

INDUSTRIAL COOLING:

# ACHIEVING ANNUAL SAVINGS OF €225,000

GRUNDFOS iSOLUTIONS



## FIND OUT HOW GRUNDFOS iSOLUTIONS DELIVERED SIGNIFICANT ENERGY SAVINGS AND SYSTEM OPTIMISATIONS FOR A LEADING ENGINE AND TURBINE MANUFACTURER

A leading UK engine and turbine manufacturer turned to the deep application knowledge of Grundfos when it needed an Energy Check of its cooling systems. With Grundfos iSOLUTIONS and our unique partnership approach, the manufacturer has secured a number of significant savings.

**33%**

ENERGY SAVINGS

**€225,000**

SAVED A YEAR

**1.8 YEARS**

PAY-BACK TIME



## EXISTING SYSTEM

**Existing pumps:**

x19 Grundfos CR 32-10

**Existing control mode:**

Fixed speed

**Existing operation mode:**

Uncontrolled, all pumps running at full speed (100%)

**Measured P1:**

22.65kW per pump

## NEW SYSTEM

**New selected system:**

All existing pump replaced by x19 Grundfos CRE 32-7 with integral pressure sensors + small pressure tanks

**New control mode:**

Constant pressure, with a pressure setpoint to respond to system needs - 12,6 bar discharge pressure instead of 16 bar

**New operating mode:**

VFD operating mode controlled by a digital signal from the pressure sensor, with a start/stop input signal from a PLC and output relays for run and faults.

**New load profile:**

Constant pressure operation at reference duty point of 30m<sup>3</sup>/h @ 126 mH<sub>2</sub>O

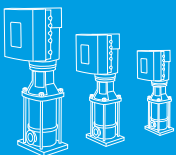
## SOLUTION & OUTCOME

The new solution is based on E-pumps, CRE 32-7 pumps with pressure sensors, and a small break tank. The new control mode is constant pressure, while pumps automatically stop when they're not needed.



### EASY OPERATION

Grundfos iSOLUTIONS ensures pump operations always match system loads, resulting in maximum efficiency and minimum energy use. Our controls and integrated frequency converters ensure increased system intelligence, flexibility, and the lowest life-cycle costs.



### FULL CONTROL

Uncontrolled pumps have a huge influence on how efficiently other individual components in a unit cooling circulation system work. And they exert a major influence on overall system performance. That's why Grundfos iSOLUTIONS and E-pumps were chosen in this critical process.



### MAXIMISED RELIABILITY

To guarantee performance, Grundfos performed a full system audit and provided a written commitment on expected future system performance before the retrofit. This has resulted in maximum reliability for the entire cooling system.