



## OVERVIEW

Optidrive keeps its cool!

Global Solutions...

wireless control for hundreds of applications

with Invertek Drives the solutions start here!

- easy to use and incredible performance
- leading edge design and technology
- highly committed to innovation
- products you can rely on
- global support and suppliers

For more information, visit  
[www.invertek.co.uk](http://www.invertek.co.uk)

## COMPANY

**ROTERO HOLLAND BV**

Hot water central heating systems

Woerden, Netherlands

Two thirds of the city of Almere, with a total of 160,000 inhabitants, will soon be running on Nuon central heating systems using compact A.C. Drives from Invertek Drives, supplied by Roterio Holland BV.

Approximately 430 pump control stations are located in the city to handle water at 110 degrees centigrade. This is pumped through a ring network at 12 BAR pressure, with the pressure then being reduced in the pump control station via 1.5 and 4kW Grundfoss pumps. A heat exchange system is then used to supply the hot water to every household in the areas being served. All pumps are controlled with a PLC system, which uses sensors to measure changes in pressure as a customer consumes hot water. This pressure change is then communicated to an Invertek Optidrive as an analogue 0-10VDC signal, allowing the drive to control the speed of the pump and thereby maintain constant pressure.

In this application, tolerance of high temperatures and the high carrier frequency were considered to be of paramount importance. Over recent years temperatures with the pumping stations have reached up to 50 degrees Celsius. In these conditions, every drive was failing at various times.

Roterio Holland BV were able to provide the solution in the form of an Invertek Optidrive with a built in RFI filter, with power outputs up to 4kW and designed to operate in temperatures exceeding 50 degrees Celsius.

The Invertek drive offers two critical performance advantages in this application. When the water demand is low the drive slows the pump down to work in the region of 20 to 40Hz, providing significant energy savings and reliable operation despite the high operating temperatures. The other major advantage offered by Optidrive is the ability to provide a high carrier frequency at these high operating temperatures. This ensures very low audible noise from the pumps and even at 32kHz the Optidrive has continued to work perfectly in all conditions.

Mr Frank van Ingen, Senior Maintenance Engineer at Nuon confirms: "I was astonished with the simplicity of the drive. I was really surprised that such a small version could operate so reliably at the desired temperature levels, even at high carrier frequencies."



email: [sales@invertek.co.uk](mailto:sales@invertek.co.uk) web: [www.invertek.co.uk](http://www.invertek.co.uk)

**Invertek Drives Limited**

Offa's Dyke Business Park, Welshpool, Powys. UK. SY21 8JF  
Tel:+44 (0)1938 55 68 68 Fax:+44 (0)1938 55 68 69

