient and advantageous solutions. Guaranteed to be sustainable and energy-efficient.

Bronswerk is to be found in the midst of global action. Both literally and figuratively. Our location in Nijkerk is ideally situated. Easily accessible by car and public transport. Our office breathes innovation. A high-tech creative environment, both for you and for ourselves. An inspiring environment that produces the best possible solutions.



No development, no progress. That’s why we re-invent each day. Our innovations make this world a more sustainable place, by using less raw materials and energy. Our Radiax<sup>®</sup> Technology is based on new fluid dynamics, which resulted in a compressor with an operating range rather than a single operating point. A single-stage pump with continuously variable speed. Yet very small in size. A unique compressor, which combines high gas-flow combined with an unsurpassed increase in pressure. It can simultaneously handle two phases, liquid and gas. Advanced software controlled. One of a kind. Breakthrough technology.

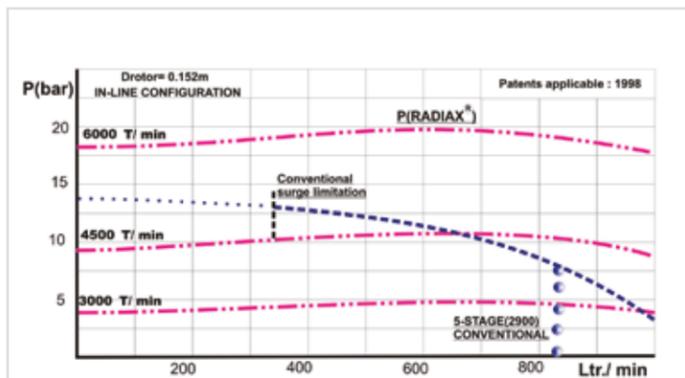
With the Radiax<sup>®</sup> Technology, we have developed new processes that were impossible to achieve with conventional techniques. Processes that provide us with tremendous energy-efficiency. Almost too high to be comprehended by clients and partners. In Radiax<sup>®</sup> Machinery, we apply this breakthrough technology with a COP-value increased to as high as 10.



Radiax®

Today's Development  
creates the Technology  
of the Future

# Dazzling Innovation bordering the Impossible



Radiax® Pump performance

- High-tech menu-driven pump
- In a single stage from 1 bar to 20 bar
- Maximized flexibility, minimized complexity
- Two-phase pump (liquid and gas)
- Volume and pressure can be varied independently
- High speeds flawlessly
- Hybrid axial/centrifugal build-up
- Many times lighter and more compact than conventional pumps
- Cavitation-free

Our principle is clear. We devise technically advanced and high-quality solutions and processes. Technologies that work so well that they are hard to believe. And we live up to it. We constantly invent optimized processes. We innovate up to what the client thinks is the limit.

### X-factor technology

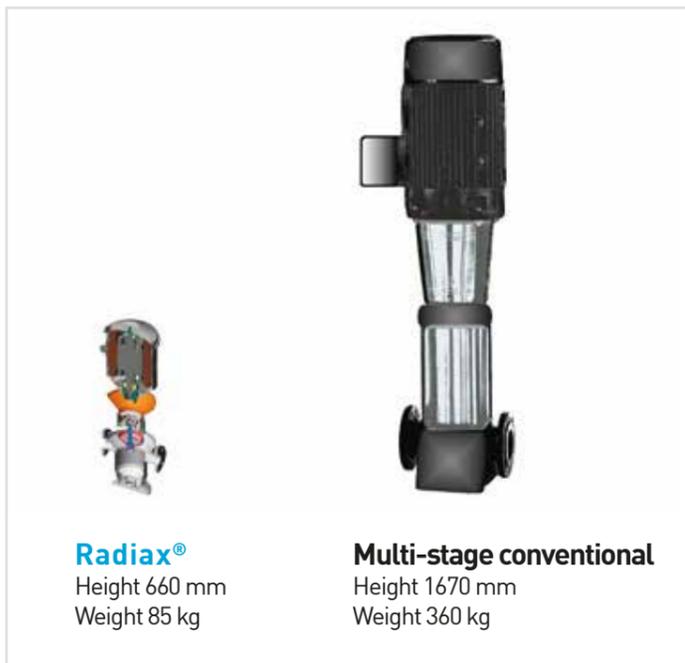
The Radiax® Technology we have developed borders on the impossible. Insanely good. All the limitations of classic pumps eliminated, just like that. We are talking about a volume displacement like pump with a 20 bar per stage pressure rise. That is ten times higher than most conventional pumps. What this means for onshore and offshore gas and FPSOs, for instance, is unprecedented.

### Advanced sustainability

Reliability is key for pumps. Low-maintenance. Low-failure rate. At the same time saving hugely on operational expenses. These machines should be operational for years. Technically advanced. Silent and energy-efficient. Compact and lightweight. We foresee the day when all conventional pumps will be replaced by this pump, the Radiax®.

“ Bronswerk is pushing the boundaries of what is physically possible in the realm of air-cooled coolers. Their expertise and innovative ideas, combined with our industry-leading FloEFD Concurrent CFD technology, enables them to expand the frontiers of understanding fluid mechanics and dynamics to deliver truly innovative products that meet the strict environmental regulations and manufacturing demands of their customers. ”

Dr. Erich Buerger - General Manager, Mechanical Analysis Division, Mentor Graphics.



Radiax®  
Height 660 mm  
Weight 85 kg

Multi-stage conventional  
Height 1670 mm  
Weight 360 kg