WAFE 350 EFS2

SOLUTION FOR FAMILY HOMES

BENEFITS | HEAT RECOVERY CONCEPT | ENTHALPIC FLAP SYSTEM | WAFE 350EFS2 I LOW OPERATING COSTS AND EFFICIENCY
COMPARISON RECOVERY UNIT | CONTROL AND MANAGEMENT

WAFE

SPECIALISTS IN HEAT RECOVERY

BENEFITS OF WAFE 350 EFS2

CONTROL AND MANAGEMENT OF UNIT LOCAL AND REMOTE CONTROL OPTIONS.

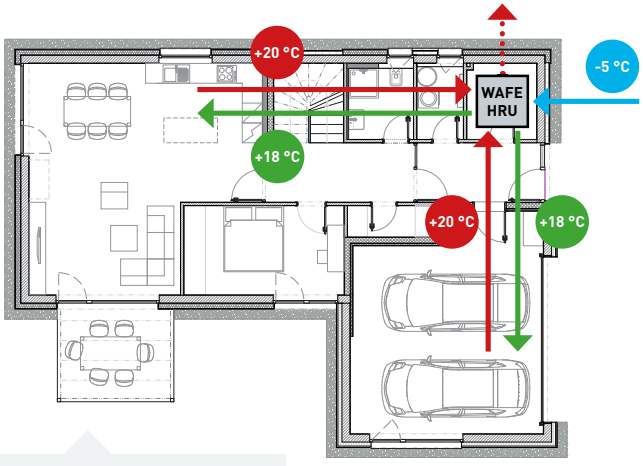
MOISTURE RECOVERY FOR OPTIMUM HUMIDITY IS MAINTAINED THANKS TO INNOVATIVE ENTHALPY EXCHANGER TECHNOLOGY.

INTEGRATED CO_2 SENSOR MAINTAINS HEALTHY ENVIRONMENT LOWERS COSTS ON OPERATION AND MAINTENANCE.

HEAT RECOVERY CONCEPT

Heat recovery is an efficient ventilation system where the heat from the exhaust air is used to heat the air that we bring into the building. In the summer, on the contrary, it pleasantly cools the air flowing into the building. Apart from the temperature, it is also possible to regulate the humidity in the building and to filter out dust, smog elements and allergens. Heat recovery brings savings for heat, but it primarily creates a healthy environment and is becoming the standard for construction and reconstruction of commercial and public buildings and light industry.

EU's pressure on energy savings also manifests itself in the construction industry. Stricter standards are leading to demands for better building insulation and to airtight low-energy buildings. It is evident that without effective building ventilation it will not be possible to economically fulfil these standards. For example, in Holland and Norway heat recovery is installed into practically all new and reconstructed buildings.

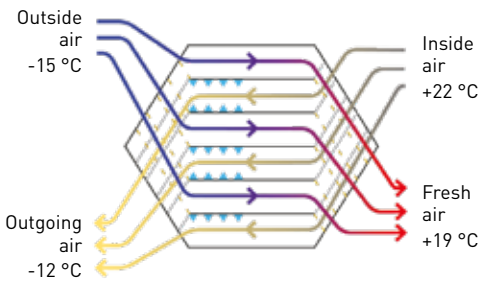


HRU	Heat recovery unit
	Fresh cool outdoor air enters the HRU from the outside
	The exhaust warm internal air is conducted from the building to the HRU
	The exchange of heat inside the HRU (in the exchanger) between the fresh cool air and the stale warm air
	Waste cool air leaves the HRU and the building
	Fresh warm air enters the building from the HRU

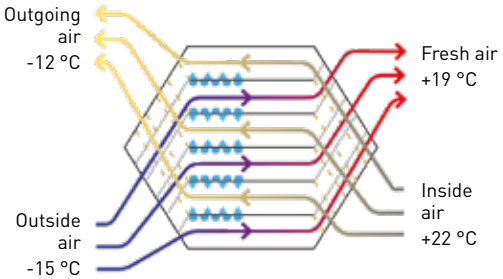
WAFE EFS™
Enthalpic flap system

Modern ventilation systems can deal not only with heat recovery but also with humidity recovery. Until now, this principle worked only with membrane-based enthalpy exchangers. However, the WAFE 350 EFS2 unit using the WAFE EFS system restores humidity back through a standard counter-flow heat exchanger. That means you get all advantages from both systems: low operating costs, high heat recovery efficiency, long term reliability and humidity recovery capability. EFS system has one of the highest overall efficiencies of energy recovery on the market.

During winter, humidity present in the outgoing air condensates on the surface of the counter-flow heat exchanger (phase 1). Once there is enough condensate, the flap position changes (phase 2). The air flow changes its direction, the condensate dries and is carried back with the outside air to the internal environment as natural humidity. During this period, the condensate is formed on the other side of the heat exchanger. As a result, WAFE350 EFS2 can be installed without a required air preheater or a condensate drainage.



phase 1



phase 2

LOW INVESTMENT COST
NO NEED FOR EXPENSIVE COMPLEMENTARY EQUIPMENT.

LOW OPERATING COST
PROLONGED FILTER LIFETIME, LOW ELECTRICITY CONSUMPTION OF FANS, NO AIR PREHEATER, HIGH HEAT EXCHANGER EFFICIENCY.

MINIMAL INTERACTION
THANKS TO THE AUTONOMY OF THE UNIT WITH AUTOMATIC DYNAMIC ENVIRONMENTAL ADAPTATION.

WAFE 350 EFS2

WAFE 350 EFS2 is a premium heat recovery unit that fulfils our customer philosophy: **We think the same way you do**.

Everything has been designed for a carefree and easy operation of the unit. WAFE 350 EFS2 contains the unique EFS technology developed by us. Thanks to this technology, the recuperator runs with one reliable heat exchanger for the whole lifetime of the unit. The WAFE EFS technology significantly reduces spending on operations and helps you keep pleasant humidity levels.

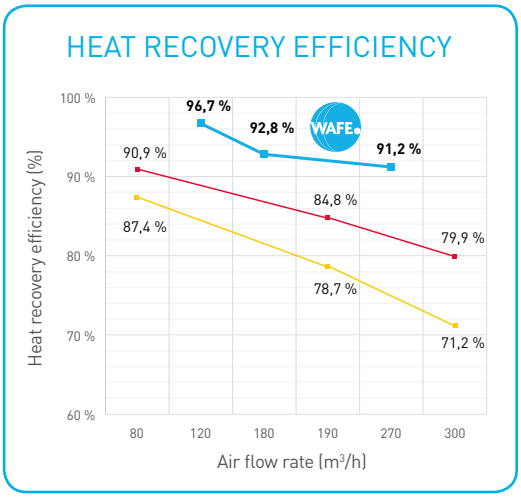
NEW GENERATION BRINGS NEW BENEFITS:
Flap system with enhanced air tightness and frost resistance improves thermal efficiency.
Higher standard of sealing material secures safer condensate drain.
PID* regulation based on CO_2 levels is fluent, noiseless and lowers consumption.
Sensors with enhanced reliability and accuracy improve longevity.
New mode for dehumidification strictly available.
Humidity based regulation - for efficient swimming pool ventilation.
New homepage on the basic display with more information.
Fire alarm shut down for better safety.
Fireplace mode - secures sufficient air pressure to avoid smoke going to the interior.
New generation electronics with more power and communication stability.
Both local and on-line unit set up and monitoring available.
New MyWAFE design.
Smart home integration ready.

* Proportional Integral Derivative regulation.

LOW OPERATING COSTS AND EFFICIENCY WAFE 350 EFS2

Without the need for an air preheater you can save costs! Lower electricity input also means lower demands for your circuit breaker and that may lead to reduced rates as well. German made Ebm-Papst ventilators reduce electricity consumption in WAFE units too. A smooth change of speed based on CO_2 levels guarantees the optimal quantity of air. Ventilators barely ever work at the maximum output without a proper indication.

WAFE 350EFS2 is able to recover natural humidity to the interior with 60-90% efficiency. So there is no need to use artificial humidification. At the same time, the high heat efficiency is preserved. Compared with other heat recovery units, the crucial difference can be observed when temperature drops below 0°C. While other recuperators require operationally expensive air preheater to prevent condensate from freezing, WAFE units do not need one.



COMPARISON OF WAFE 350 EFS2 WITH ORDINARY UNITS

	Ordinary unit without Enthalpy	Ordinary unit with enthalpy exchanger	WAFE 350EFS2
Extra costs	+ CO_2 Sensors	+ CO_2 Sensors	Included
	+ Humidity Sensors	+ Humidity Sensors	
	+ Humidifier	Not necessary	Not necessary
	+ Wall Controller	+ Wall Controller	Not necessary
	+ Condensate drain	Not necessary	We recommend installation at an indoor relative humidity of more than 55%.
	+ frost protection	+ frost protection	Not necessary

CONTROL AND MANAGEMENT OF UNIT

LOCAL CONTROL	
Analogue Control	The unit is controlled manually over an **analogue wall control** with the possibility of nine levels of ventilation intensity.
	The unit cannot be concurrently controlled over a local network or remotely.
Indirect Control through Local Control Network	Control through the **MyWAFE web application** using the user's devices, e.g. smartphone, computer.
	Logging in through a local network is assumed.
	The unit can be controlled not only by the user's actions (a weekly program in addition to manual control), but also automatically through a CO_2 sensor.

REMOTE CONTROL	
Ethernet Connection	The most common way to control the recovery unit outside of the house.
	The control environment is identical to Local Control.
Sigfox IOT network	Primarily provides information about the unit, temperatures, sensors, the state of the unit, alarms, etc. WAFE 350 EFS2 is capable of communicating to the outside regardless of an Ethernet connection.
	The remote overview is once again provided through **MyWAFE web application**.
Ready for connection to smart home with BMS module	The unit can be easily connected to most smart home systems. Thanks to the ModBUS protocol, the unit can be controlled by external commands.
	Thanks to ModBUS, the unit can also be monitored and the measured values can be displayed using a visual environment of the parent smart home system.

The web application MyWAFE allows you to control the heat recovery unit remotely using a laptop, iPhone, tablet and other smart devices.

As part of the administration of the unit (with the exception of the analogue wall control), the modes (operation mode, fireplace ventilation, circulation, boost, night mode, holiday mode) can be changed as required by the user. For more on modes see www.wafe.eu.

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