

EBT



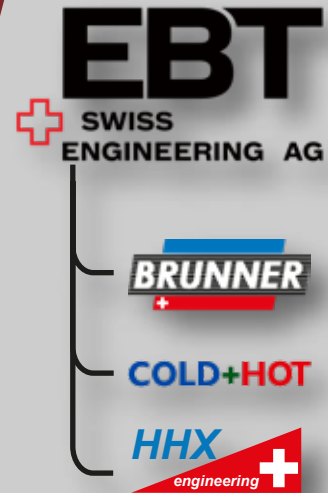
**SWISS
ENGINEERING AG**



**HEAT EXCHANGERS, SORPTION DRIERS
AND MORE ...**



ABOUT US



EBT is only a 40-minute drive from Zurich International Airport. From the surrounding hills you have a beautiful view of Lake Zurich and the magnificent Swiss Alps.

The company "EBT swiss engineering AG" was founded in August 2016 by Thomas Jakob. At the same time, he sold his 50% stake in Brunner Thermo to the other 50% shareholder and resigned from the company. For 19 years, together with his team, he had developed Brunner to become a leading manufacturer of heat exchangers and equipment for process air treatment.

By 1 March 2017, after the expiry of the blocking periods, more than half of the Brunner workforce followed him to EBT, including almost all key employees of the sales, engineering and production teams. This puts EBT into the position to utilise long-term broad-based know-how in the areas of industrial air treatment systems with heat exchangers, air dryers including energy recovery, in engineering as well as in production and sales.

On 1 March 2017, EBT purchased the operating business of "COLD+HOT engineering AG" and merged with the company "HHX engineering GmbH". All employees and liabilities of both companies were taken over and fully transferred to "EBT swiss engineering AG".

After the bankruptcy of Brunner Thermo GmbH in November 2020, EBT bought the archive, the servers, the rights to the market presence as well as the entire inventory from the bankruptcy estate, without any further legal obligations, as of 15 January 2021. For our long-standing customers, we thus secured the know-how and ensured a reliable and complete supply of spare parts.

To highlight the high Swiss quality standard of our products from our own manufacture as well as to simplify identification, in addition to the product name all devices bear the symbol of a typical Swiss animal on the nameplate.

WAL
AIR HANDLING
Chamois



MIL
RECUPERATOR
Capricorn



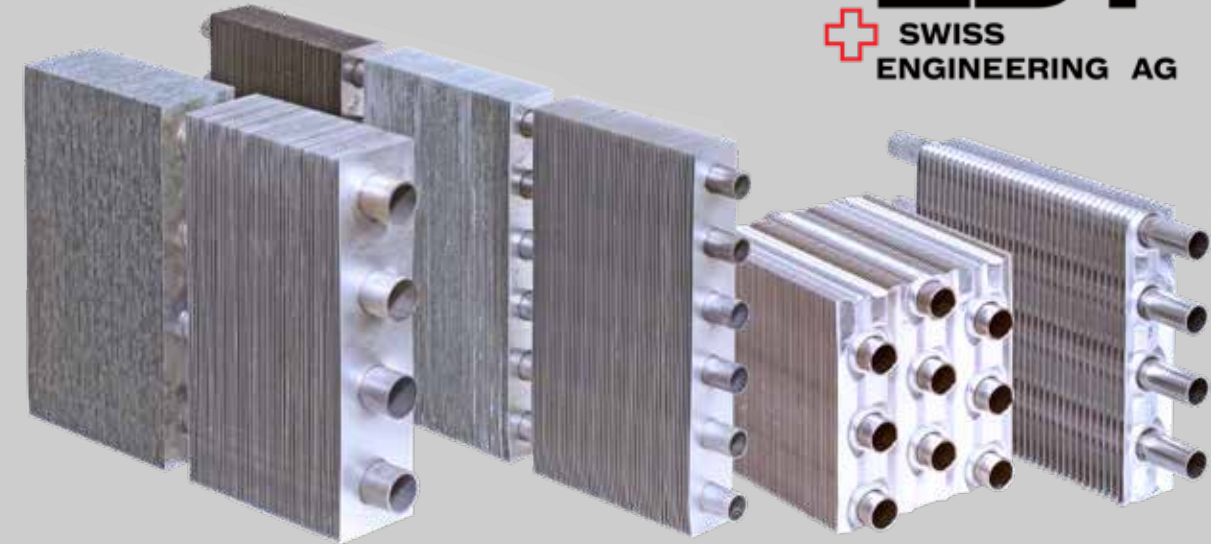
SOL
COOLER
Ram

JAK
HEATER
Bull



BOS
SORPTION
Deer

PRODUCTION

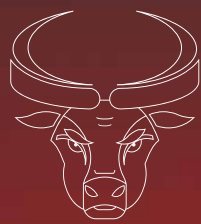


Manufacture of key parts in-house

The merger of the company with 'COLD+HOT engineering' brought their production know-how along with all the necessary certificates. This enabled EBT to manufacture complete heat exchanger units in-house or close to the end customer with local suppliers at customer request.

The fin tubes are modified with a specially developed expanding machine in-house. This results in a defined outer tube diameter and pressing from the fin to the tube. This is important to ensure lifelong, constant performance of the heat exchangers.





JAK^{HEATER} Heating



EBT swiss engineering AG produces a range of fin and bare tube heat exchangers. All tubes are made of stainless steel (1.4306/304; 1.4404/316L; 1.4571/316Ti) with fins in aluminium or stainless steel.

NEW!

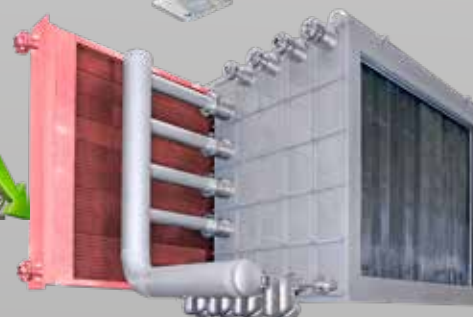
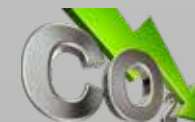
Reinforced fin tubes $\varnothing$ 20 x 1.5 mm with more than twice the strength than standard tubes $\varnothing$ 16 x 1.0 mm optionally available

Types of JAK Heaters:

- + Steam air heaters
- + Hot water air heaters
- + Regeneration air heaters
- + Electrical heat exchangers
- + Oil heat exchangers
- + Refrigerant heat exchangers

Different executions are possible:

- + With **extractable elements**
- + Insulated housings
- + Including all the necessary valves.
- + With energy-saving flash steam / condensate stage (saves 10-20% steam / energy)



All of our JAK HEATERS are customized according to our clients' specifications and requests.

BOS^{SORPTION} Dehumidification

EBT
+ SWISS
ENGINEERING AG



BOS SORPTION units are designed to dry process air down to 2 g/kg or less humidity without condensation by way of highly efficient sorption rotors (desiccant rotors made of silica gel).

Regeneration air with a temperature between 120 and 160°C is fed in a counter flow to the process air to regenerate (dry) the humid sorption rotor.

There is a range of options such as:

- + Integration of a pre-cooler for higher drying capacity
- + Filter stages for process and regeneration air side
- + Heat recovery loops
- + Air sterilization system with ultraviolet lamps
- + Attenuators for inlet and outlet air
- + Process air or regeneration air fans
- + Process air cooler after the rotor since the air is heated up by the drying process
- + Integration of different split air streams (AHU)



The interior and exterior of our stainless-steel housings is fully welded and insulated for the highest hygienic standards (EHEDG). In combination with the extractable elements and access hatches, this feature facilitates cleaning with high-pressure cleaners.

Our different BOS SORPTION units have capacities ranging from as little as a few hundred kg/h up to more than 200'000 kg/h of dehumidified process air.

Full integration of the electric controls in your main PLC is possible, giving you full and direct access to all parameters.



SOL COOLER *Dehumidification / Cooling*



Our fin tube SOL COOLER's (dehumidifiers) are generally operated with ice water. Depending on the situation, demisters are used in combination with a reheater (steam or hot water) as required.

The cooling coil(s) consists of stainless steel tubes with aluminium or stainless steel fins. The demister is made of aluminium, chrome steel or PVC.

The interior and exterior of our stainless-steel housings is fully welded and insulated for the highest hygienic standards. In combination with the extractable elements and access hatches, this feature facilitates cleaning with high-pressure cleaners.

Water, glycol-water, brine, seawater, refrigerants, thermal oil or other media may be used for the energy transfer.

WAL AIR HANDLING *Air Treatment*



Our WAL AIR HANDLING units (AHU) give you all the features in one device from a single source and ready for connection, such as an air intake unit with pre-filters, winter coil (steam or hot water), attenuators, inlet fan and fine filters.

Filter changes only take a few simple steps.

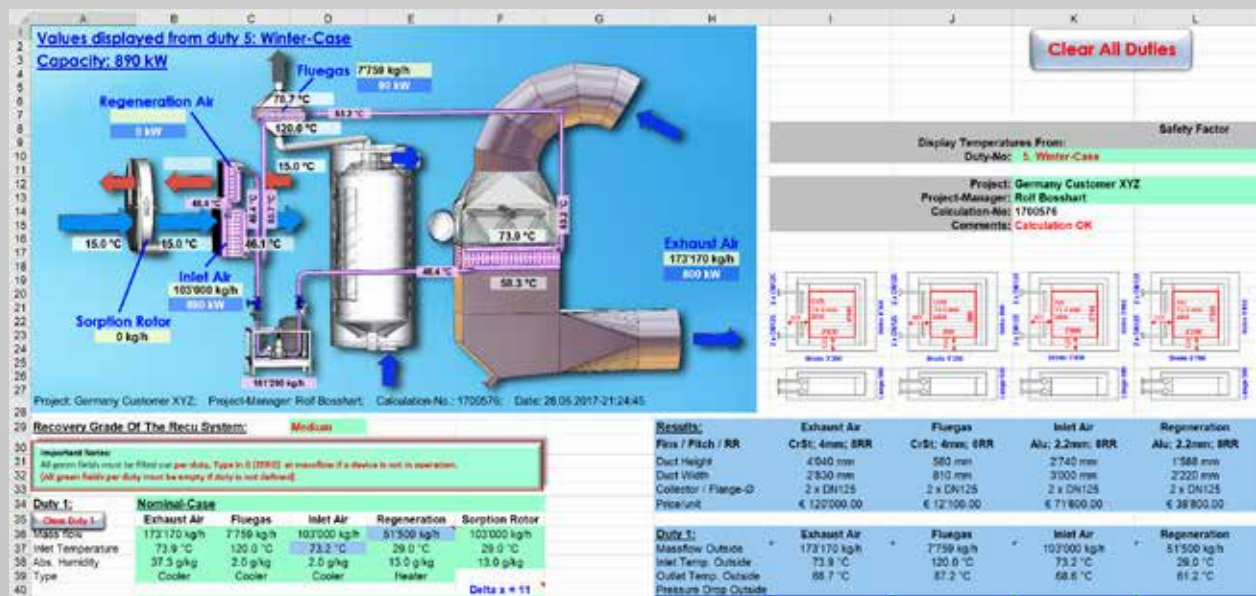
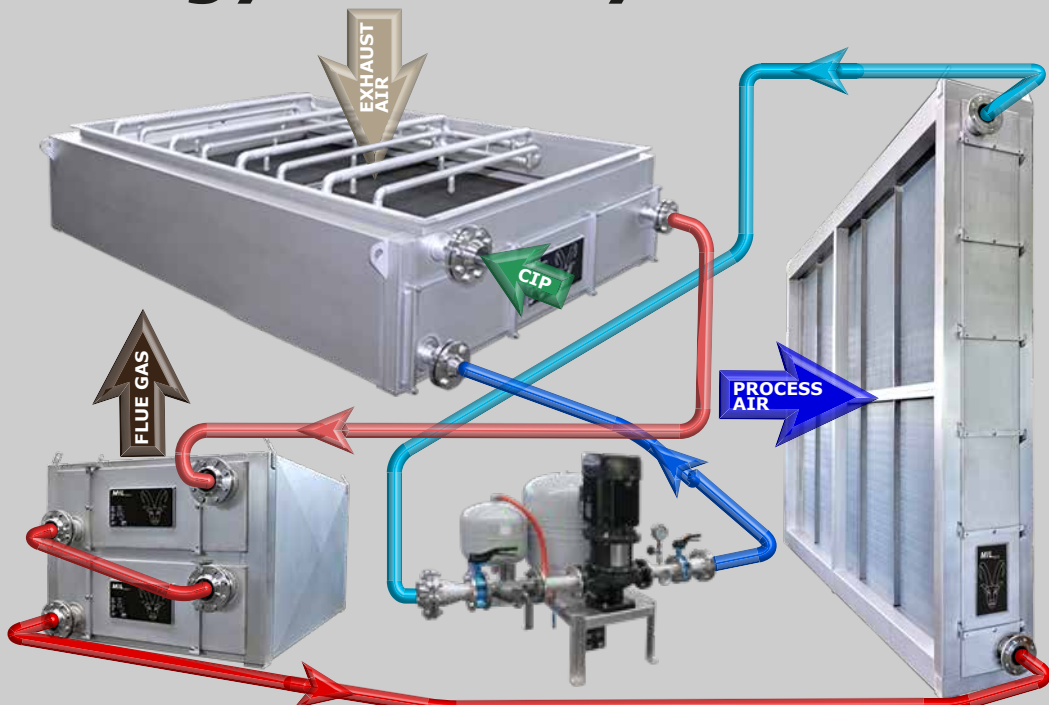
The level of filter pollution for each filter stage is shown by differential pressure gauges mounted on the filter housings or by transmitters integrated in your SCADA (PLC) for real-time monitoring upon request.

Combinations of sorption or condensate driers in the same unit make for a compact and efficient unit. All components are integrated directly in a housing that is fully welded and insulated inside and out. All heat exchangers can be extracted and all components are accessible via user-friendly service hatches. This makes for easy cleaning, a hygienic production process and low noise emissions.





MIL_{RECU} CO₂ Energy Recovery



MIL RECU systems recover energy from a range of processes with the benefit of big cost savings. Inlet air may be preheated with energy from the process exhaust air, flue gas or from other hot air streams.

Exhaust recuperators are optionally equipped with a spray nozzle system for automatic cleaning. The energy is transferred by a water/glycol or thermal oil loop by means of a pumping station including expansion tank and armatures.

We use our calculation program, an in-house development, to design highly complex recuperation circuits with a number of use cases for the seasons. The consideration of local energy costs facilitates an accurate calculation of the amortization period.

All housings are welded and insulated inside and out. The heat exchangers can be extracted.

ENGINEERING EBT

SWISS ENGINEERING AG



EBT:
MODIFY VERTICAL STEAM AIR HEATER TO PROVIDE HORIZONTAL AIR FLOW
✓ HEATER ASSEMBLED INSIDE BUILDING
✓ PLANNING / INSTALLATION / COMMISSIONING SUPPORT
✓ REINFORCED HEATER TUBES

EBT calculates, designs and produces equipment for all purposes and climatic conditions according to your specifications.

This is essential for to ensure that the specified performance of the appliances is maintained over their lifetime.

We offer ...

- ✓ Steam valve sizing
- ✓ Steam piping check
- ✓ Condensate piping and handling
- ✓ P&IDs
- ✓ Automation of heaters
- ✓ Troubleshooting
- ✓ Supervising and commissioning
- ✓ Consulting on new or existing plants
- ✓ Re-engineering / rebuilds

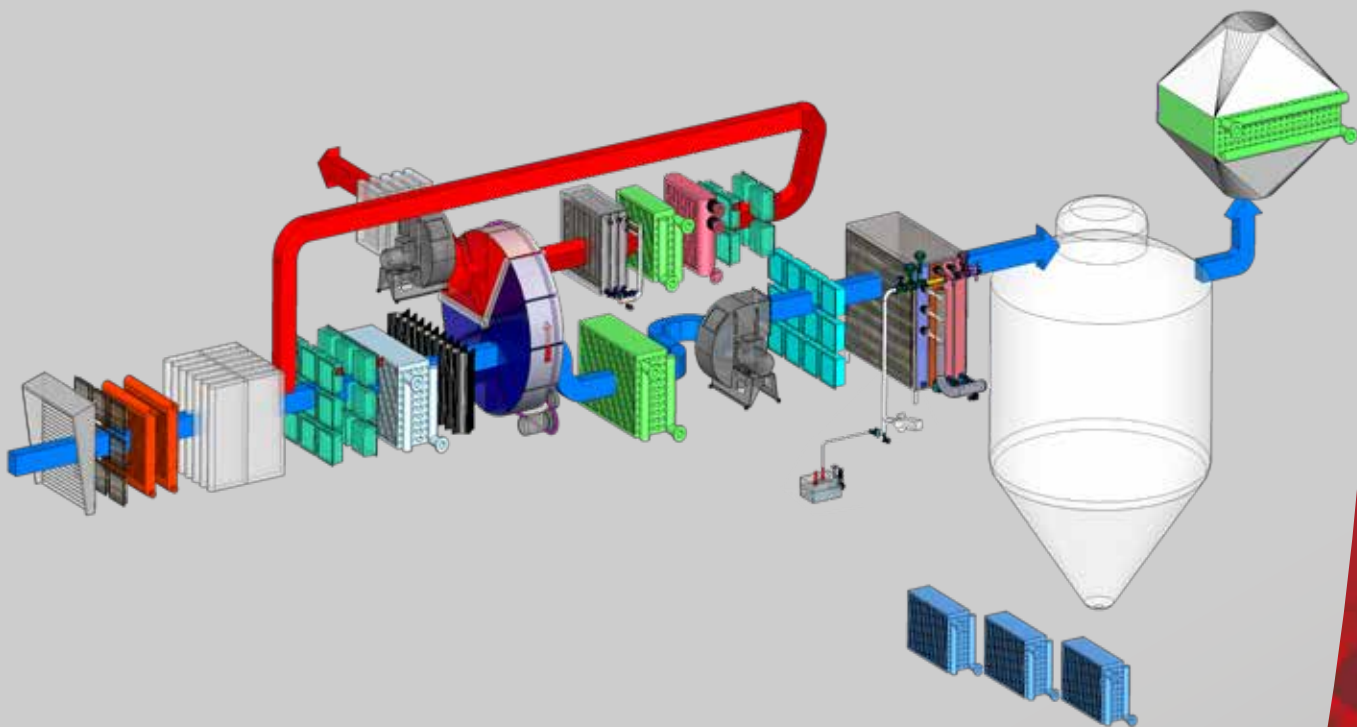


EBT swiss engineering AG
Tunnelstrasse 8
CH-8732 Neuhaus SG
Switzerland
www.ebtswiss.com
info@ebtswiss.com
T: +41 55 505 21 40



With EBT you have **ONE** responsible partner (also in cooperation with local suppliers) for a system with all ...

- + Air heaters (steam, hot water, electric)
- + Air Handling
- + Air drier by condensation (cooler)
- + Air drier by sorption (desiccant)
- + Energy-recovery with recuperator-systems
- + Engineering / planning of rebuilds
- + Troubleshooting in heater or sorption dryer installations



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