

Getting district cooling right



Pre-insulated pipe technology for efficient district cooling

- distributing energy efficiency

District cooling product range

Full range

LOGSTOR provides a comprehensive range of pipes and components, designed to meet virtually all of your district cooling requirements.

LOGSTOR pre-insulated pipe lengths are available with different insulation thicknesses. These are designated Series 0 and Series 1, where Series 1 has the higher insulation value.

The range includes all the necessary fixtures, components and fittings, as well as the tools required for effective installation.

Different types of field joints are available to ensure maximum safety and durability.

The entire system is supplied in accordance with Euroheat & Power certification.

Features

A complete fully bonded system consisting of pipes, fittings and joints.
Strong and effective insulation against loads and heat gain.
High resistance against diffusion of water and oxygen.
Field joints that are air-pressure tested or double sealed.
Directly buried or suspended.

Service pipe	Shot-blasted carbon steel
Insulation foam	Low-lambda polyurethane (PUR) Thermal conductivity at 10°C from 0.020 to 0.023 W/mK depending on the type of pipe
Outer casing	High-density polyethylene (HDPE)
Diffusion barrier	Optional; aluminium foil
Surveillance system	Copper wires factory installed within the foam

Product programme

Pipes

Dimensions	Insulation series	Pipe length
DN20–1200	Series 1	12 m
DN100–1200	Series 1	16 m
DN100–1200	Series 0	12 m and 16 m
DN250–1200	Optional	17.8 m

DN>1200 available on request. TwinPipe systems available with/without diffusion barrier.

Pipe joints

Weldable joints	Computer-controlled thermoplastic welding fuses the PEHD joint and outer casing pipe together
Shrinkable joints	Made of extruded, cross-linked polyethylene (PEX), which is shrunk around the casing pipe and remains firmly in place

Bends

90° and 45° – other angles available on request

Branches

45° – other angles available on request

Valves

Ball valve – DN250–500

Butterfly valve – DN350–1200. DN>1200 on request

Reductions

1 step and 2 steps

Surveillance system

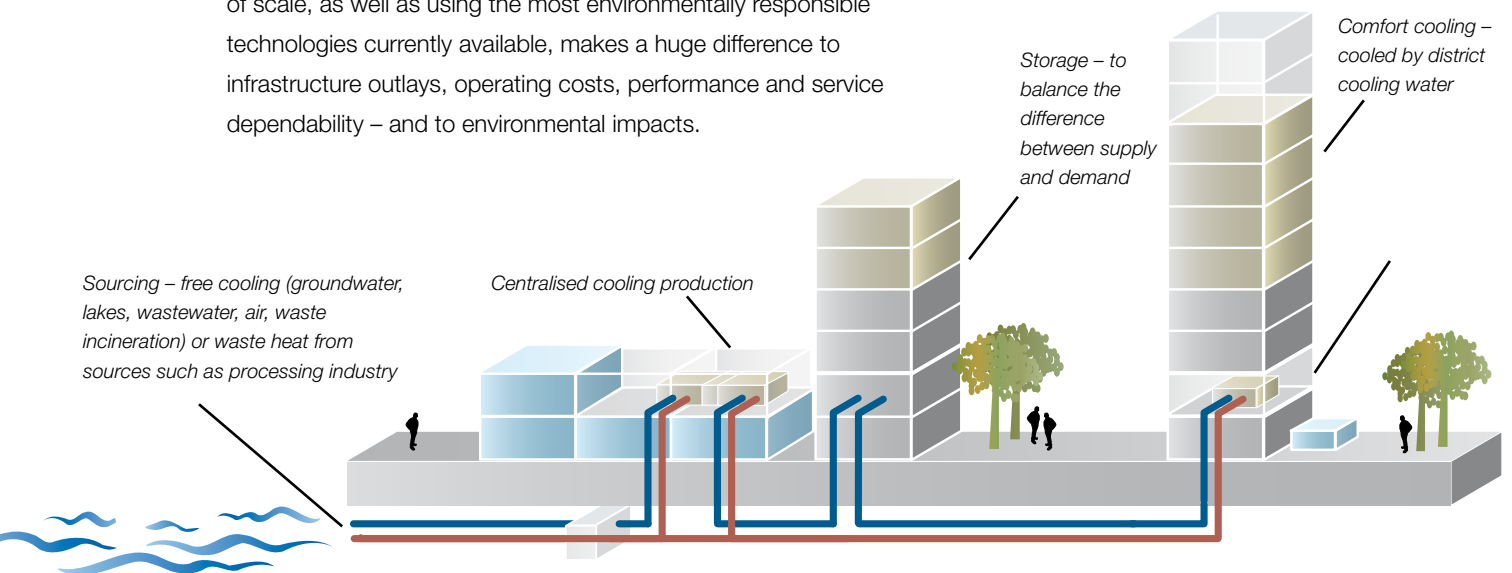
Wideco or Nordic Wire



New approaches, new results

District cooling represents a paradigm change in the fundamental thinking behind ensuring people comfortable indoor environments; all year around. Providing the required cooling effect from a high-efficiency central facility that exploits the considerable economies of scale, as well as using the most environmentally responsible technologies currently available, makes a huge difference to infrastructure outlays, operating costs, performance and service dependability – and to environmental impacts.

District cooling in principle



A solid backbone makes all the difference

Backbone for cost-effective district cooling

LOGSTOR pre-insulated pipe technology provides a supremely reliable, cost-effective backbone for any district cooling project, keeping thermal energy loss to a minimum. This enables contractors, planners and consulting engineers to provide low-impact, efficient distribution of the liquids at the heart of any district cooling project. And these LOGSTOR solutions are equally beneficial for both the main approaches to district cooling:

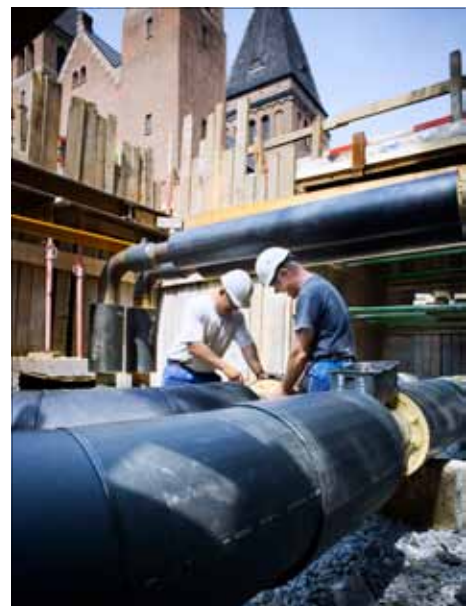
- Free cooling by exploiting natural resources, such as the cold water in lakes, rivers, the sea, underground reservoirs, etc.
- Cooling via heat transfer from heated/waste water using heat exchangers, electrically driven compressors and absorption chillers to exploit thermal differences.

The commercial edge

The unique benefits of LOGSTOR pre-insulated pipe technology provide energy and utility companies, consulting engineers, project developers and building contractors alike with a key commercial edge in district cooling projects of all sizes.

This well-proven technology, backed by more than 30 years' of know-how and experience with effective, glitch-free implementation, helps ensure rapid, on-budget project completion with no hold-ups. These benefits are followed up by extremely low – and reliably predictable – costs for operations, service and maintenance.

LOGSTOR pre-insulated pipe technology enables you to take advantage of district cooling project opportunities to the full, with the key advantage of also being able to achieve drastic reductions in environmental impact, compared with traditional approaches to comfort cooling.





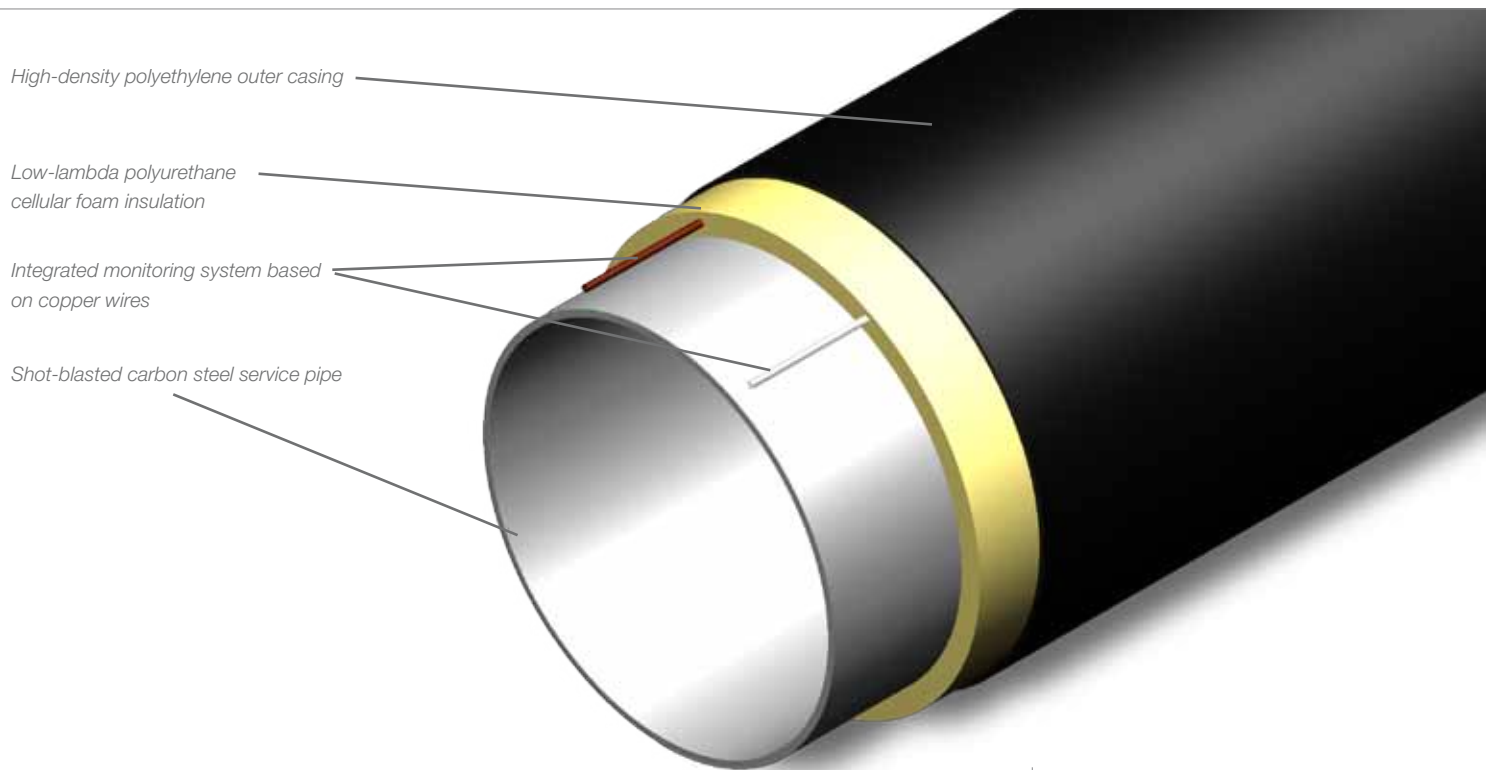
Cooling installation using LOGSTOR pre-insulated pipes (DN300–650) on the rooftop of the Parquesur supermall in Madrid, Spain in 2006.

The benefits

Specifying LOGSTOR pre-insulated pipes as the backbone of a district cooling systems helps you reap multiple advantages, with significant bottom-line benefits.

- Extremely versatile – can be laid underground, on the surface or across rooftops, for lowest possible installation costs.
- Exceptional dependability and long service life, with unusually low inspection, maintenance and repair costs.
- Builds on existing know-how and technology familiarity, reducing engineering costs.
- Euroheat & Power certification assures product quality and standards.
- Easily budgetable operating costs, with no unforeseen surprises.
- No need for painting, coating or any other corrosion protection for the service pipe, saving on project costs.
- No need to install a cathodic protection system to prevent corrosion from the outside, saving on project costs.
- Easy, relatively inexpensive installation of leak detection systems.
- The insulation stays completely dry even when the pipe is installed in water.
- Avoids thermal bridges due to pipe supports, because the piping is supported on the outside of the casing.
- No condensation on the outside of the pipe when mounted indoors.
- Impervious to surroundings. The insulation can withstand even the roughest treatment and the effects of the most dramatic weather fluctuations.

The core of the matter



Energy-efficient distribution

The overall efficiency and service life costs of any district cooling system are heavily dependent on an efficient distribution network. Any reductions in emissions you achieve by cooling liquids efficiently at a central location, or by exploiting waste heat from CHPs or industrial facilities, get wiped out if thermal energy goes to waste en route from the supplier to the individual user and back.

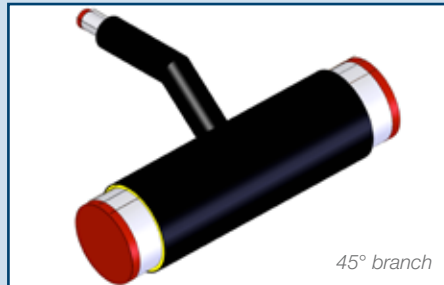
LOGSTOR pre-insulated pipe systems are the world's most reliable and energy-efficient solution to district cooling transmission requirements. They make sure the cooling liquid gets from the supplier to the user ends of the pipe with no leaks and with the absolute minimum of thermal energy loss - even over long distances. This enables you to significantly reduce the CO₂ emissions associated with any district cooling solutions you provide. And, of course, the operating costs involved.

All LOGSTOR pre-insulated pipe systems use a unique CFC-free polyurethane foam that prevents thermal energy loss from the service pipe. The exceptionally fine cell structure of this foam, combined with its remarkable consistency, reduces energy losses to an absolute minimum. Its insulation properties are equally effective over the entire temperature spectrum from -60°C to +140°C.

This brings you the dual benefits of helping reduce CO₂ emissions, and making end-to-end savings in distributing district cooling liquids – throughout the entire 30-year minimum service life provided by LOGSTOR pre-insulated pipe systems.



Pipe length



45° branch



Weldable joint



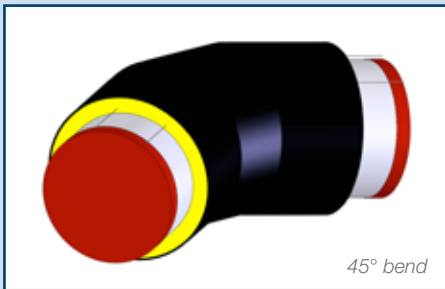
Ball valve



Shrinkable joint



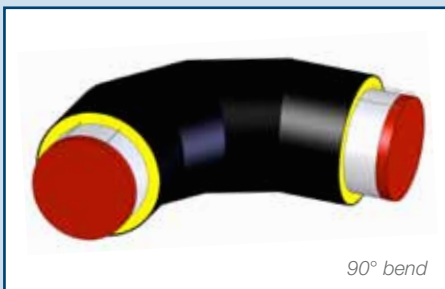
Butterfly valve



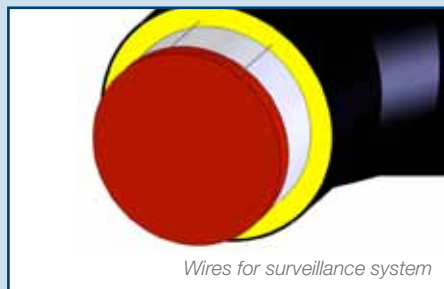
45° bend



Reduction



90° bend



Wires for surveillance system



A wide range of practical information and support materials are available from www.logstor.com.

These include:

- product catalogues
- configuration and installation guidelines
- extended reference list



Comprehensive support and training

LOGSTOR engineers and technicians provide a full range of support services during all phases of your district cooling project, right from initial planning to final commissioning. This is a key way to boost the efficiency of project implementation.

After-sales service, including training fitters in all the practical details of installing LOGSTOR district cooling components, is an integral part of our delivery packages.



Manufactured where you need them

Apart from the carbon steel service pipes themselves, all the components of our pre-insulated pipe systems are manufactured at LOGSTOR specialist facilities under closely monitored, meticulously controlled indoor conditions. These plants are currently located in Europe and the Middle East.

In certain major projects, however, LOGSTOR can significantly improve the logistics, scheduling and cost parameters by placing a special, mobile production facility relatively close to the installation site.

Innovative angles

LOGSTOR works actively with specialist partners in the district cooling industry throughout the world to provide the most efficient and innovative district cooling solutions possible.

To help meet the particular needs of LOGSTOR district cooling customers, we have also set up a new joint-venture manufacturing facility in Dubai, EMPOWER LOGSTOR Insulated Pipe Systems (ELIPS).

● distributing energy efficiency

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