

SYSTEM MONSUN

Operating principles



1

Hot air discharged from chimneys and exhaust air ducts is collected on the roof and fed into the MONSUN by thermal uplift. The degree of contamination does not influence the efficiency of the system.

When passing through the MONSUN pipework, the discharged air is cleaned as well as cooled down by diffused spray water. The spray water heats up and is then collected at the bottom of the MONSUN pipe, from where it flows directly into the VESUV waste heat recovery module. The pollutants washed out of the air (fine dust, soot, wax, grease, etc.) are automatically separated from the water in the spray water reservoir. From the reservoir, the spray water is pumped back to the spraying nozzles and the cycle starts again.



Condensation of moisture initially contained in the waste air, constantly adds water to the system and at the same time leads to an additional energy gain (condensation energy) while cleaning itself in the process. The resulting water surplus is disposed of via an overflow in the spray water reservoir, thus having a purifying effect on the spray water.

The cleaned waste air leaves the MONSUN cool and free of dust and odor. The recovered heat energy can then be returned into the production process in different ways adjusted to the specific application.



FERNETT 'S MONSUN and its components are made from a welded and bolted stainless steel construction. Due to its low weight it can be mounted on rooftops, retrofitted, or suspended from ceilings in production facilities. High-quality workmanship guarantees a long, maintenance-free service life with constant high efficiency.

A winning edge with innovative technology

Waste Air Heat Recovery Purification of Waste Air for Trade and Industry

Reduce your rising energy costs and think green when planning or streamlining your industrial or trade facilities - Be part of a non-reversible trend in times of higher environmental awareness.

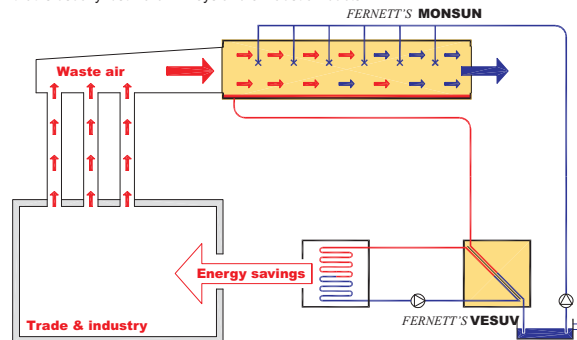
With a combination of our MONSUN and VESUV system, at FERNETT ENERGY SOLUTIONS we offer answers for a wide range of environmental and energy-related challenges.

- **High energy savings**
Energy savings of 15-30% through increased energy efficiency.
Exact documentation of energy gains through constant heat volume measurement.
- **Reduced fixed costs**
Considerably lower use of primary energy sources (natural gas, fuel oil, etc.)
- **Waste air purification**
A plus for environment and health.
- **Virtually no service required**
Our system retains a constantly high efficiency without cleaning or maintenance.
- **Viability and financing**
Return of investment within 6 months to two years - Financial consulting available.
- **Concept solutions**
Analysis, calculation of cost saving potential, and expert advice: the FERNETT pilot study - a concept tailored to your requirements.

Enquiries and information:

Telephone: (540) 832-0609 Fax: (540) 406-0025
email: info@mnettekinternational.com
Web: www.mnettekinternational.com

Our MONSUN - VESUV combination is the most suitable system for all industrial and trade processes that produce hot waste air of any kind (e.g. drying processes). We recover and re-use heat energy efficiently that is usually lost via chimneys and exhaust air ducts..



Use your own energy sources !

Use your **own** energy sources.



MONSUN-VESUV

WASTE AIR HEAT RECOVERY
PURIFICATION OF WASTE AIR
for Trade and Industry



SYSTEM VESUV

2

Operating principles



Hot spray water from the MONSUN waste air heat recovery module is evenly dispersed over the heat absorbing layers of the VESUV waste water heat exchange module.

Only *FERNETT* and its European partner company uses the principle of "film flow" in its system. The turbulent flow over the absorber panels enables the best possible heat transfer from spray water to process water, which is transported through flat pipes in a counter current process.



After cooling down, the spray water flows into a reservoir where it is cleaned according to the process requirements, and then pumped back into the MONSUN waste air heat recovery module. The spray water cycle is closed.



Our systems offers many different options for re-using the recovered energy. The specifics will always be adjusted to your application. Examples are heating of process water, pre-heating of drying air, air conditioning for industrial facilities, supporting heating systems and many, many more.



The **MONSUN-VESUV combination presents a functional unit that is co-ordinated and perfectly adapted to the specific requirements of various industrial applications.**

Waste Water Heat Recovery for Trade and Industry

FERNETT ENERGY SOLUTIONS is a technology leader in the field of waste air and waste water heat recovery and offers custom-made system solutions for various industries of all sizes, for instance:

- Industrial laundries
- Paper industry
- Carton and cardboard manufacturers
- Construction industry
- Chemical industry
- Food industry
- Catering, hotels and canteen kitchens
- Spas, sports centers and indoor swimming pools
- Hospitals, rehabilitation centers

... and many others.

In addition to its use in the MONSUN-VESUV combination, the VESUV system represents an independent functional unit for waste water heat recovery. The *FERNETT* design (patented in Austria, US patent pending) solves and eliminates the key challenges in waste water heat exchange: high maintenance and efficiency loss due to dirt.

Due to its open design, the system works absolutely maintenance-free without any efficiency loss. Effective energy gains are consistently monitored and recorded.

The self-purifying effect of the turbulent water flow over the surface of the absorber panels is crucial for both service-free operation and excellent heat exchange properties. Further advantages in comparison with competitor's products:

- No wear and tear
- Routine checks can be done during operation and without interruptions
- Handles considerable fluctuations in waste water quantity without problems
- High reserve capacity above the nominal load

These features make the VESUV universally applicable and without competition in the market.

For many years, *FERNETT'S* European partner companies have been realizing high energy gains for its clients in numerous industries, thus generating real financial savings and environmentally friendly companies.

A winning edge with innovative technology

Achievements of the product inventor, Joseph Fercher (Austria)

1992 Gold Medal International Inventors Fair IENA, Nürnberg (Germany) International Fair for Inventions and Innovations

1993 HAVARD UNIVERSITY BOSTON / USA, Work Abroad Program

1994 Environmental Award of the City of Villach (Austria)

1995 Environmental Award of the City of Innsbruck, Environmental Protection Office

1996 Business men of the year, Bank Austria, Austrian Chamber of Commerce, Trend Magazine

1996 Tourism Entrepreneur as Master of Energy Savings, Hotel Post/Winklern (Austria) wins with Wastewater Heat Recovery by FERCHER ENERGIETECHNIK, *FERNETT'S* European Partner EVA Energy Recovery Agency, IWO Austria, Institute for Efficient Oil Heating, OMV AG (an Austrian Natural Oil and Gas Company), ÖW Austrian Advertising



FERNETT ENERGY SOLUTIONS LLC
a subsidiary of *M Nettek International Inc.*

661 Ashanti Farm Rd., Gordonsville, VA

Telephone: (540) 832-0609 Fax: (540) 406-0025

Email: info@mnettekinternational.com

Web: www.mnettekinternational.com

Use your own energy sources !

FERNETT
Energy Solutions LLC