



Energy Saving Components and System Solutions



Baelz offers solutions for building
services and steam applications



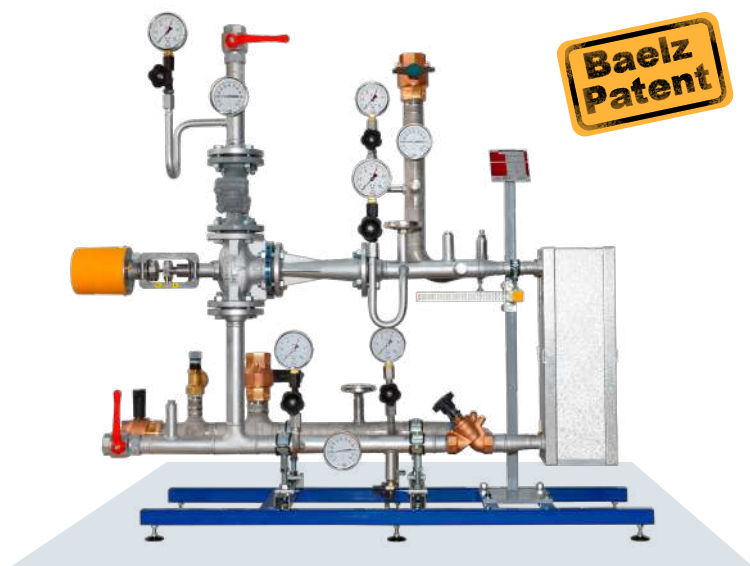
Versatile Heat Transfer Systems

Steam Terminal® Steam/Water Stations



- Baelz-thermodynamic® process control ensures flow equilibrium between primary and secondary sides, between steam and water
- Quiet-running and durable
- No steam hammer
- Low condensate temperatures
- Turnkey skid assemblies - fully piped, wired and tested

Baelz Moduline Fresh Water Stations



- Excellent controllability over the entire power range
- Reduction in material stress due to lower primary side temperature
- Less scaling due to lower primary side temperature
- Increased circulation reduces debris and deposits
- Significantly increased service life of installations

Steam Terminal® Compact Clean Steam Generators



- Horizontal design with steam-side control
- Space-saving vertical design with condensate-side control
- Available with feedwater storage tank
- Improved energy efficiency due to return cooling and feedwater preheating
- Heating by steam, but also available for thermal oil or high-pressure hot water

Condensate Terminal®



Collecting and using condensate

Condensate is relatively pure, depending on the process, thus providing an excellent source of feedwater for renewed steam generation.

- Available in standard capacities from 100 to 2000 liters
- With automatic overflow and dry-run protection
- With temperature and fill-level display on request
- Pre-assembled for easy transport and installation
- Also available in stainless steel

Baelz-hydrodynamic[®] Controlled Water Ejectors



baelz 474



baelz 476



baelz 480

Economical: Only one pump per system

Controlled water ejectors based on the Baelz-hydrodynamic[®] method unite four separate functions: they generate circulation, control circulation quantity based on the heat demand, regulate temperature and compensate differential pressure fluctuations.

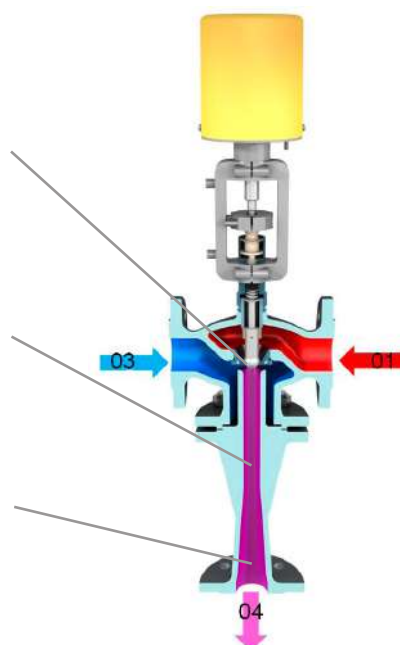
Rather than distributing heating water using control valves and electric pumps, Baelz systems are engineered with controlled ejectors and only one main pump.

Working Principle of the Ejector

The acceleration of the hot fluid 01 in the Venturi nozzle draws in the cold fluid 03.

The two fluids mix in the cylindrical part of the diffuser.

In the diffuser, the velocity of the mixture falls and the pressure rises again.



- Only one main pump, making for reduced energy costs
- Simplified plant design due to the reduction in components
- Fewer moving parts → Durability and lower maintenance costs
- A reduced number of data points for the process control system
- Lower return temperatures
- Hydraulic stability

Highly Efficient Heating Manifolds



State subsidized:

Baelz ejectors for maximum energy efficiency

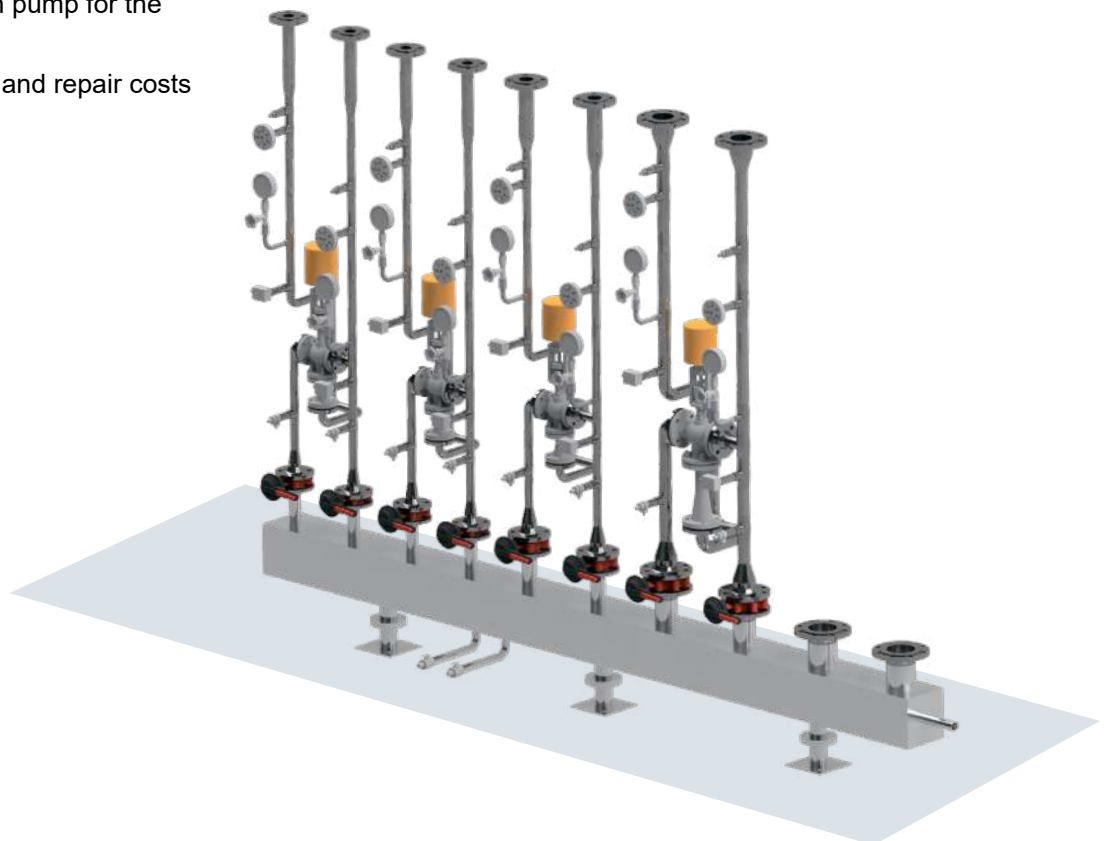
In Germany, the federal subsidy for efficient buildings (BEG) refunds 15 - 20 % of investment costs, for example for a Hydropilot® heat distribution system with controlled Jetomat® ejectors by Baelz.



Bundesministerium
für Wirtschaft
und Klimaschutz

Hydropilot® heat distribution

- Savings on planning fees
- Reduced investment costs
(No individual line circulation pumps!)
- Less energy consumption
(Only one circulation pump for the whole distributor!)
- Lower maintenance and repair costs



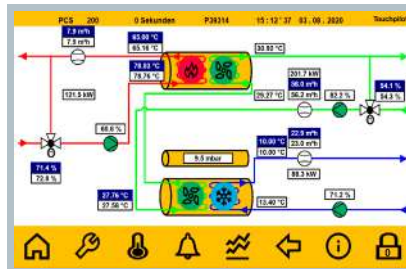
Cooling with Waste Heat

Absorption Chillers



- Large spreads for district heating applications > 40 K
- High thermal process efficiency, COP up to 0.80
- Low heat source temperatures from 60 °C possible
- Operable as a heat pump for heating systems up to 45 °C
- Good access through doorways, < 0,97 m x 1,60 m x 2,05 m
- Efficient system control for minimum operating/energy costs

The Bumblebee ®, with a cooling capacity of 160 kW, ranks between the space-saving Bee ® (50 kW) and the high-performance Hornet ® (500 kW) ein.



Operating software Touchpilot ®

The operating software was specially developed by Baelz for controlling the Baelz absorption chillers. With its intuitive application and clear user interface for quick navigation, it combines functionality and user-friendliness.

Technical Data of the Absorption Chillers

Description	Unit	Bee ®	Bumblebee ®	Hornet ®
Type		Single-Effect LiBr-H ₂ O		
Cooling capacity	kW	50	160	500
Coefficient of performance (COP)		0.80		
T _{min} (hot water / cold water)	°C	60.0 / 6.0		
T _{max} (cooling water)	°C	40.0		
Length / Height / Width	m	2.19 / 1.60 / 0.94	2.41 / 2.14 / 1.13	3.74 / 3.24 / 1.83
Weight when empty (approx.)	kg	1100	2100	8200

Baelz Systems in Hospitals



A selection of hospitals already benefiting from Baelz technologies:

Steam/Water Stations	Fresh Water Stations	Steam Generators	Ejector Technology / Heating Manifolds	Control Systems / Building Management Systems
Vivantes Hauptstadtpflege Haus Kaulsdorf	RoMed Klinikum Rosenheim	Universitätsspital Zürich	Märkische Kliniken Lüdenscheid	Kreisklinik Groß-Gerau
Universitätsklinikum Ulm Oberer Eselsberg	Klinikum Weiden	Sana Klinikum Offenbach	Diakonissenkrankenhaus Flensburg	GPR Gesundheits- und Pflegezentrum Rüsselsheim
Universitätsklinikum Schleswig-Holstein Kiel	Klinik Hochstaufen	Klinikum Bad Hersfeld	Vivantes Klinikum Kaulsdorf Berlin Marzahn-Hellersdorf	Hospital zum heiligen Geist Frankfurt
Universitätsmedizin Göttingen	Vivantes Klinikum Kaulsdorf Berlin-Hellersdorf	Universitätsklinikum Frankfurt	Klinikum Passau	Helios Klinik Miltenberg
Helios Universitätsklinikum Wuppertal	Bezirksklinikum Mainkofen Deggendorf	Bundeswehrzentral Krankenhaus Koblenz	Fachklinik Berchtesgaden	Klinik St. Irmingard Prien am Chiemsee
Klinik für Tumorbologie des Universitätsklinikums Freiburg	DONAUISAR Klinikum Deggendorf	Klinikum Darmstadt	Universitätsklinikum Tübingen	Universitätsklinikum Schleswig-Holstein Kiel
Fraunhofer-Institut für Silicatforschung ISC Würzburg	Ruppiner Kliniken Neuruppin	Bundeswehrkrankenhaus Ulm	Diakonissen-Stiftungs-Krankenhaus Speyer	Klinikum Lippe Detmold Detmold
Klinikum Fürth	Klinikum Passau	Universitätsklinikum Ulm Oberer Eselsberg	Krankenhaus Links der Weser Bremen	Kliniken Rhön und Saale Bad Kissingen
Petrus-Krankenhaus Wuppertal	Evangelische Lungenklinik Berlin	St. Elisabeth Hospital Gütersloh	Florence-Nightingale-Krankenhaus Düsseldorf	Reha-Zentrum Bad Pymont Klinik Weser
Universitätsklinikum Düsseldorf	Vivantes Hauptstadtpflege Kaulsdorf	Klinikum Bremerhaven-Reinkenheide	DONAUISAR Klinikum Deggendorf	Marienhospital Münsterland Greven
Alexius/Josef Krankenhaus Neuss	Chirurgie Medicum Wittenberg	Krankenhaus Buchholz	Hermann-Josef-Krankenhaus Erkelenz	Reha-Zentrum Bad Mergentheim Klinik Taubertal
Krankenhaus der Barmherzigen Brüder Trier	Klinikum Memmingen	DRK - Asklepios Westklinikum Hamburg Rissen	Universitätsklinikum Hamburg-Eppendorf	Salzetallinik Bad Salzufflen

Case Study: Mainkofen District Hospital



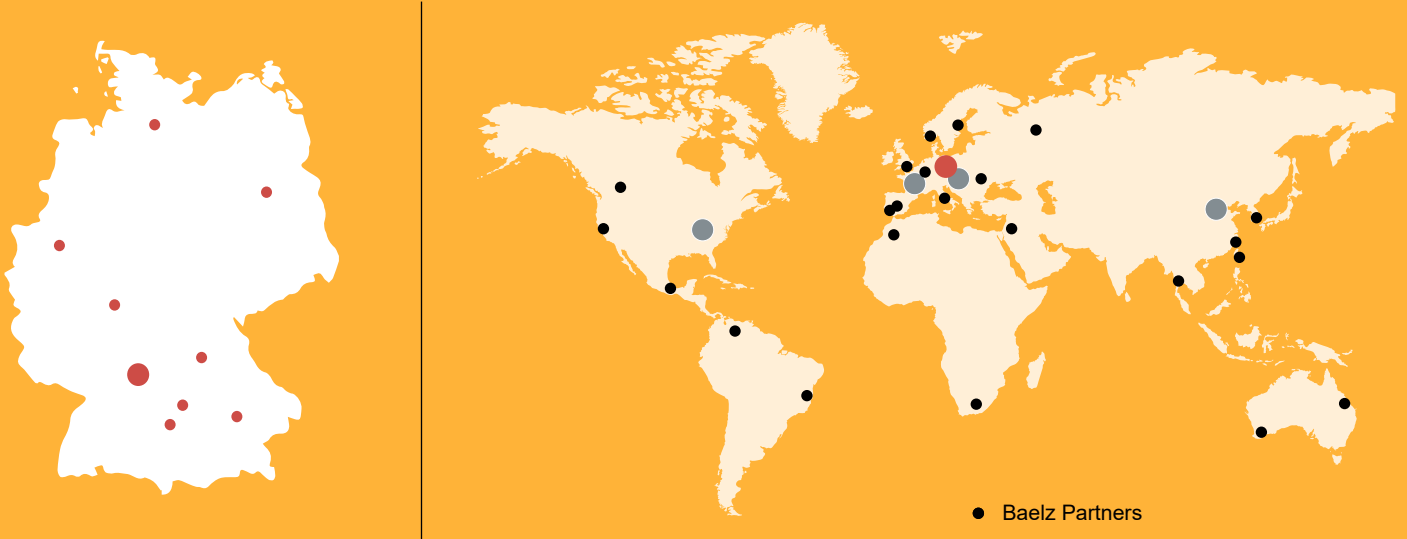
least, energy savings. As a result, this technology is now an essential planning basis for the new buildings currently in the planning phase."

The new heating center and the direct connection to the heat consumers by use of ejectors have already brought enormous energy savings. The durable, low-maintenance ejectors have significantly reduced the frequency of maintenance. Material savings achieved by the use of ejectors include not just the electric circulation pumps themselves but regulation by the control cabinet as well as electrical wiring and data points for the higher-level building control system. In addition, various other components such as check valves, orifice plates and differential pressure regulators have been rendered unnecessary, as was a hydraulic separator, since ejector technology inherently provides hydraulic stability.

This modernization resulted in an electricity saving of approx. 90%. The elimination of 250 circulation pumps led to a calculated saving of 450 MWh, to the value of around 90 000 euros per year. This in turn corresponds to a 272 t reduction in CO₂ emissions.

The technical operations manager of the Mainkofen District Hospital writes: *"In our clinic, ejectors have been meeting all our heat supply needs since 2004. During this time, they have proven their worth many times over due to low maintenance requirements, reliability and, last but not*





● Baelz near you

Germany

W. Baelz & Sohn
GmbH & Co.
Headquarters in Heilbronn

Berlin, Hamburg, Essen,
Frankfurt, Nürnberg, Aalen,
Ulm, München

● Baelz Group

France

Baelz Automatic SARL
Paris

Austria

Bälz GmbH
Wien

China

Baelz Heat Automation Equipments
Beijing

USA

Baelz North America
Atlanta, GA

Baelz energy-saving solutions for:



Chemical



Automobile



Textile



Heat distribution



Pharmaceutical



Aviation



Wood



Power generation



Paper



Tires



Building



Food and drink