CONNECT AND PROTECT

HOT WATER TEMPERATURE MAINTENANCE SYSTEMS IN HOSPITALS

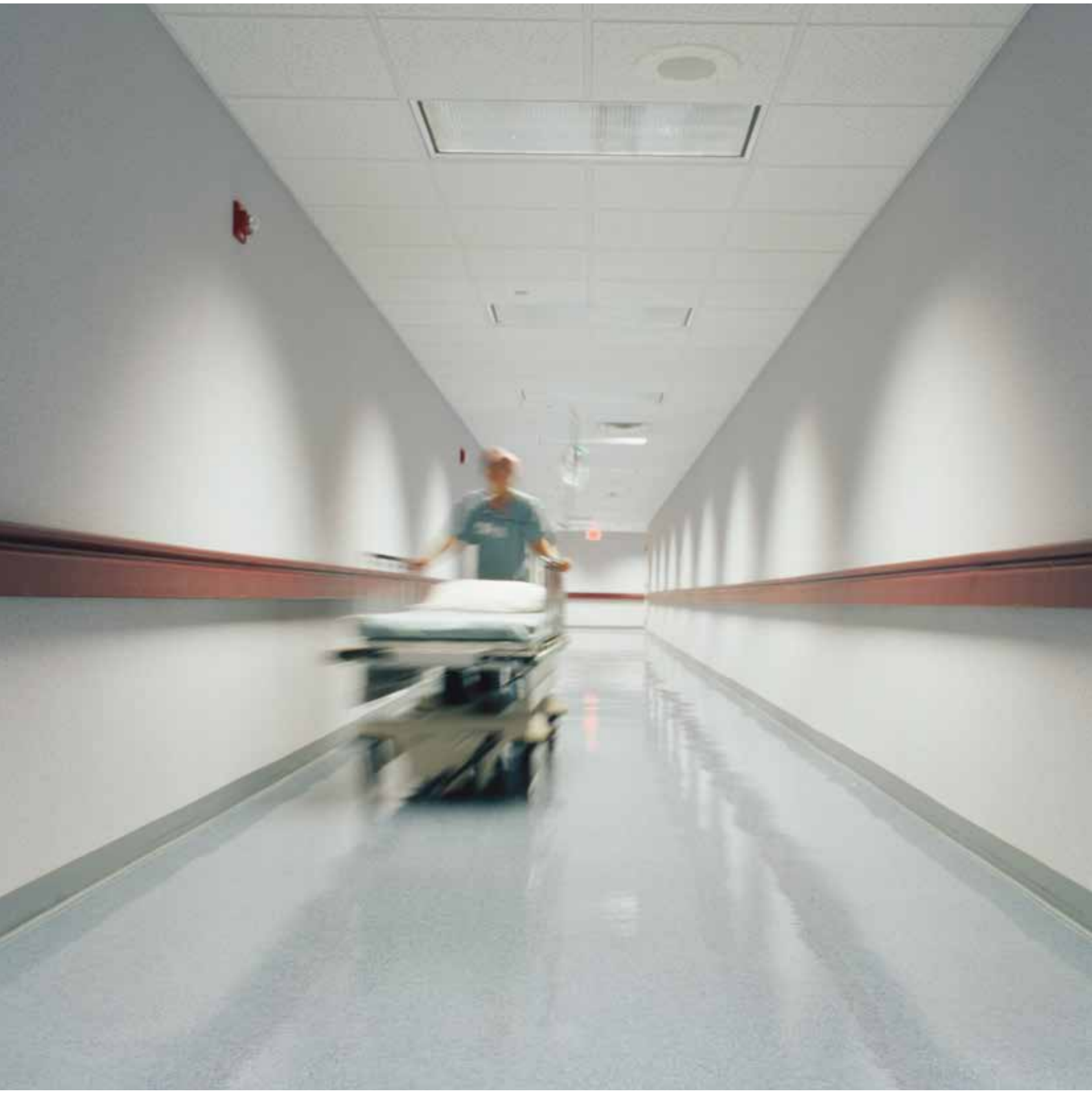
nVent

RAYCHEM

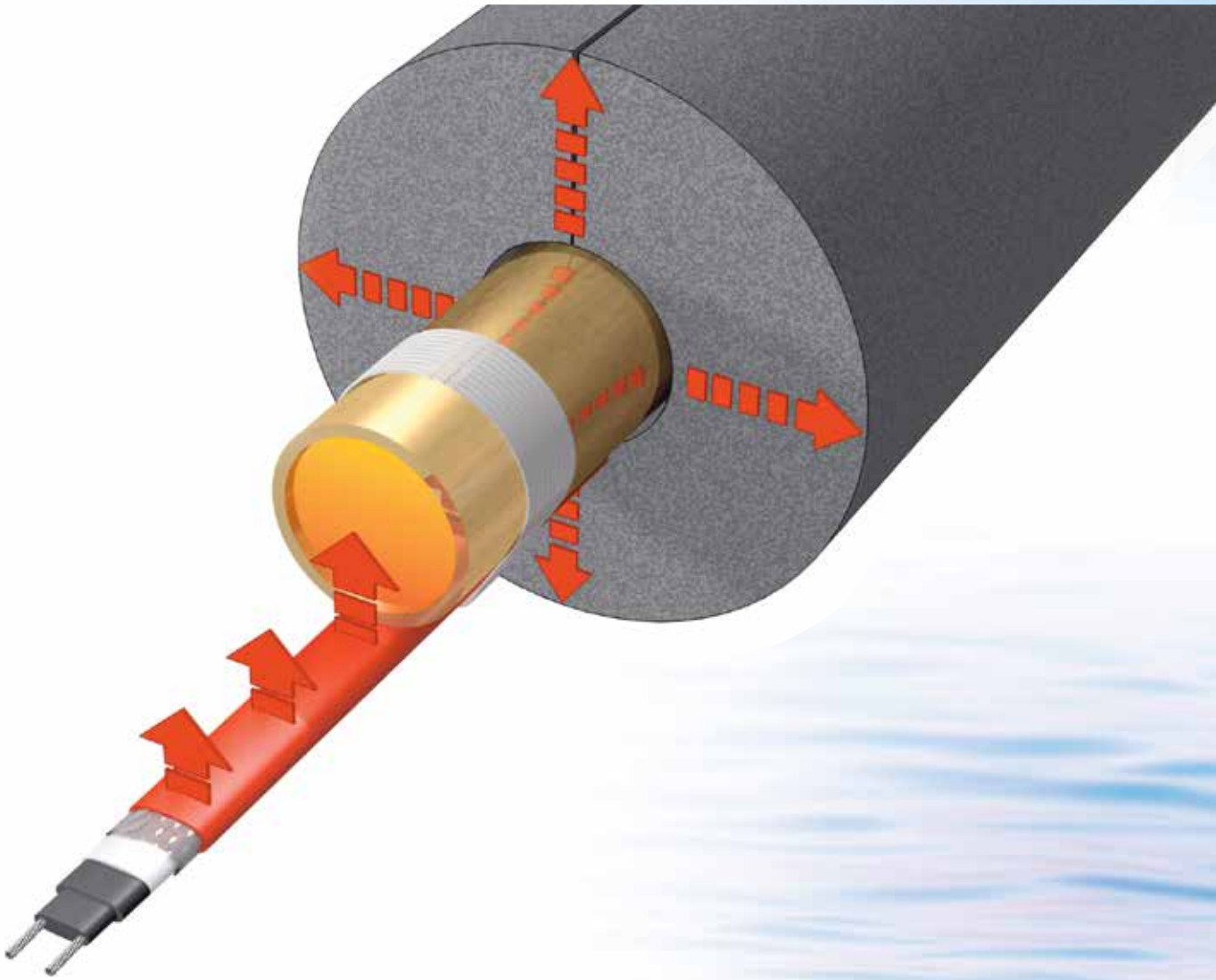
The health service is coming under increasing cost pressure, and more and more hospitals are being affected by this. To be ready for tomorrow´s market, cost effective and innovative solutions have to be found today, encouraging a trend towards new ideas for cost saving. Even in the field of sanitation, the first signs of this are visible!

For example, the nVent RAYCHEM hot water temperature maintenance system is an innovative system that is economical to operate.

Hot water comfort without wasting time, water or power is a requirement of any modern hot water system in a hospital. At the same time, the system has to be run on an economical, maintenance-free, power-aware basis involving low investment costs.



Instantaneous Hot Water. Hygienic, Economical And Flexible.



Requirements for hot water systems in hospitals

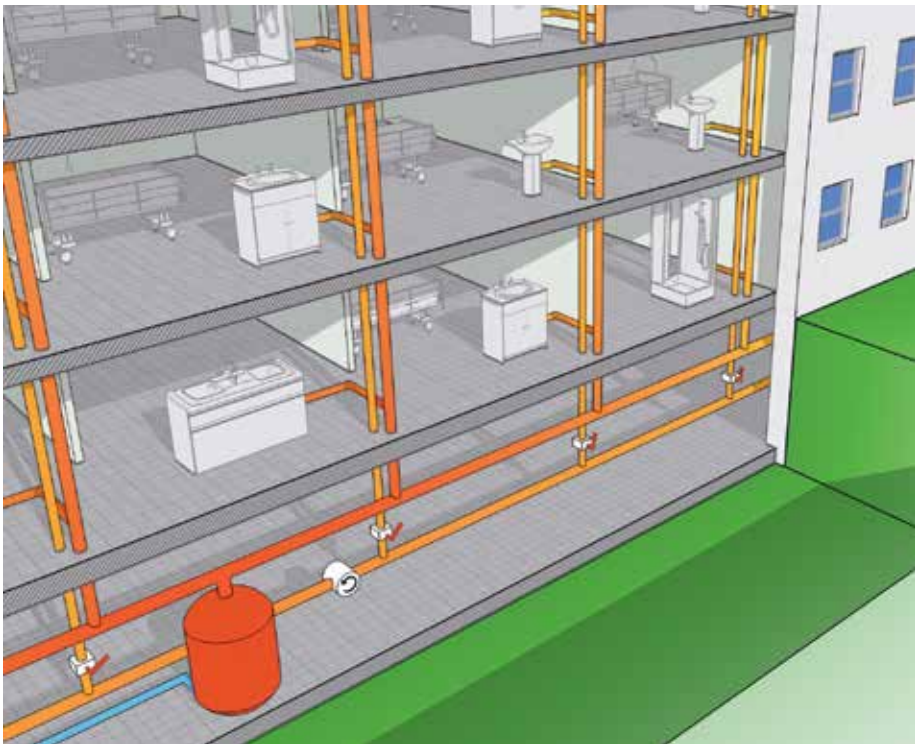
HYGIENE & COMFORT
see page 6

FLEXIBILITY
see page 7

ECONOMY
see page 7

Hot Water Supply Systems

1. THE CONVENTIONAL, COSTLY SOLUTION: THE RECIRCULATION SYSTEM



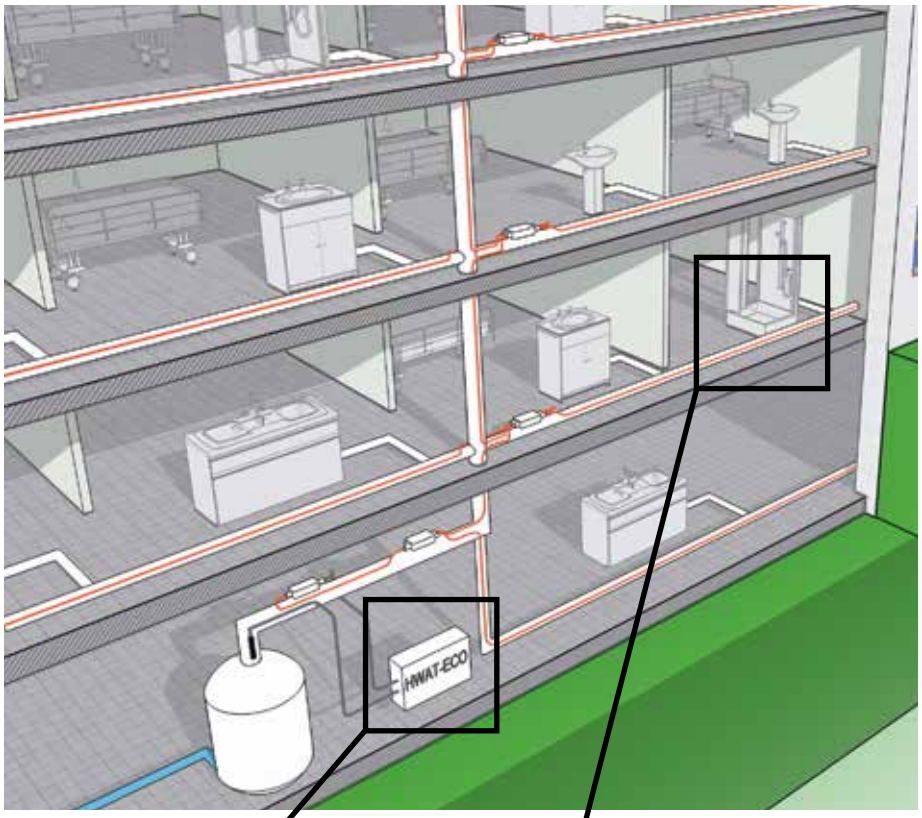
Function :

- Heat losses from the hot water distribution pipes are restored by the water heater.
- A pump keeps the hot water circulating throughout the pipe network.
- The hot water temperature in the pipe matches that in the water heater..

2. THE INTELLIGENT AND ECONOMICAL ALTERNATIVE: THE HOT WATER TEMPERATURE MAINTENANCE SYSTEM

Function :

- Any heat losses from the hot water pipe are compensated for by a self-regulating heating cable attached to the individual hot water pipes. As a result, the individual pipe temperature can be selected, irrespective of the storage tank temperature.
- The thermal output of the heating cable adjusts itself at any point to the local conditions of the pipe network. This means that the pipe is heated everywhere in proportion to how much it cools down. If hot water is flowing, the thermal output is reduced. The more often the hot water tap is turned on, the less the hot water temperature maintenance system needs to be activated.
- The easily-programmable and pipe temperature temperature control device HWAT-ECO monitors the boiler and pipe temperature and ensures that the system is used exclusively for maintaining the temperature in the pipe network, not for heating the water. In this way, power consumption is reduced to a minimum.



Programming the temperature control device HWAT-ECO is very easy, thanks to the building-specific software.

The heating cable is attached directly on the pipe.

Hygiene & Comfort

The requirements placed on hot water temperature maintenance systems concentrate on the comfort of the user (the patient), Edi Meier, the Technical Director of the Adelheid Hospital in Unterägeri/Switzerland, says:
„ In our hospital, we treat our patients as customers. Waiting too long for hot water means less customer satisfaction “

... and on that of the operator (the hospital),
„ With the nVent RAYCHEM single-pipe system, there is no maintenance, there are fewer pipes and no control valves or pumps present. The system has been used reliably and with great efficiency for 10 years in our hospital. “

Hygiene requirements in hospitals: The nVent RAYCHEM system fully satisfies the requirements of the Department of Health- Health Technical Memorandum 04-01: The control of legionella hygiene, “safe” hot water, cold water and drinking water systems

- **Shortest pipe network of all central hot water temperature maintenance system (´half pipe length´, so no return pipes)**
- **Guaranteed high temperature (>55°C) throughout the system, over its entire length**
  - No unheated zones
- **Mixing zone in the storage tank**
  - No runback into the storage tank
- **Temperature maintenance**
  - Possible as far as the tapping point
  - Temperature of up to 70°C can be selected at any time
- **Renewal of water in the pipe network**
  - Pipe volume is 100% renewed with each tapping.

Result: As a result of the hot water single-pipe system having fewer pipes, less water volume and less heat loss, the danger of any bacteriological problems is significantly lower.

Edi Meier, Adelheid Hospital:
“ Whenever the annual water inspection has been carried out by the hygiene inspectorate, no critical legionella levels have ever been exceeded, even without any preventative measures!”

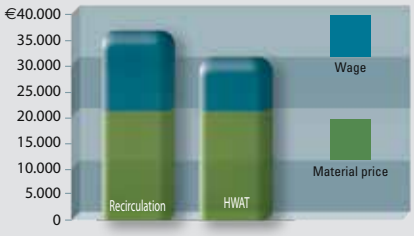
Flexibility

**The hot water temperature maintenance system:
A flexible and space-saving system**

- The space requirement for pipes has been reduced, because no return pipe is present. Risers, shafts and openings can be minimised freeing space for other services.
- An existing building may have an extra storey or an extension added. The new part of the building can be connected to the hot water temperature maintenance system easily, rapidly and economically, without needing any hydraulic compensation.
- The existing recirculation system can be easily upgraded in sections, where appropriate.
- It is possible to let rooms or storeys to third parties without any problems, as separate cost invoicing can be provided for hot water usage.

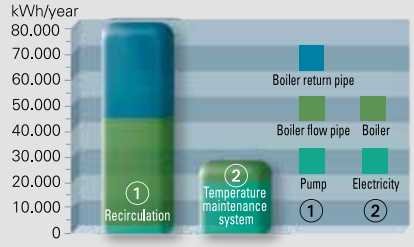
Economic comparison between a hot water temperature maintenance system and recirculation. Example, using a real calculation in a hospital equipped with recirculation (flow pipe 370 m).*

1. Investment costs



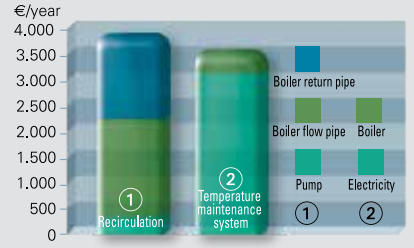
Investment costs: 13% less than in a circulation system

2. Energy demand



Operating costs: only 36% energy demand

3. Operating costs



Operating costs: 10% lower operating costs

4. Depreciation (Period of use 20 years, rate of interest 5%)

Depreciation: 10% of the capital and operating costs per annum

* Calculation with savings calculation programme SaveWatt. We would gladly offer you, too, a savings calculation for your hospital. Please get in touch with us.

Economy

Because economy simply does matter!
The nVent RAYCHEM hot water temperature maintenance system is the most economical system and saves as much as 60% on power in comparison with the recirculation system. See for yourself….

1. Low investment costs

The system requires only a few components. There are no pumps, control valves or double water meters, and the heating cable is fitted directly to the hot water pipe under the thermal insulation. Time-consuming installations of return pipes are unnecessary.

2. Lower power consumption

- No return pipe, so lower heat loss from only one pipe.
- No power requirement for circulation pumps – only the heat losses from the feed pipe are replaced.
- Optimised boiler efficiency: Use of a smaller and more efficient water heater and continuous build-up of heat layers.
- The intelligent control device HWAT-ECO saves power: As the heating cable can be switched off during the day with heavy water consumption and during the night with low water consumption, the maintenance temperature can be lowered.
- No water wastage caused by lengthy cold tapping

3. No maintenance costs

- No recirculation pump – no parts to wear out
- Fewer pipes, no control valves or pumps
- No hydraulic compensation

Services

We support you in the various stages of the process, from planning to commissioning.

Before and during planning:

- Documentation: the text of invitations to tender, design checklist, guide to installation and commissioning
- Savewatt savings calculations

Before and during installation:

- Pre-installation training
- On-site installers´support

After installation:

- Commissioning

United Kingdom
Tel 0800 969 013
Fax 0800 968 624
salesthermalUK@nvent.com

Ireland
Tel 1800 654 241
Fax 1800 654 240
salesIE@nvent.com

South East Asia
Tel +86 21 2412 1688
Fax +86 21 5426 3167
cn.thermal.info@nvent.com

Australia
Tel +61 2 9751 8585

India - Noida
Tel +91 120 464 9500
Fax +91 120 464 9548
NTMinfome@nvent.com

India – Mumbai
Tel +91 22 6775 8800/01
Fax +91 22 6775 8997
NTMinfome@nvent.com

UAE
Tel +971 4 823 8666
Fax +971 4 887 0458
NTMinfome@nvent.com

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