

Case | Datacenter cooling, Greece

Grundfos dives deep into Coolblock tanks with MTRE pumps for immersion cooling applications in Greece

In a pilot OEM project in Greece's first immersion-cooled data centre, Grundfos MTRE pumps met all the requirements for recirculating the dielectric cooling liquid with ultra-premium energy efficiency.

GRUNDFOS 

Possibility in every drop



An immersion-cooled rack at the Synapsecom data centre

The situation

Synapsecom Telecoms (www.synapsecom.gr), established in 2007, has grown to become a key player in the telecommunication, data centre and IT sectors, with shareholders from Cyprus and Greece.

The company is built on a foundation of innovation, with a mission to deliver cutting-edge solutions that drive progress and enhance connectivity for its fast-paced industry. Its data centre is the first in Greece to implement immersion cooling and integrate it into the broader data centre colocation and cloud service portfolio for Greek and international customers.

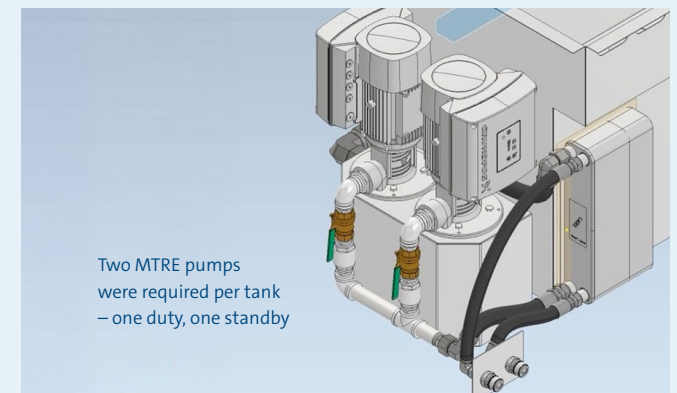
The data centre has direct BGP connections with Tier-1 ISPs such as Ceogent, Lumen, PCCW Global, Telecom Italia Sparkle's Seabone, and Hurricane Electric Internet Services. In Synapsecom's data centres, connectivity is ensured with all Greek telcos such as OTE, Vodafone, Nova and Grid Telecom.

In accordance with the immersion cooling application, Synapsecom constructed Coolblock technology (www.coolblock.com) tanks, where pumps are required for the recirculation of the dielectric cooling liquid, in this case Shell Immersion Cooling Fluid S5 X.

The solution

Our client, with the mindset of an OEM pilot project, wished to select a pump manufacturer who could provide safety and reliability for this critical task, and was considering variable speed motors for optimal comfort and energy savings.

At the same time, materials and shaft seals needed to comply with the highly demanding physical and chemical properties of the dielectric cooling liquid, a distillate synthetic oil with high concentration of hydrocarbons, while a space-saving solution was required in contrast to the typical CM end-suction pumps used in the past.



Two MTRE pumps were required per tank – one duty, one standby



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Pump material selection was critical, having to eliminate the existence of flowing burrs inside the dielectric cooling liquid, while in parallel there was a significant requirement to save space in addition to ensuring easy and quick access for pump maintenance.

Evaluating all the above, Alexandros Ntampasis, Sales Engineer from Grundfos' Industry Division, proceeded to select the MTRE series, an advanced type of industrial pump in full compliance with all the requested characteristics.

The perfect outfit was created by selecting MTRE pumps with Viton seals, complete with CIM 500 cards for BMS signal transfer. Two pumps were required per tank – one duty, one standby – pump type MTRE 15-3/3 A-W-A-HUUV, product no. 92912276.

The pump's robust construction and design fits the OEM's needs and ensures trouble-free operation for the recirculation of the dielectric cooling liquid. Ultra-premium efficiency class IE5 motors deliver outstanding energy saving and comfort as well.



Grundfos supplied

2 x 3 kW, MTRE 15-3/3 A-W-A HUUV pumps, product no. 92912276
2 x CIM 500 BACNet cards

Grundfos MTRE is a vertical, multistage centrifugal pump for tank top mounting with screened inlet and integrated frequency converter

The outcome

Grundfos acted as a problem-solver for the OEM, taking advantage of highly innovative products and application/materials engineering. Synapsecom has encountered Grundfos pumps installed in many data centres, an asset that meets their need for reliable, safe, energy-efficient pumps for their immersion cooling applications.

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