konvekta

convecta

Energy Efficiency at its Peak!

Visual interpretation of system performance and energy recovery rates of 70-90% with the new generation "Eiger" System Controller!

Highest performance
in the smallest space!

The special design of Konvekta's high-performance coils with headers on both sides of the coil ensures cross-counter flow, and achieves almost pure counter current.

This is a prerequisite for high energy efficiency in energy recovery systems. At the same time, this minimizes coil depth and saves space in the air handler.

Energy Recovery at its Peak with the New Generation System Controller "Eiger"!

Recent developments in computing technology have made simulations of complex operating systems both possible and affordable. The latest generation system controller "Eiger" uses the most advanced technology making it the perfect solution for high performance run-around energy recovery systems (RAERS). The "Eiger" controller is specifically ideal for the complexity of multifunctional network systems.

The "Eiger" provides continuous automatic operation of the system as well as continuous efficiency monitoring. Based on actual operating conditions, the "Eiger" will continuously calculate optimal system settings to maximize efficiency. The "NOMINAL" values are compared to actual measured values and all deviations are reported.
Only the comparison of the "NOMINAL" value with the actual measured value will determine if the system is running optimally.

System Controller "Eiger" uses
Performance Maps of Heat Recovery Coils
The highest efficiency will only be achieved if the System Controller adjusts the liquid flow rate of the system not only for actual air volumes but also for the amount of heating energy required. For this, an intelligent System Controller (the "Eiger") that uses the performance maps of the installed heat recovery coils is required.

Operations Monitoring
The purpose of every heat recovery system is to optimize net energy recovery to maximize annual operating savings for the lifecycle of the system. The prerequisite for this is optimal, failure-free operation of the system. For this reason, installation flaws, software mistakes and incorrect set-point values in the control system have to be detected. With every heat recovery system malfunctions will occur over time. There is a risk that irregularities are not detected correctly, too late, or not at all.

The KONVEKTA System Controller "Eiger" detects deviations from the set-point value early and reports them automatically to the building automation system. Simultaneously, the cause of the malfunction is analyzed.

Comprehensive Information at a Glance
With the increased use of electronics and software, mechanical systems are more complex. Therefore, it is important that the building owner continuously receives reliable and easy to interpret information about system operating conditions as well as possible system malfunctions. With the new visual monitoring tools and with auto-reporting plus, all important data is graphically displayed on the internet dashboard (password protected) or on the controller display cabinet. Thanks to the clear illustration of all key parameters and characteristics, it only takes a glance to determine if the high-performance heat recovery system is functioning optimally and the guaranteed performance is being met.

New Visual Interface

Every Konvekta System Controller with the new "Eiger" version will be equipped with a touch screen that provides access to trended data, system schematics and data tables. With VPN-access, the data will also be available via the internet with password protected access.
The VPN access also provides remote access to the System Controller so that the system can be operated manually in emergency situations.

Operation Monitoring

The latest version System Controller "Eiger" monitors the most important parameters of the system and displays the characteristics in the Konvekta "Magic-Eye". The display is based on the comparison of "nominal" to "actual values". When a system is not performing as expected, the black dot representing the "out of range" parameter moves from the green section of the eye into the yellow section of the eye. If the deviation increases, the black dot then moves into the red section of the eye and an alarm will be sent to the building automation system.
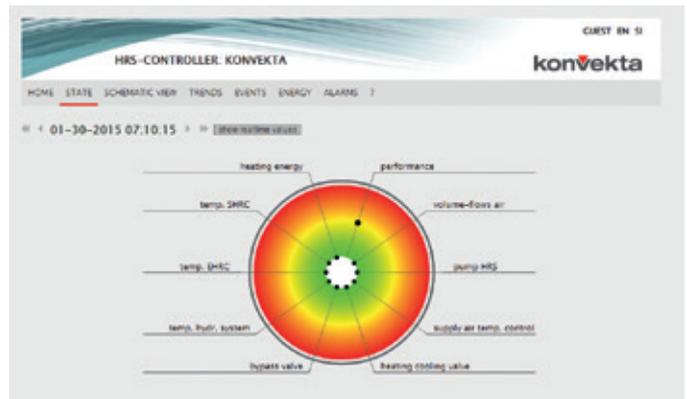
Schematic View

The system schematic displays actual measured values as well as valve positions, pump speed etc. To review past operating conditions, the system performance can be viewed by selecting the date and time on the controller screen. Authorized users can also control the system manually from the same screen.
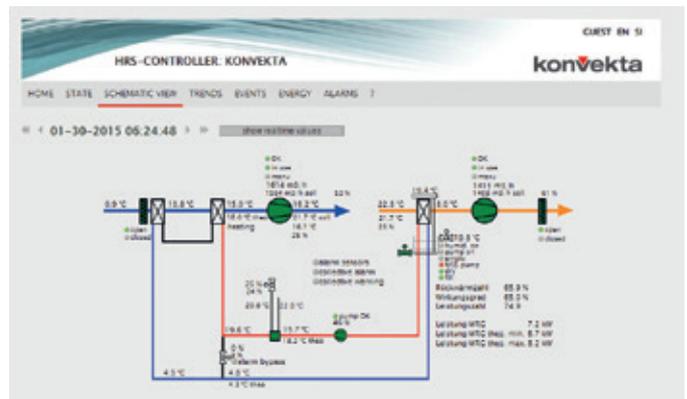
Trend-Data

Historical data for the past 30 days can be displayed on both the controller screen and the dashboard. To enhance readability, users can select only the diagrams and/or curves they want to view. By moving the cursor over the curves, all data points will be viewed.
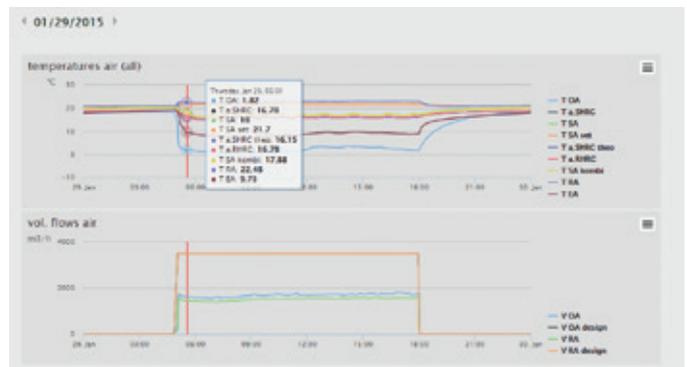
It goes without being said that zooming functions on the curves as well as exporting capabilities for printing graphics and import functions into other programs are all included in this software.
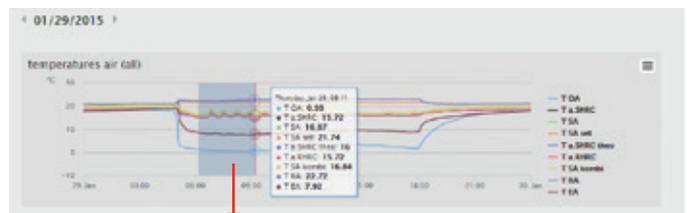
Overview of Energy-Savings

The System Controller "Eiger" offers a wide selection of measured parameters and trending data for review. Each is a critical component of energy savings. The tables are displayed separately for heating and cooling savings.

The data is displayed graphically each year in monthly increments. Actual values are listed on tables as well.

Energy costs vary based on location and supplier. To calculate correct recovery savings the energy cost can be adjusted. The chart compares theoretical with actual savings.

To calculate carbon dioxide reductions it is important to consider the pre-processes before the product is consumed. For this the System Controller "Eiger" has a selection of predefined products for "energy source" and for the "electricity mix" available.

Events, Alarms

Over the life of the energy recovery system events and alarms are recorded and archived. This is done so that they can be reviewed at later dates. Each event is listed separately. When selected, the screen will jump to the schematic diagram and show the actual system parameters and measured values at that particular time. This helps the user to find the cause of the event.

Alarms have to be recognized and overridden by an authorized person. This way, no alarm can be missed or ignored and the system can be maintained at top performance.
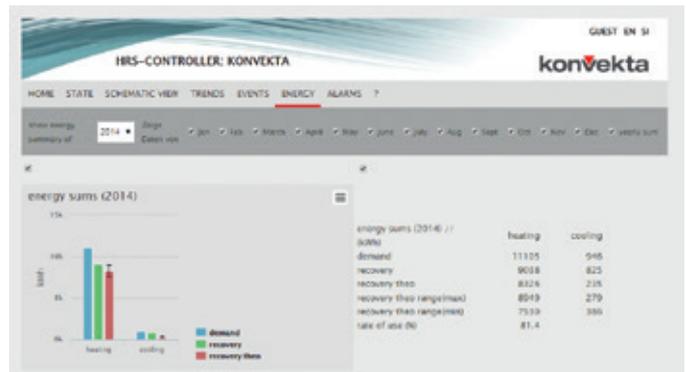
sys▼kon

Quality begins with Planning!

Accurate Design of Complex High Performance Energy Recovery Systems using Dynamic Custom Software.

sys▼kon is a combination of a building simulation program, DOE-2 energy modeling, and equipment sizing software for various system components, such as energy recovery coils, pumps, fluid piping, chillers, and condensers, etc.

During the day when heat demand fluctuates, heat recovery can only be effectively optimized with a dynamic building simulation program. Using a dynamic building simulation program results in significantly higher accuracy than when static calculation methods are used (for example, cumulative frequencies).

Konvekta provides the customer with profitability calculations that evaluate the use of different system components and designs so that the best solution is found. Konvekta will provide design options early in the design process so that the energy recovery system is sized properly and energy savings and pay-back are identified early.

Typically energy savings range from 70% to 90%, and returns on capital investment reach 20 to 60%. We guarantee the energy savings and provide continuous monitoring of the energy recovery system to ensure that the specified energy savings are realized for the life of the building.

Commissioning by the Manufacturer
After installation of the equipment our technical experts commission the system.

Monitor and Optimize the System
Since no two systems are identical, components must be synchronized when the commissioning phase is completed. This is typically done with an operational optimization, where all system parameters are optimized at critical operating points.
Konvekta systems are usually equipped with VPN access. This allows our engineers to observe live operation and if necessary, take action to optimize the system.
A poorly controlled system or malfunctioning components will reduce recovery efficiency by up to 80%.
Assembly errors, software failure, leaking valves, etc. are rarely or never noticed.

Konvekta energy recovery systems are equipped with a large number of sensors, so that the controller receives accurate performance data. This ensures optimization and maximizes energy efficiency.

Take advantage of our expertise and service and we'll guarantee a highly efficient building with verified energy recovery savings.

konvekta

Konvekta AG
Letzistrasse 23
CH-9015 St.Gallen
Tel.: +41 (0)71 311 16 16
info@konvekta.ch
www.konvekta.ch

convecta

Convecta GmbH
Kirchstrasse 29
DE-88239 Wangen
Tel.: +49 (0)75 28 60 88
info@convecta.ch
www.convecta.ch

konvekta

Konvekta USA Inc.
5 Independence Way
Princeton, NJ 08540
Tel.: +1 (0)724 462 82 07
info@konvekta-usa.com
www.konvekta-usa.com

Represented in Austria by:

Condair GmbH
Perfektastraße 45
A-1230 Wien
Tel. +43 (0) 1 60 33 111-0
Fax +43 (0) 1 60 33 111 399
www.condair.com

Swiss Quality

Your Partner for High-Performance
Energy Recovery Systems