



# SYSTEM TECHNOLOGY



LOCAL AND DISTRICT HEATING | INDUSTRY | BUILDINGS | ENVIRONMENT

## **Reliable. To the point.**

Early detecting and precise location systems for moisture and leakages

**BRANDES**

... safety for today and beyond

## EXPECT EVERYTHING. ESPECIALLY FROM US.

In nearly all cases, the frequent change in load levels in pipework systems leads to material fatigue. Construction imperfections at apparently insignificant sites can suddenly cause damage. Weather-related extremes can also harm the material.

**Our systems monitor your pipework systems effectively and reliably so that you can prevent leakage in advance.**

After all, your network should be a worthwhile investment for many decades. Use our systems to detect and local wear and tear and minor damage early on, before major problems arise.

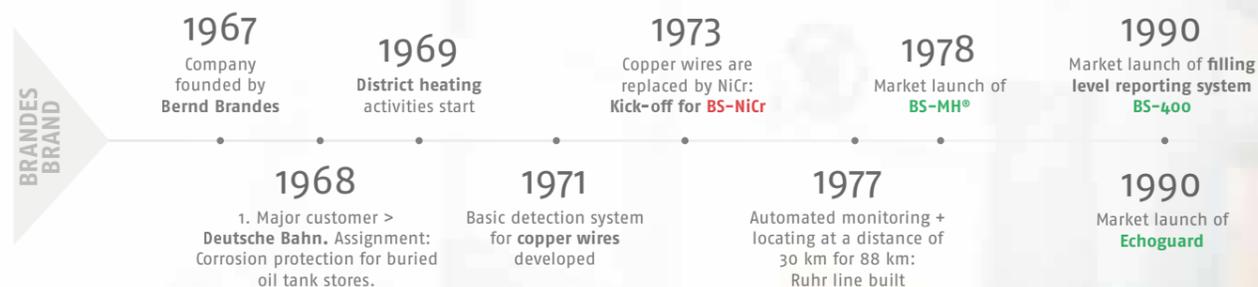
Good to know: An investment in pipe network monitoring is much easier to predict financially than sudden damage.

### We are there for you!

The company BRANDES assists you with your project long-term. From planning via construction to the interpretation of the measured results: Our experts will support you whenever you need them.

The result: a profitable project and a good night's sleep – for you and all users of your network.

### ADVICE • PLANNING • IMPLEMENTATION



The be-all and end-all – damage prevention:  
BRANDES for more than 50 years

### SECURITY AND PROFITABILITY ...

#### TECHNOLOGY

- Ongoing further development based on more than 50 years of experience with district heat
- ISO 9001 certified
- Constant product maintenance
- Own services and user support
- Neutral and independent thanks to our own sales team
- Internal manufacture monitoring
- Internal development department
- Internal system concepts for: NiCr sensor, Nordic and hierarchical systems

### ... SUCCESS AND BENEFITS

#### SERVICES

- Design and advice
- Production and construction monitoring
- System maintenance and defect analysis
- Repair service and replacement parts
- Software support and monitoring
- System documentation
- Seminars and training



Want to find out more?  
Why not contact us –  
we're looking forward  
to hearing from you!

## LOCAL AND DISTRICT HEATING

**Underground pipelines in local and district heating networks as well as district cooling systems harbour risks:**

They can suffer from manufacturing faults, can experience wear and tear due to movement caused by expansion and contraction, and can become damaged during installation or underground construction work. This always causes the same result: leakages.

To detect damage early on, and thus avoid costly repairs, pipelines should be monitored for leaks automatically at all times.

**The following technologies are available to monitor local and district heating as well as cooling networks:**

**BRANDES NiCr system**  
patented and tried and tested thousands of times with so far unmatched measurement precision

**System solutions for Nordic systems**  
Pipe networks for copper sensors > Damage is located later and less precisely > Solution: **BRANDES EchoGuard / PreDetect**

**System solutions for Hierarchical systems**  
manual locating > Solution: the **BRANDES "T-System"** for fully automated protection of system operations

**DISTRICT HEATING**  
215 KM DISTRICT HEATING NETWORK – 5500 SUPPLY POINTS

**Düsseldorf**  
BRANDES has provided complete safety in network operations since modern pipework systems were first introduced.

## INDUSTRIAL MONITORING SYSTEMS

**Production facilities, underground constructions and shafts, tanks and containers, as well as transport and filling facilities for various chemical semi-finished and finished products, can be sources of human and environmental hazards in the event of leakages and must therefore be monitored frequently.**

Therefore, leak reporting systems with design approval are in many cases a basis requirement for operating permits.

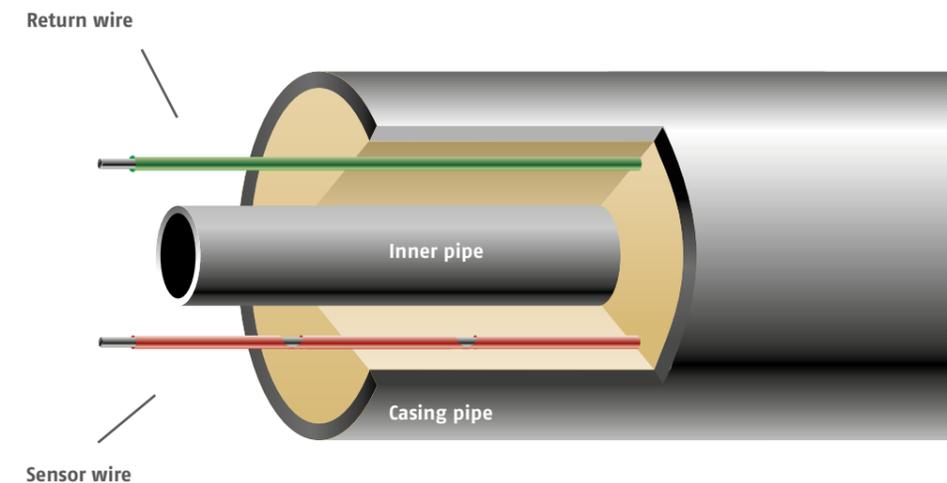
Early leak detection and locating systems by BRANDES have been granted design approval under water law by the German Institute for Construction Technology (DIBt Berlin) and meet the requirements of operating permits. BRANDES is also a specialist manufacturer monitored by TÜV Nord in accordance with § 19 I of the Water Resources Act (WHG).

**BRANDES uses its tried and tested NiCr sensors for small, medium-sized and large facilities.**

**PURE TRANSPORT LINES**  
1331 KM PIPELINE – 1234 KM<sup>3</sup> WATER A DAY

**Boxberg large power station**  
Underground transport lines can achieve logistical feats – this makes it all the more important to consistently monitor and ensure that they work impeccably.  
**BRANDES technology** ensures constant monitoring and early detection of defects on transport lines.

**Cross-section of a plastic jacket pipe with integrated BRANDES NiCr sensor**



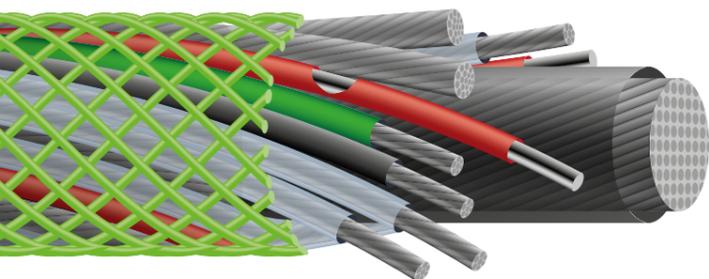
## BUILDING MONITORING

Expensive paintings in galleries, old documents in museums and archives, highly sensitive production facilities in clean or ultraclean rooms and sensitive IT systems in data centres, are examples of highly sensitive goods that need protecting.

Impending dangers include escaping liquids and moisture from condensation. BRANDES has developed the BS-FluidGuard® system to detect moisture and leaks early on. Depending on where it is used, the system consists of highly sensitive sensor cables or individual site sensors.

The BRANDES offer ranges from individual monitoring modules to networked systems with decentralized measurement units in building and room monitoring.

**SENSITIVE ROOMS**  
FOR EXAMPLE: DATA CENTRES



Sensor cable for floor and ceiling spaces

The highly sensitive BRANDES sensor cable is available in different designs to match requirements.

## ENVIRONMENT AND WATER PROTECTION

Want to find out more?  
Why not contact us –  
we're looking forward  
to hearing from you!

Drinking water is our most important sustenance, a clean environment our most important good.

The legislator has passed a number of regulations to ensure that ground and water are not contaminated by substances hazardous to water. As a result, pipes, containers and tanks with hazardous contents in particular are double-walled or equipped with catching devices. But these measures do not by themselves prevent all risks to the environment.

To ensure that the risks resulting from leaks are kept to an absolute minimum, BRANDES has developed a monitoring system whose sensor cables immediately detect, locate and report even the slightest contact with a leakage medium.

BRANDES supplies systems to monitor large, small and medium-sized facilities.

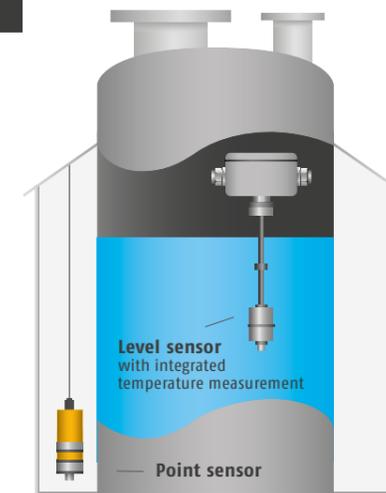
**WATER PROTECTION**  
16 MILLION M<sup>3</sup> WATER ON AN AREA OF 4000 HECTARES



Natural landscape of Saxony / Thuringia

Regeneration of these regions, which have been damaged by uranium ore mining, has been under way for more than 20 years. BRANDES technology ensures constant monitoring of the contaminant containers.

The systems have been granted design approval under water law, and BRANDES is a specialised manufacturer monitored by TÜV Nord according to the Water Resources Act (WHG) §19l.



# AROUND THE WORLD WITH BRANDES

**Over 50 years of know-how from over 50,000 km of pipe network monitoring**

**BRANDES GmbH** was founded in 1967 and has since supplied systems and services to detect humidity and localise leaks in pipework, containers and highly sensitive rooms and facilities.

As the market leader and the inventor of the NiCr system, the company supplies energy customers and industry in more than 30 countries across the world.

BRANDES original products and unique services meet the highest standards in pipework monitoring, planning, implementation and predictive maintenance.

**BRANDES holds numerous international patents, making it a reliable partner offering quality, innovation and sustainability.**

**Reliable. To the point.**



**STATUSDISPLAY  
SAFETY AT A GLANCE**

**BRANDES  
visualisation software**

displays all status information at a glance and simultaneously reports defects to the building management technology.



- Do you have any questions or do you want to find out more about how leaks can be located?
- Are you planning a new project?
- Are you unhappy with your current system for locating moisture and leaks?

Why not give us a call, or write to us at [brandes@brandes.de](mailto:brandes@brandes.de)  
– we are looking forward to hearing from you!



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