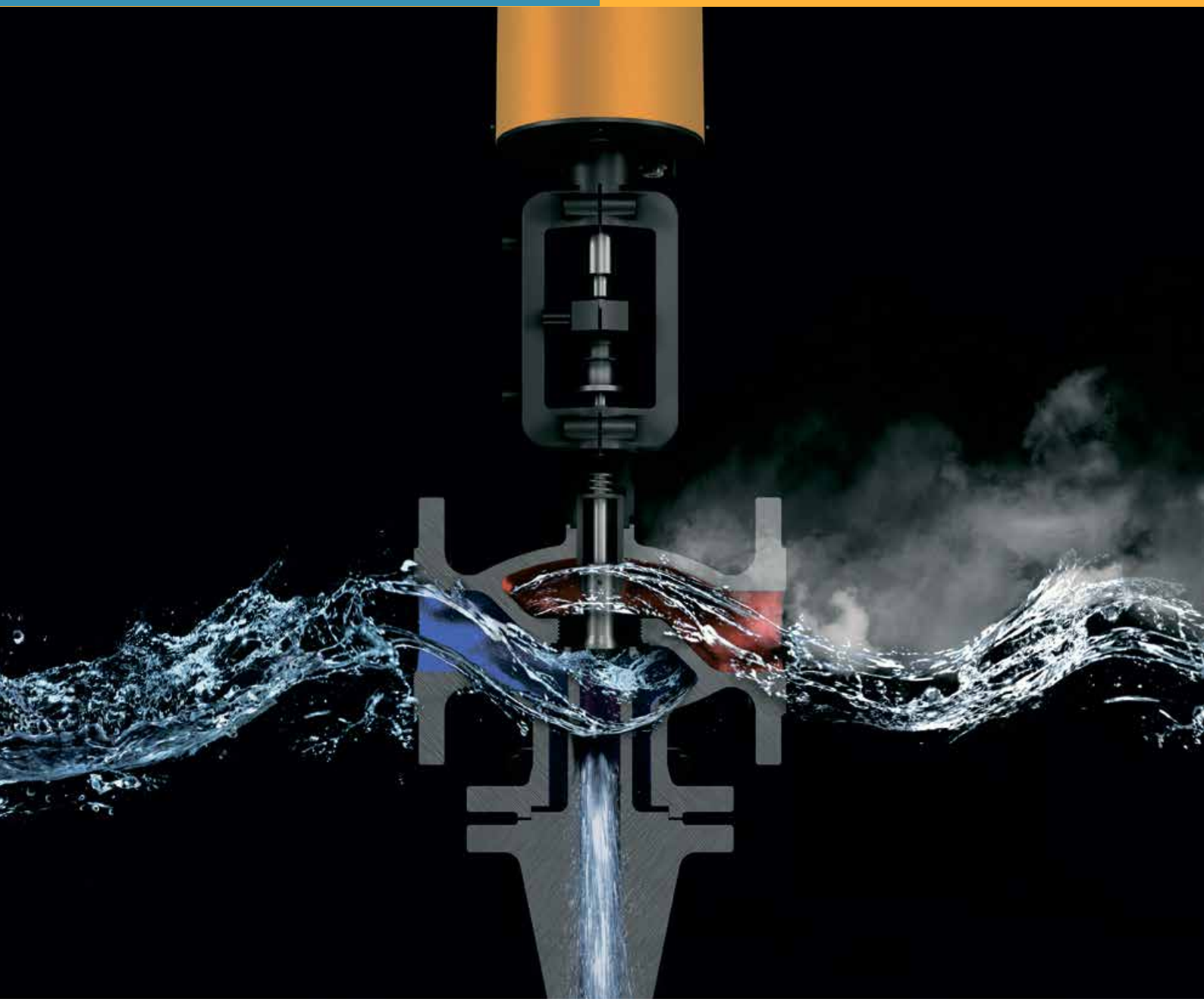
Baelz-hydrodynamic®



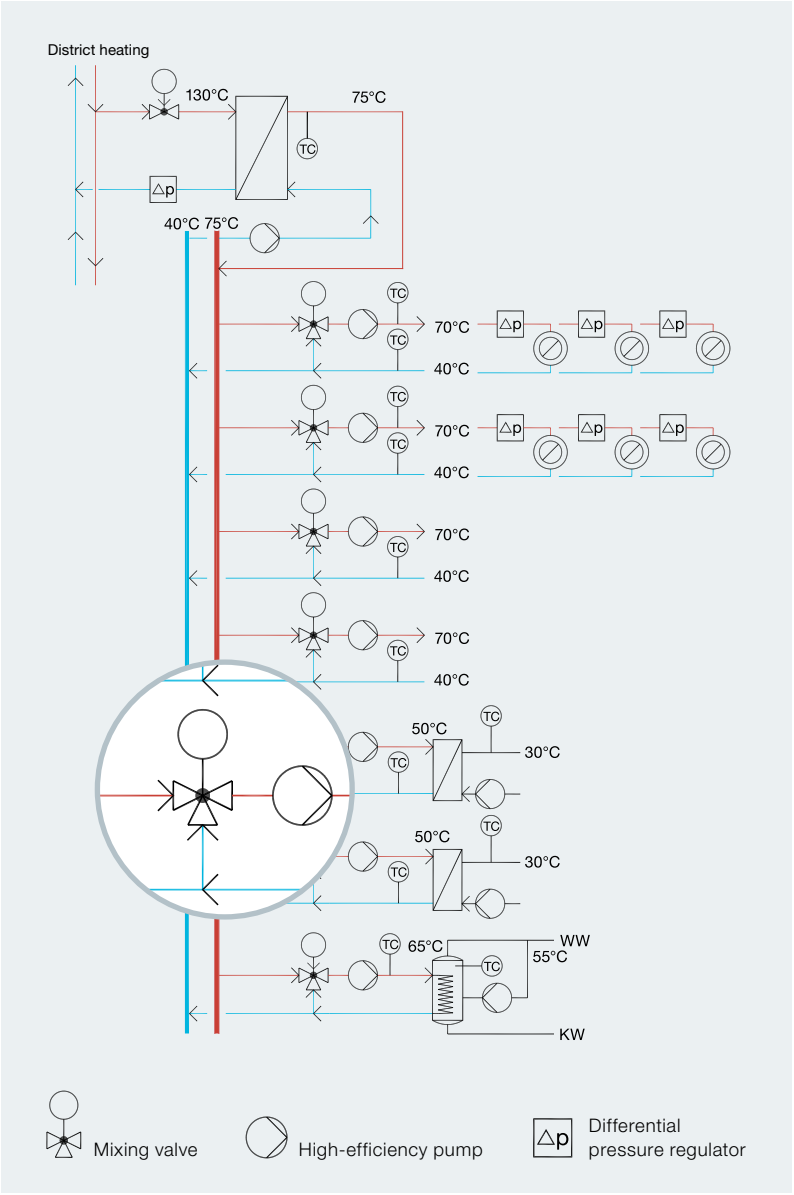
www.baelz.de

This Sales Brochure intends to give you a slight insight into the Baelz Technology Brand Baelz-hydrodynamic®. For deeper technical information to our products please ask for further documentation. **Your Baelz Team.**

1. Technology

Saving electrical energy through energy-efficient equipment and installations is becoming increasingly important. Where heating water would usually be distributed to the secondary circuits using a control valve and a pump for each circuit, Baelz uses controlled ejector technology.

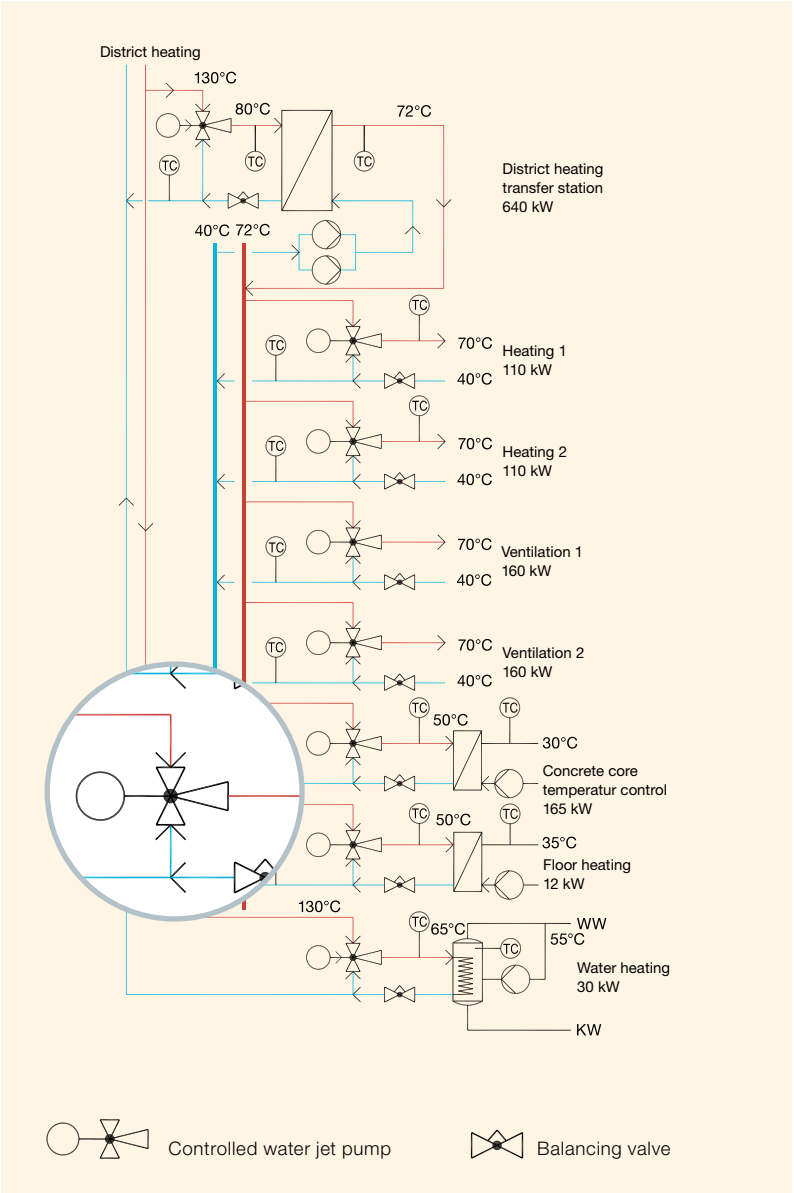
a] Conventional system



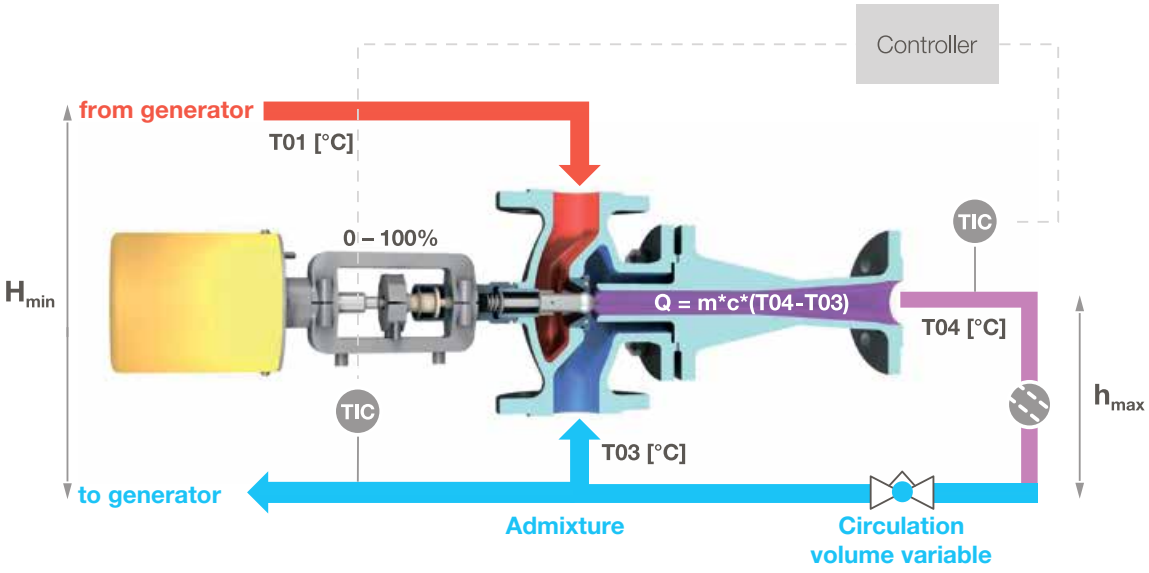
The controllable water ejector combines the functions of four single components: It generates circulation in the area of the consumer, it adjusts the circulation volume to the actual heat requirement, it regulates the temperature and compensates for fluctuations in differential pressure.

b] Solution with jet pumps

Baelz-hydrodynamic®



1. Technology



The primary differential pressure (Hmin) ensures the circulation of the required variable secondary water flow with the variable pressure drop (hmax) across the consumer.

Many of our heating and ventilation systems have been in operation for over 30 years, saving energy and money.

baelz 471

pressure	dimensions	housing material	temperature
PN 16–25	G 1/2–11/2	brass	up to 140°C

baelz 472

pressure	dimensions	housing material	temperature
PN 16	G 2	brass	up to 140°C

baelz 475

pressure	dimensions	housing material	temperature
PN 16–25	G 3/4	brass	up to 140°C

1. Technology

baelz 480

pressure	dimensions	housing material	temperature
PN 16/25	DN 15–300	Ductile cast iron (5.3103) / Cast steel (1.0619)	-10°C to 240°C (without cooling tube) -10°C to 350°C (with cooling tube)

Advantages at a glance:

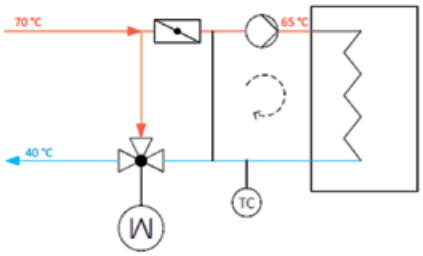
- Good controllability over the entire load range
- Only one main pump, meaning lower energy costs
- Simplified system design by saving on components
- Less data points in the higher-level control system
- Lower return temperatures
- Hydraulic stability
- lower investment costs

Water ejector

The ejector combines the functions of four single components: It creates the recirculation in the consumer district, adjusts the amount of circulating to the heat demand in fact, regulates the temperature and compensates differential pressure fluctuations.

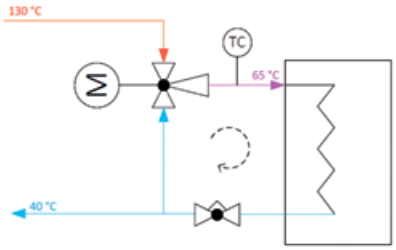
Due to the drastic saving of circulation pumps, your system runs much more efficiently and thus more economically.

conventional solution
Electrodynamic



- temperature control 1
- quantity variable circulation 2
- avoidance of flow noise 3
- prevention of miscarriage 4

solution with ejectors
Hydrodynamic



Your advantages at a glance

- ✓ Easy to control across complete load range from 0 – 100 %
- ✓ Only one common main pump required
- ✓ Simplified plant installation
- ✓ Low return temperatures
- ✓ Lower power costs
- ✓ Can be used with other liquids compatible to our construction

2. Add-Ons

In addition to the individual components components baelz 471, 472, 475 and 480 Baelz recommends quoting for/selling the following three product sets (only standards represented).

ACTUATOR SET

Electric actuators

baelz 373-E07	baelz 373-E45	baelz 373-E65-11	baelz 373-E65-20
700 N / 2.000 N	4.000 N	1.100 N	2.000 N

Pneumatic actuators

baelz 373-P21	baelz 373-P22	baelz 373-P31	baelz 373-P32
1.020 N – 2.040 N	1.846 N – 3.692 N	2.480 N – 4.960 N	4.402 N

REGULATION SETS

CONTROLLERS
Universal/industry controllers

Digital/continuous:	baelz 6496
Analogue/3-step controller:	baelz 6490

NOTE
Never combine a 3-point-step controller with a pneumatic actuator, as compressed air is not suited to open-stop-close control. The same applies to safety valves. If a safety valves is combined with a 3-point-step controller it will work as a open-close valve (emergency control).

Microprocessor controllers:	baelz 6200, baelz 6164, baelz 7164

POSITIONERS

Combined with electric actuator:	baelz 1020
Combined with pneumatic actuator:	baelz 87

ATTACHMENT SET

Manual fittings:	shut-off valve baelz 70028, check valve 70081, strainer 70200
Temperature indicators/sensors:	baelz 71140, baelz 61
Pressure indicators/transmitters:	baelz 70802, baelz 828
Safety valves:	baelz 70340, baelz 70625-VA
Safety temperature limit switch:	baelz 231
Safety pressure limit switch:	baelz 834

3. Real Cases

BUILDINGS

Product: baelz 480
Company / Country: Mainkofen Clinics / Germany
Project Description: In a clinic with numerous buildings, a lot of energy for heating and electricity can be consumed over long distances. In such cases, as in Mainkofen for example, ejector technology realizes enormous saving potential. In the new heating and power station, a completely new and revised economic heating system has been developed. The formerly centralized hot water supply is now decentralized and takes place in each building using ejector technology. The connection of heat consumers in the individual buildings takes place directly using controlled ejectors and direct hydraulic integration into the entire heating system, resulting in a reduction of heat losses, significant material savings and significantly lower maintenance costs. Notably lower flow temperatures (80–90°C) and lower return temperatures (50–55°C) are further important advantages.

PHARMACEUTICALS

Product: baelz 480
Company / Country: leading pharmaceutical company / Germany
Project Description: The use of ejector technology enabled the number of fittings and hence the number of data points to be reduced significantly. The results show the optimized hydraulics and the savings potential of 1800 euros.

WOOD PROCESSING

Product: baelz 480
Company / Country: Wood processing plant in Kundl / Austria
Project Description: To increase the drying capacity, four additional drying ovens were to be added to the 13 available to the customer at the time. The district heating grid did not have the capacity for this number of drying ovens. This meant that it was only possible to enlarge the existing network, to create a parallel network, or to carry out a conversion to Baelz technology. As options 1 and 2 would have meant significantly higher investment costs, the customer chose to convert the network to Baelz technology in the form of Jetomat® water ejectors.

4. Reference Excerpt

product	company	country	branch
50 x baelz 480-P21	Federal Institute for Risk Assessment Berlin	Germany	buildings
22 x baelz 480-E07	Deutsche Renten-versicherung Bund	Germany	buildings
60 x baelz 480	Helios Clinics	Germany	buildings
5 x baelz 480-E02	Airport Schönefeld	Germany	aviation
3 x baelz 471-E07	Vattenfall	Germany	power plant
1 x baelz 480-E07	Volkswagen	Germany	automotive
1 x baelz 480-E07	Ukrspon	Ukraine	power plant
1 x baelz 480-E07	Cathedral	Belgium	buildings
50 x baelz 480-E07	Leading company in pharma	Germany	pharmaceuticals
60 x baelz 480 + baelz 6200	Malteser-Krankenhaus St. Josef	Germany	buildings
130 x baelz 480	Kaiserswerther Diakonie	Germany	buildings
60 x baelz 471	Hermann-Josef-Krankenhaus	Germany	buildings
2 x baelz 480	Betriebshof Dransdorf	Germany	buildings
baelz 480	Ford-Werke	Germany	automotive
baelz 471, baelz 475	Ante-Holz	Germany	wood
baelz 471, baelz 475	Schiller Gymnasium	Germany	buildings
baelz 471, baelz 475	Hans-Böckler Schule	Germany	buildings
baelz 471, baelz 475	Ludgerus-Schule	Germany	buildings
baelz 471, baelz 475	Heinrich-Böll-Gesamtschule	Germany	buildings

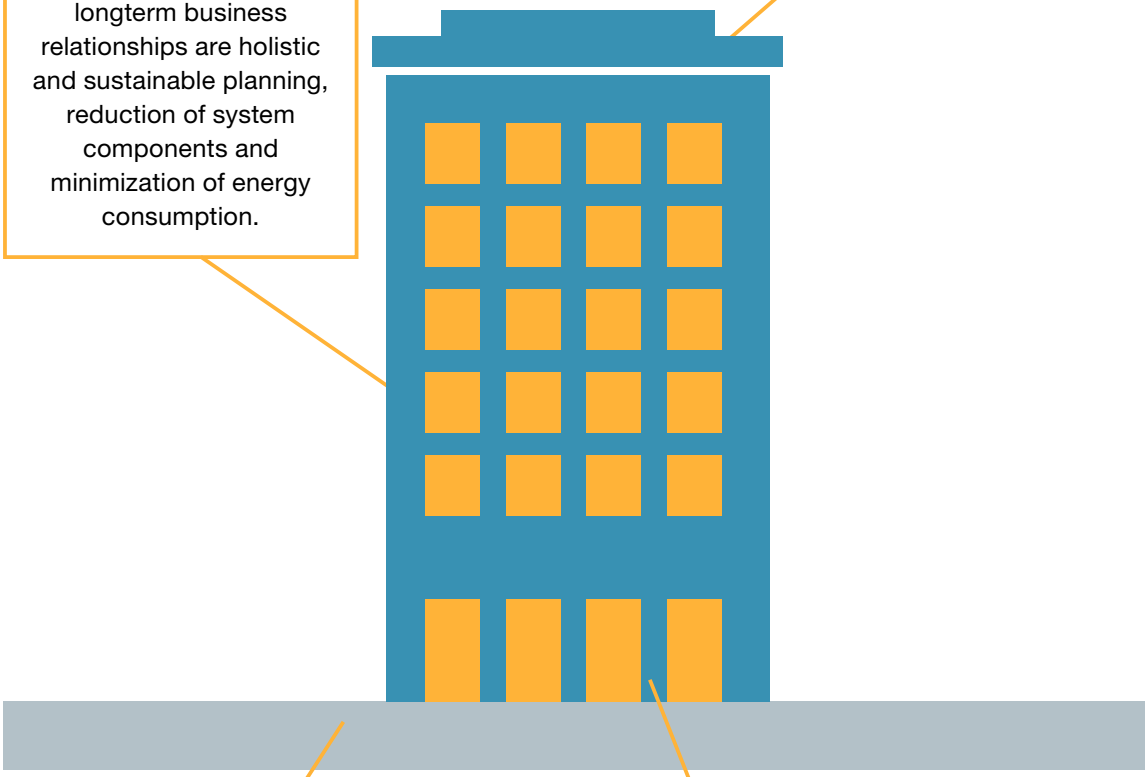
...and much more

Baelz Blueprint

Our Vision Statement

ROOF
A high level of customer satisfaction is what we are working for day by day. That is why, here at Baelz, we always put our customers' needs and requirements first.

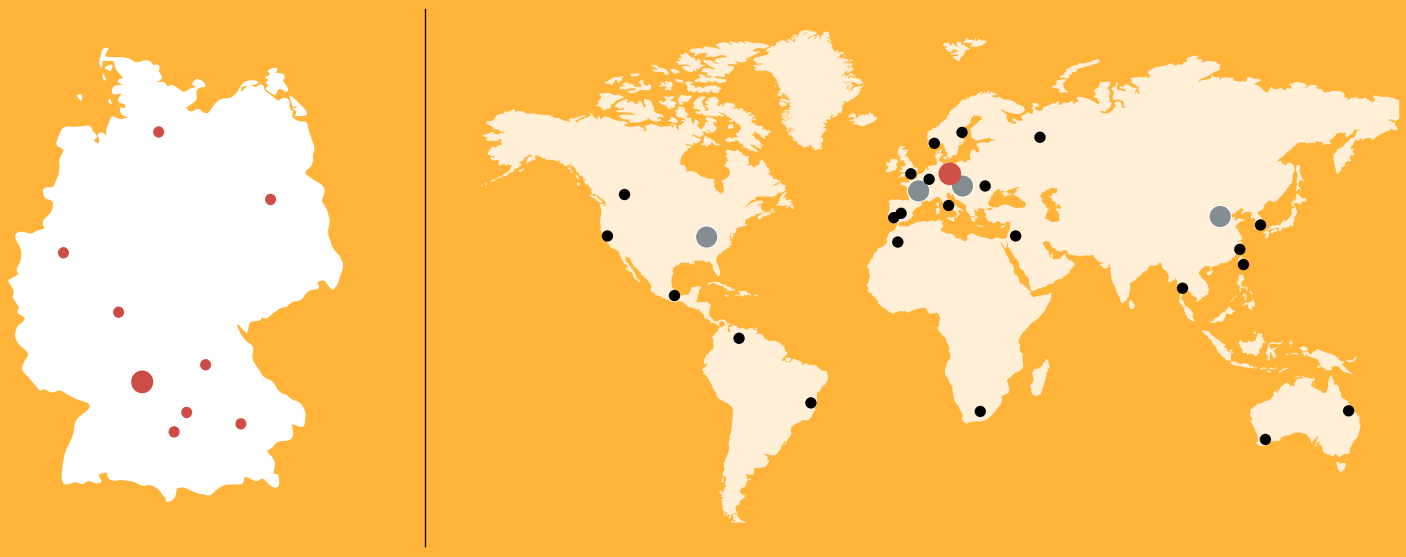
WALLS
The essential points of creating prosperous, longterm business relationships are holistic and sustainable planning, reduction of system components and minimization of energy consumption.



PILLARS
Consistently high product quality, variability and flexibility in planning and construction are the basis of every one of our successful concepts.

FOUNDATION
In order to guarantee a worldwide presence we work closely with our partners. Thanks to our transparent network we are able to identify and master challenges immediately and solve customers' problems quickly and effectively.

HOT COOL **BAELZ**



Baelz-hydrodynamic®
Baelz-vapordynamic®
Baelz-electrodyn®
Baelz-thermodynamic®

Save Energy?
Baelz offers solutions worldwide.

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