

**Raychem TRACER**

The world's most luxurious cruise lines are equipped with Raychem's energy-efficient heat tracing technologies

**PROJECT DETAILS**

<b>Client:</b>	Meyer Werft GmbH
<b>Location:</b>	Papenburg, Germany
<b>Completion Date:</b>	2013
<b>Contract Scope:</b>	EHT system manufacture and supply, Installation
<b>Applications:</b>	Electric heat-tracing, Control and Monitoring
<b>Technology:</b>	Raychem 3BTV2-CT self-regulating heating cables, Raychem 30FHT2-CT constant wattage parallel circuit heating cables, Raychem TM-10 surface sensing thermostats

**KEY CHALLENGES**

Each cruise liner is built to individual specification and to tight deadlines. Depending on the design, between five and nine kilometres of heat-trace cabling need to be deployed for frost protection and temperature maintenance of oil pipes on each liner. The pipework is complex and each installation must be completed in about 15 weeks.

**SOLUTION**

Pentair Industrial Heat Tracing Solutions Germany is supplying EHT systems based around Raychem self-regulating and constant-wattage heating cables. BTV self-regulating cables are deployed for frost protection of pipes and instrument lines maintaining temperatures above 5°C. The major part of each installation is the deployment of FHT2-CT constant-wattage parallel circuit cables. These are used to maintain temperatures within the oil pipes at a constant 120°C.

Depending on the size of the cruise liners, between 100 and 250 heating circuits are installed on each ship. Control is provided via Raychem TM-10 surface sensing thermostats.

Each deadline is achieved by Pentair' expert Tracer installation teams. Pentair brings 20 years' experience, having installed similar systems on over 40 cruise liners at Meyer Werft and Neptun Werft shipyards since 1992.

Commenting on the continuing success of the installations, Meyer Werft's Electrical Engineer, Energy and Electrical Equipment, Gunther Varnhorst said: "Pentair' EHT systems have been an integral part of our designs for many years and continue to provide us with a reliable solution." He continued, "Their ability to constantly meet our critical installation deadlines is an important factor that enables us to deliver these complex ships on time."

## **BENEFITS**

- Reliable and proven EHT technologies from Raychem provide the most energy-efficient systems
- FHT cable's round geometry enables tracing of complex pipes
- Parallel construction allows cables to be cut-to-length and terminated on-site
- Expert installation
- Years of problem-free service



Pentair is providing electric heat-tracing systems (EHT) for some of the world's most luxurious cruise liners. The systems are supplied under a frame agreement with German shipbuilder Meyer Werft GmbH, which was signed in 2006. It names Pentair as the sole supplier of EHT systems for all incoming orders of cruise liners at its shipyard in Papenburg until the end of 2013.

Similar systems are also supplied to its sister company, Neptun Werft GmbH in Warnemünde, Rostock, which builds LNG tankers.

The Meyer Werft was founded in 1795 and is one of the largest German shipyards employing more than 2,500 people. In recent decades it has gained a worldwide reputation for excellence in the construction of specialized ships, particularly luxury cruise liners. For more information, visit [www.meyerwerft.de](http://www.meyerwerft.de)



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