

# CENTROtext

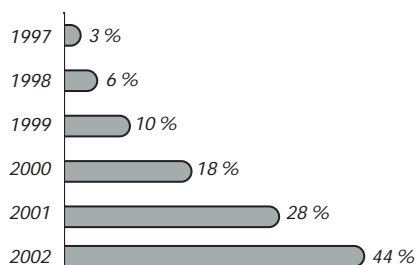
| Magazine for employees and business friends |

## ALMOST ONE IN TWO HOUSES EQUIPPED WITH HEAT RECOVERY TECHNOLOGY Sensational growth in the Netherlands in 2002

The trend towards high-calibre ventilation systems with heat recovery has surpassed even the most optimistic of forecasts. In the Netherlands, almost half of all new houses were equipped with this technology in 2002. Market penetration rose from 28 % in 2001 to a projected 44 % for this year.

This dramatic growth in both heat recovery and condensing boiler technology for heating systems has been spearheaded by the Netherlands. By comparison, this development is still in its infancy in Germany. Yet similar growth is on the cards here as well.

**PROPORTION OF NEW HOUSES EQUIPPED WITH HEAT RECOVERY TECHNOLOGY** (source: CBS; Stichting HR Ventilatie)



Apart from the insulation of buildings and the use of condensing boiler technology, no other energy-saving measure achieves such a good input-to-CO<sub>2</sub> emissions ratio. Now that more and more countries have introduced tougher energy-saving legislation, we expect this market segment to enjoy sharp growth throughout Europe.

### CENTROTEC MARKET LEADER

CENTROTEC is the European market leader for heat recovery systems for low-energy houses, via its subsidiary Brink. The Brink systems achieve a recovery rate of 95 %. They extract the stale air from inside a building and use it to heat up the filtered fresh air being fed in. For further details of this technology, see page 4.

### The CEO writes

This, the first issue of CENTROtext – the new magazine of CENTROTEC Hochleistungskunststoffe AG – represents a landmark in the history of our still young company. We have always striven for



transparency, because everything that we do stands up to close scrutiny. In addition to the customary openness that we demonstrate in our quarterly and annual reports, we want to use this publication as a means of keeping you informed about the latest product developments, market trends, acquisitions, new customers, and so on.

CENTROTEC has developed from a small specialist for engineering plastics (sales in 1998: 14 million euros) into a company posting annual sales of over 100 million euros. Highly promising areas of environmental technology such as plastic gas flue systems for condensing boiler technology and climate control for low-energy houses have had a decisive impact on our growth. We've quite a lot to tell you about from these areas.

*Gert Jan Huisman, CEO*



# ENGINEERING PLASTICS

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## CENTROTEC moves into Asia

JOINT VENTURE CENTROTEC JI ASIA PTE LTD ESTABLISHES SUBSIDIARY IN GUANGZHOU

The joint venture CENTROTEC JI ASIA Pte Ltd, Singapore, which was signed in September, will in turn found a fully-owned subsidiary by the name of CENTROTEC Guangzhou Pte Ltd in China. The fibre composite Tepex™, developed in Germany, is to be further processed in the Chinese metropolis of Guangzhou in the future. The new production and distribution base will, among other things, manufacture components for high-end sports shoes and supply them to the local production plants of international sports article manufacturers.

CENTROTEC hold the majority of the shares in this joint venture. Now that CENTROTEC has become established in various other European countries, it is turning to the Asian market as a further base for sales and production activities. Sales revenue in 2003 should reach several million euros.



The overhauled calendering line is now absolutely state of the art



Football boot with Tepex™ sole

## Calendering line „tuned“ NOW REFLECTING THE STATE OF THE ART

Following the partial renewal of the calendering line for panels and films made from thermoplastic materials, trial operation commenced in June 2002. As a result of our investments in various components, the system's operating economy and precision have now been significantly improved.

The new wide-slot nozzle can be adjusted across a range of 0.2 to 12 mm. The standard width is 1000 mm. Gravimetric metering allows it to adjust automatically to the size of the granulate. Up to three material additives can be incorporated. There is also a triple-roller thickness calender with continuous electro-hydraulic adjustment and a cutting and stacking device for angled and bur-free cuts, developed in partnership with the Technical University of Dresden.



## Gleaming new look for Ubbink

### NEW PREMISES IN THE NETHERLANDS COMPLETED

The Dutch subsidiary of CENTROTEC Hochleistungskunststoffe AG, Ubbink Nederland B.V., has more than just good-looking business figures – it now also has new-look premises. Over the years, new halls and offices had gradually been erected alongside existing ones. The result was an architectural „hotch-potch“ that was considered a poor reflection of the company's streamlined, professional character. When the most recent new building was erected, the exteriors of the older buildings were also renovated. The result: modest outlay, major effect! Everything from the paving to the window frames now has a uniform, modern, welcoming appearance. Ubbink has total office space of 2,400 square metres and production area of 22,000 square metres. So the company is well equipped to handle steady growth in gas flue systems for condensing boiler technology, ventilation systems, solar systems and so on.

### SUCCESS WITH PLASTIC CASCADE SYSTEMS

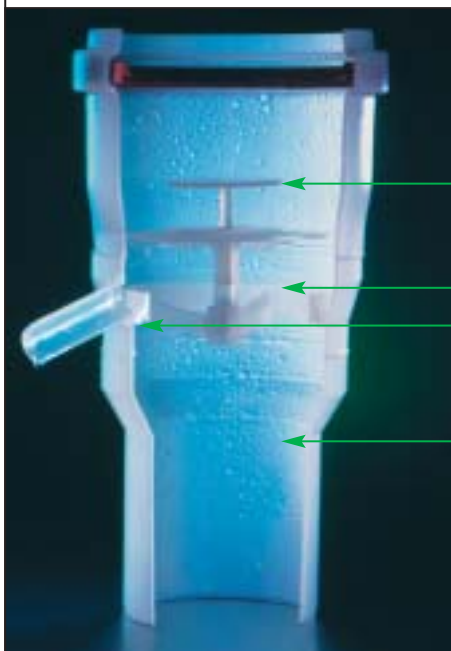
A cascade system is usually the preferred arrangement if several boilers are to be operated in parallel in larger buildings. The individual gas flue systems are connected up to a central system via check valves. However, the technical requirements of such a system are considerable. Flue gases need to be led off reliably, including while the boilers are in operation. And flue gases or condensate from one boiler have to be prevented from being forced into another boiler. CENTROTEC launched the



Modern and welcoming – Ubbink's headquarters in Doesburg, NL

first plastic cascade system in Germany in 2001. It has met with a very good reception. Over 500 of this system have already been sold. ATAG, one of the leading manufacturers of heating systems, exhibited a CENTROTEC cascade arrangement at the VSK trade exhibition. Together with the

installation company GTI, the first such system was constructed in a school in Arnhem in November. Its ease of installation and compact shape came in for particular praise.



### PLASTIC CASCADE SYSTEM BY UBBINK

Intelligent two-stage valve

No interference with valve's action by condensate

Condensate drain

Universal connection

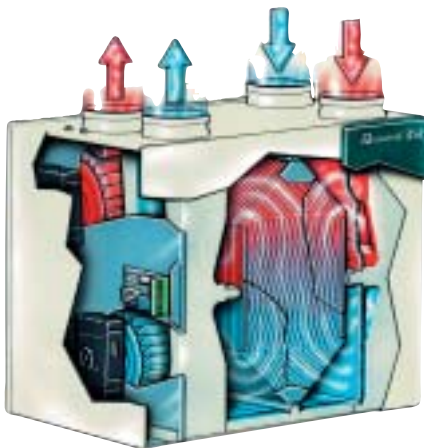


# CLIMATE SYSTEMS

Brink | Ubbink

## Don't just insulate... ventilate!

Measures to cut energy consumption in residential buildings, such as insulation and sealing, often mean that the heat is kept in, without enough fresh air being able to enter the house. That produces a variety of problems. For example, in an average family home 12 to 14 litres of water vapour is generated every day by showering, cooking or washing, or by the occupants' bodies. If this moisture is not expelled properly, it can have disagreeable consequences: it can cause accumulations of damp, mould or even damage to the building's fabric.



The Renovent HR by Brink

The poor air quality and an unacceptably high CO<sub>2</sub> content moreover have an adverse effect on the occupants' health.

In short, heat insulation and cutting energy consumption are all well and good. But you shouldn't just insulate... you need to ventilate, too!

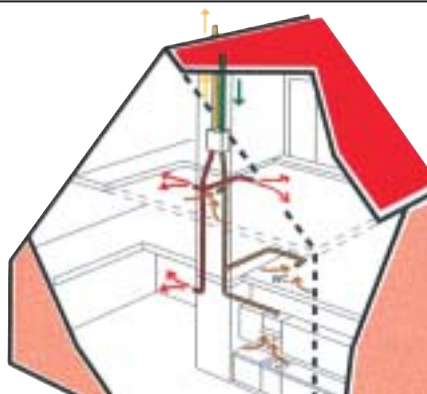
## RENOVENT HR – CONTROLLED VENTILATION WITH HIGHLY EFFICIENT HEAT RECOVERY

The most commonly used method of ventilation is to fit ventilation openings in the exterior, in conjunction with a mechanical air extraction system. But such a solution not only results in draughts, it also means that much of the energy that has been saved is directly lost again. The warm air is simply replaced by cold air.

So what is the solution to this problem? It would be much better if the stale air from inside could transfer its heat to the incoming fresh air before being led outside.

Precisely this is the efficient principle used by the Brink heat recovery system. It has been used to maximum benefit in the new model Renovent HR. This newly developed heat exchanger recovers over 90 % of the heat. The incoming air does not need to be heated up additionally.

The special feature of Renovent HR is its energy-saving direct-current blowers. They use only half the power of conventional fans. Altogether an efficient and healthy way to save energy...



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