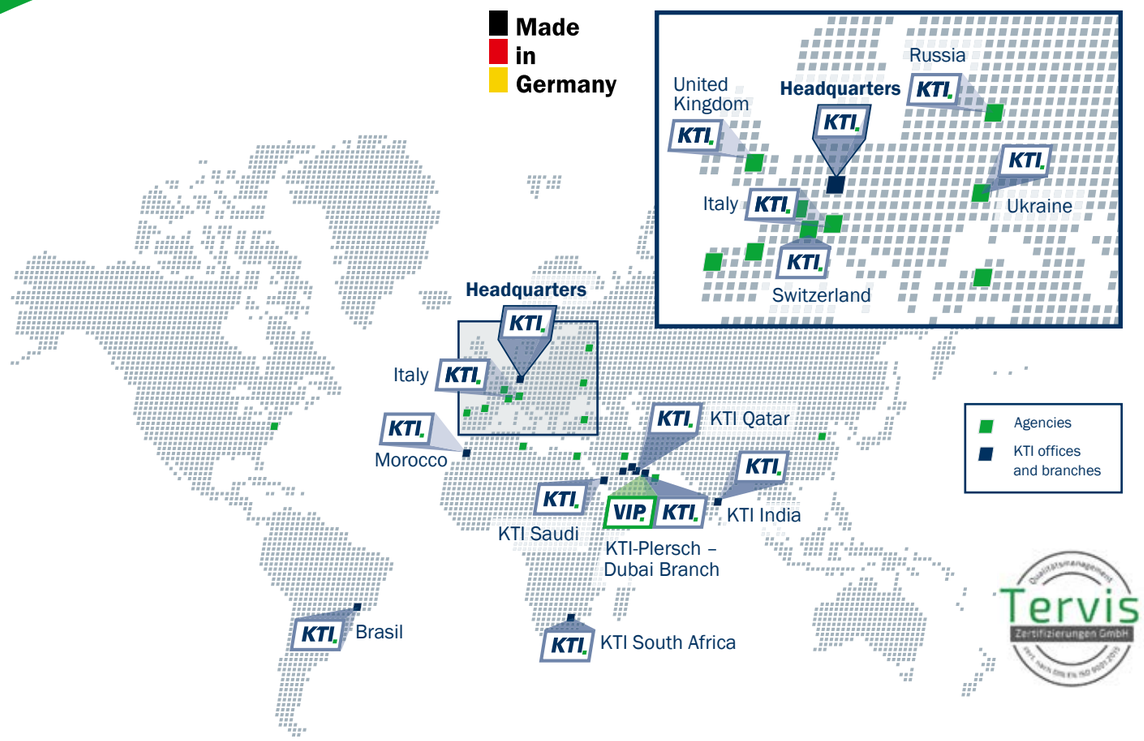
KTI Agencies and Registered Offices



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SAUTER is a brand of **KTI-Plersch Kältetechnik GmbH.**

All concrete heating equipment is manufactured under the brand SAUTER in Germany by KTI.

KTI-Plersch Kältetechnik

Concrete Heating Systems

Made in Germany

KTI – SAUTER Concrete Heating Excellence

Family owned and dedicated to customers worldwide

Caroline Walleter-Plersch, M.Sc., and Dipl. Ing Rupert Plersch, CEOs of KTI-Plersch

Founded in 1986, KTI-Plersch Kältetechnik GmbH is a 100% family owned company. As the inventor of the first containerized turnkey refrigeration plant, KTI has installed more than 4000 units all over the world focusing on the area of concrete cooling. In 2010 KTI acquired the renowned manufacturer of concrete heating equipment SAUTER. While it was first run under the brand SAUTER PLERSCH AG it is now fully integrated into KTI-Plersch Kältetechnik GmbH to use the synergies of both sides to benefit our customers worldwide.
KTI's well experienced team of specialists is able to provide the best support to find the ideal design for customers' individual requirements. For more than three decades, the brands KTI and SAUTER stand for high-end, cutting-edge equipment for temperature-controlled concrete of highest quality. With its headquarter in Germany, service companies worldwide and a global network of agents and partners, KTI-Plersch attends to customers' needs reliably and within shortest time.

Vision

KTI is a renowned manufacturer of innovative refrigeration and heating solutions and is leading its core markets by delivering customer focused advisory, high-end engineering and service excellence.

At KTI, we are committed to the following principles:

- We place utmost emphasis on the quality of our products and processes. We stand for first-class, cutting-edge refrigeration and heating plants of highest standards.
- We provide unique after-sales service and support to customers worldwide.
- We are customer service oriented. To guarantee custom-made plant concepts and reliable operations of every plant, we globally employ a highly qualified team of engineers and service technicians.

Customer Satisfaction is our Ultimate Goal.

Working with KTI benefits the customer

KTI's success is based on seven pillars

Holistic Product Portfolio for Single Sourcing

KTI provides a holistic range of products to deliver customer specific applications for concrete heating:
- hot water production
- aggregate and sand heating by hot air
- air ducts for hot air supply and silo nozzle design

All necessary accessories such as fuel tanks, water pipes plumbing and facility heating are within the scope of KTI's SAUTER products.

Cost Efficiency – No Hidden Costs

KTI's modular systems turn out to be the most cost-efficient solutions in terms of
- fixed investment costs on the equipment
- costs on additional water tanks and pumping systems
- re-usability on following projects.

Plersch Family Crest

Quality

SAUTER equipment is designed by German engineers – based on their long-lasting experience and know-how – and assembled in KTI's own facility in Germany, by a superior team of experienced technicians and craftsmen. KTI uses only the best parts available on the markets.

Customers

The majority of the world's top ready-mix companies and contractors use SAUTER equipment – most of them – exclusively.
They opted for KTI's
- quality and reliability
- after sales service
- availability of spare parts and technical support.

Turnkey Solutions

All plants are fully automatic and especially modular, which makes it possible to provide KTI's customers with turnkey installations without hidden costs. KTI provides simple and highly cost-efficient solutions.
They require
- no extra underground water tank
- no separate support construction
- no additional engineering and design work.

The modular systems of KTI are set up within the shortest possible time. With proper site preparation a complete concrete heating system will be in operation within two weeks.

Easy Expansion

The SAUTER design is ready for future growth. If the demand for heated concrete increases over the years new plants can be installed and directly incorporated into the existing system.

International Standards

Being an international company KTI builds all systems according to internationally accepted standards. As per the requirement of the customer, KTI's engineers are fully capable to design and manufacture all plants according to several standards.
Beside others the most important are CE, ASME and CSA.

SAUTER

Temperature Controlled Concrete

Concrete Heating for continuous construction activities – all over the year

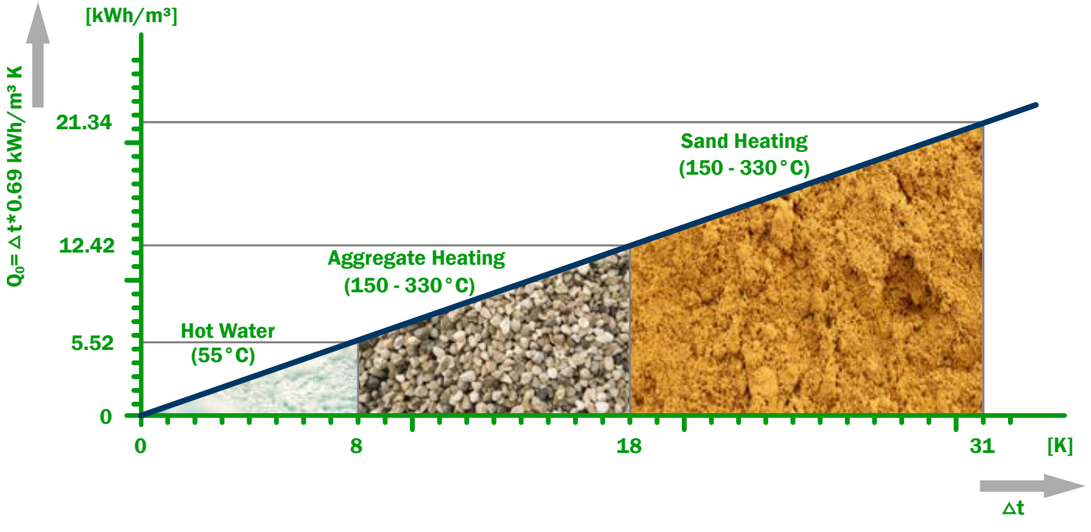
When cement is mixed with water, both raw materials react with each other to form the cement paste. Aggregates are incorporated into the resulting structure, and the concrete begins to solidify and strengthen. This process is commonly known as hydration.
The strength is commonly considered as the concrete´s most valuable property. The fundamental requirement for a proper development of the strength is to meet a certain temperature range where the concrete solidifies.

Wintry conditions can slow down the chemical reaction causing a weak cement compound. Low ambient temperatures negatively impact the setting behavior due to a retarding effect on the solidification of the concrete. Because the necessary energy in form of heat is missing the chemical reaction is slowed down or even stopped.
Further, the inherent risk with low temperature concreting is that the unbound water in the wet concrete is likely to freeze. Frozen water shortly after pouring the concrete can cause blasting and microstructural defects. In addition to that, cold environments cause a temperature difference within a concrete section leading to thermal cracks.
The long-term durability of certain concretes can be compromised by falling below a specific temperature range. The expected compressive strength can be reduced drastically by uncontrolled temperature.

Low Temperature Concreting

The management of the concrete temperature is crucial to prevent damages, minimize delays, and meet project specifications. The wet concrete temperature at the time of placement negatively impacts the concrete's minimum temperature. A simple preventive method is to define the minimum pouring temperature not falling under a certain value.
A pouring temperature of minimum +5 °C at air temperatures between +5 °C and -3 °C or +10 °C at air temperatures lower than -3 °C, has proven its practical value. However, the required concrete pouring temperatures vary from site to site and country to country. This simple specification is challenging for producers and users of concrete during winter or in cold climate regions. A sophisticated heating system to control the concrete temperature is required to deliver the specified concrete quality. As the investment and operating costs for a concrete heating system can be high, it is important for the client to always install an optimized system according to the required specifications.
Controlling the initial pouring temperature can be achieved by applying three different measures to gain the optimal results:

- Hot mixing water
- Heated aggregates
- Heated sand



Concrete Heating Equipment

Premium equipment designed for all stages of concrete heating

KTI – Specialists in Concrete Heating

KTI, with its SAUTER series, can proudly claim to be a complete supplier for concrete and silo heating equipment. Specialized engineers with years of experience in the field of winter concrete always elaborate custom-made concepts tailored exactly to the demands of our customers. KTI constantly develops innovative systems to heat the concrete effectively and efficiently for an increase of concrete production and saving costs at the same time.
Over the last decades, KTI has pioneered concrete cooling technologies and became the worldwide number one in this field. With the brand SAUTER, KTI's portfolio was extended with concrete heating equipment to meet each and every market demand for helping customers in finding the right solution.

Discover the broad range and different concepts in this specific KTI "SAUTER Concrete Heating Systems " catalogue:

KTI not only provides equipment for concrete heating but also services its customers with several other features:

What does a Concrete Heating System look like?

A variety of options leads KTI to find the best solution for every SAUTER setup

A concrete heating system of KTI's SAUTER series can consist of a variety of different modules, depending on the customer's requirement. KTI as your partner for elaborating the best system, will advise, which configuration is the optimal solution. From our portfolio, KTI's engineers will compile a combination of heating plants.

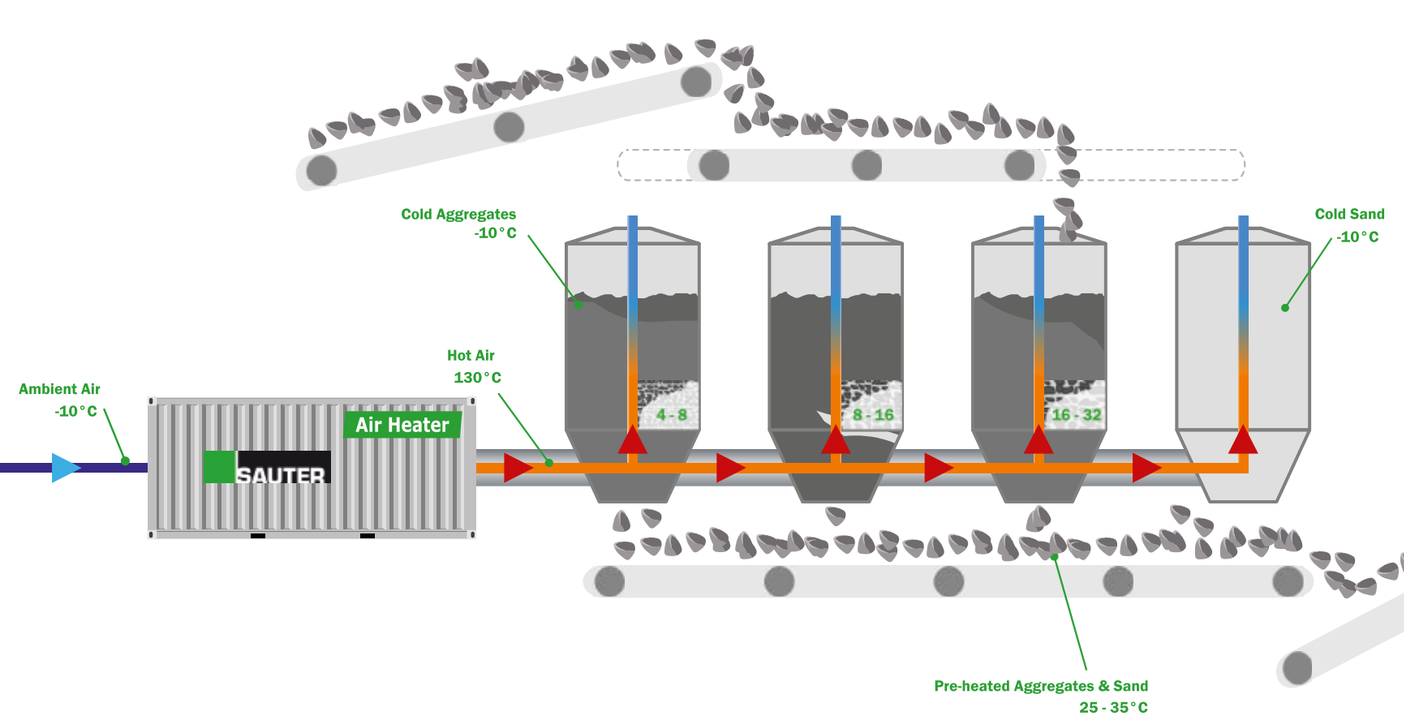
In general, a concrete heating system consists of the following elements:

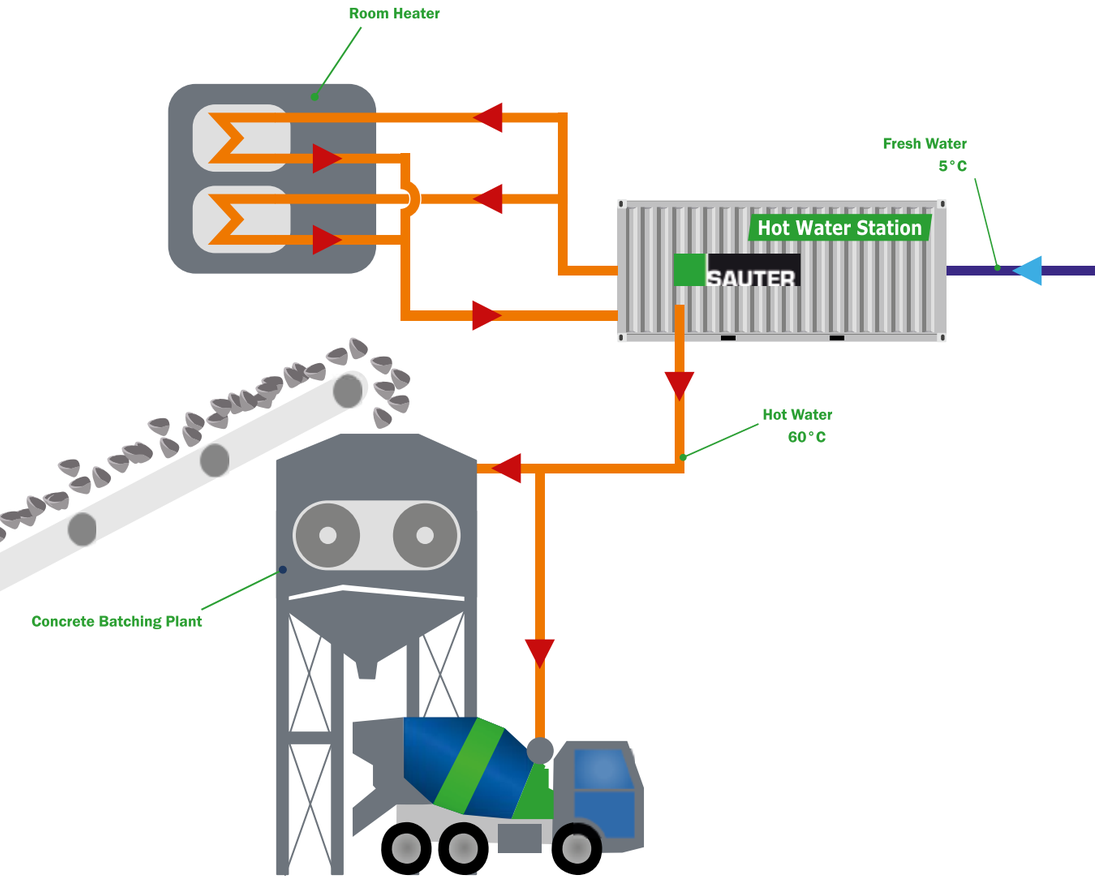
- **Hot Water Station**
  to replace the low temperature mixing water with hot water and to supply hot water to truck mixers
- **Air Heater**
  to pre-heat the sand and aggregates in the silos or bins before mixing

Alternatively, KTI-SAUTER offers systems which combine both within one single system, hot water and hot air production:

TURBO and BOOSTER

Both systems are perfectly suitable for mass concrete production due to higher capacities and can also be installed instead of two single stand-alone plants.





Hot Water Station
(Type: HWS)

Your Advantages

- **Pressureless to avoid annual inspections**
- **Heat transfer station available for room heating**
- **Energy efficiency due to latest burner technology**
- **Compact design for smallest footprint**
- **Flexible installation**

Technical Features HWS

Hot water Station HWS	HWS 300	HWS 500	HWS 1000	HWS 1500
Output	300 kW	500 kW	920 kW	1320 kW
Dimensions in mm	2400 x 1150 x 1560	2800 x 1150 x 1800	3600 x 1850 x 2120	4100 x 2000 x 2400
Water storage	2600 l	3800 l	6140 l	9000 l
Water flow rate at ΔT=40 °C without exhaust gas heat exchanger	6000 l/h	9620 l/h	18600 l/h	26700 l/h
Water flow rate at ΔT=40 °C with exhaust gas heat exchanger	6250 l/h	10220 l/h	19200 l/h	27600 l/h
Water flow rate at ΔT=60 °C without exhaust gas heat exchanger	4000 l/h	6600 l/h	12400 l/h	17800 l/h
Water flow rate at ΔT=60 °C with exhaust gas heat exchanger	4150 l/h	7000 l/h	12800 l/h	18300 l/h
Max. water temperature	85 °C			
Medium	oil / gas / combi			
Max. oil consumption	30 l/h	50 l/h	92 l/h	132 l/h
Electrical energy requirements with burner	18 kW	18 kW	35 kW	40 kW
Antifreeze heater	6 kW			
Weight	2370 kg	2970 kg	3800 kg	4200 kg

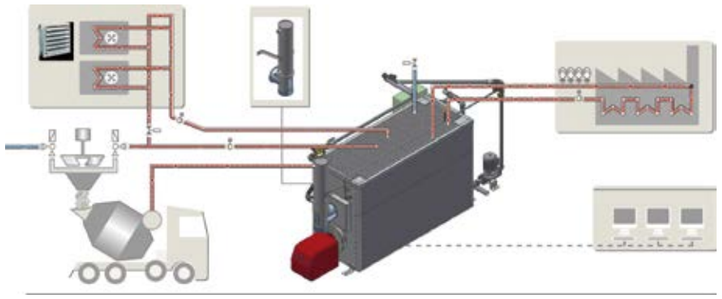
SAUTER Design

KTI's Hot Water Stations (HWS) are tailored to the demands of all common concrete batching plants in terms of system performance and hot water volume. The robust design of the equipment with a stainless steel vessel as well as the high quality insulation guarantees long-lasting performance.
The plants are operated pressureless, which spares annual, recurring inspections and ultimately reduces the direct, ongoing operating costs.
SAUTER Hot Water Stations can be used extremely flexible. On the one hand, the proven burner is available in various sizes for heating with oil or gas. On the other hand, the system can be optionally equipped with an efficiency package to achieve an efficiency of up to 97%. This is based on a flue gas-water-heat exchanger that virtually exploits all energy from the exhaust gases. By using a heat transfer station, the residual recovered heat is fed into a boiler by means of circulation or through fresh water pre-heating.
All HWS models are available as stand-alone units for installation in buildings or as containerized turnkey solution, optionally in combination with KTI's SAUTER Air Heater (OLH).

Efficiency Package of HWS

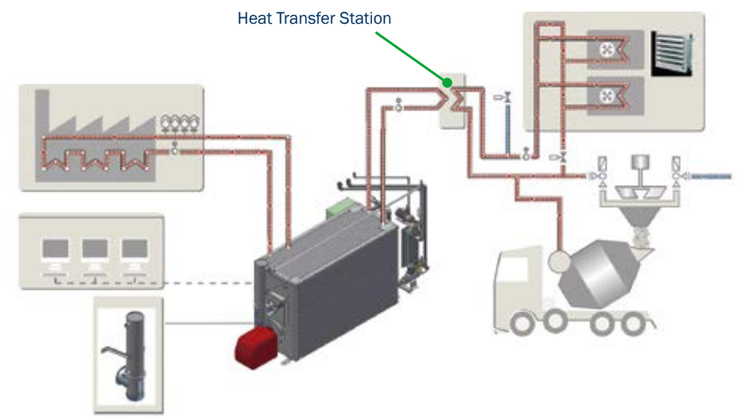
All Hot Water Stations can be installed in two variants each providing specific benefits to the customer:

#1: HWS – direct installation



Since the HWS heats up water unpressurized, a water feed pump must be installed to supply the hot water directly to the mixing plant or truck mixer. A significant advantage with this setup is that no additional water-water-heat exchanger must be installed utilizing the entire energy inside the water.
The entire installation can be optionally expanded with room heaters or other heat exchangers.

#2: HWS – indirect installation



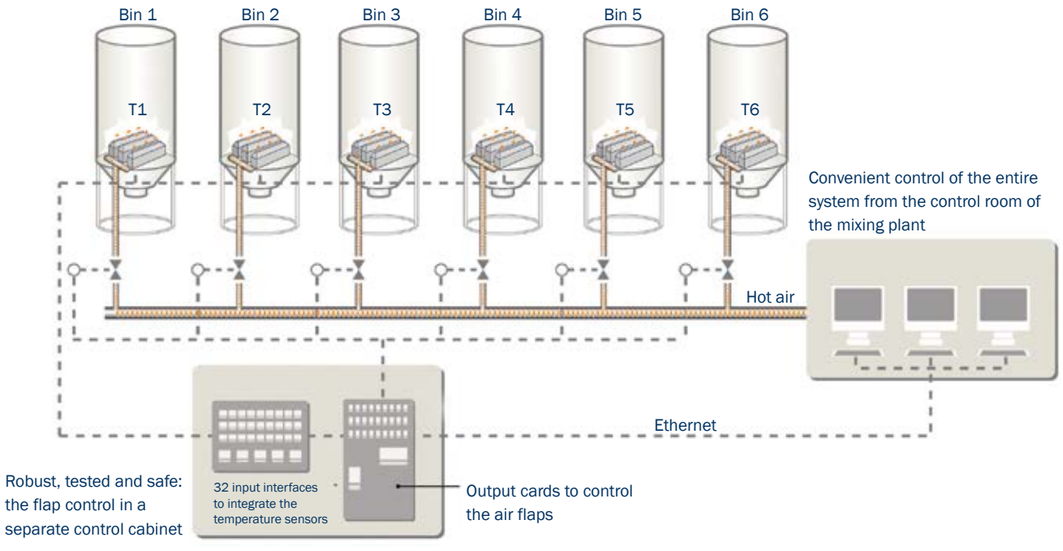
Heating up water indirectly by means of a heat transfer station provides the advantage that the water pressure of the public pipe network is used to feed the process water to the mixing plant or truck mixer.
An indirect installation consists of a closed heating circuit between the HWS and the transfer station. This significantly benefits the operating costs by reducing the maintenance and contamination of the HWS. The circulation pump used in this circuit only needs 10% of the power consumption compared to the hot water feed pump for the basic installation.
Like the direct installation, also the indirect installation option can be extended with additional heat exchangers for room heating or other applications.

Air Heater
(Type: OLH)

Your Advantages

- **High concrete temperatures possible (even in cold areas)**
- **High performance fan for an optimized air flow**
- **Specially designed silo nozzles for aggregate and sand heating**
- **Highest efficiency due to large surface heat exchangers**
- **Highly compatible with any bin or silo type**

Individual Flap Control – Energy and Cost Saving



Robust, tested and safe: the flap control in a separate control cabinet

SAUTER Design

SAUTER Air Heaters (OLH) are perfectly suitable for heating all types of silos with hot air. Either heating aggregates or sand in star-type silos, tower silos or inline silos, the SAUTER design meets the individual requirements of concrete producers.
All Air Heaters are designed with a full-frame and fully welded steel housing equipped with a special internal insulation to ensure best sound and heat insulation. Heating registers with access on the front side have a robust finish made from heat-resistant high-alloy steel.
The high-pressure fan of the OLH 180 is attached with a vibration damper on top of the housing. For the bigger sizes OLH 300 and OLH 1000 this fan sits beside the heating unit.
The switch cabinet is mounted directly on the housing and is equipped with a Siemens PLC-control of the latest generation. This provides the opportunity to the customer to apply freely selectable operation and time programs.
Of course, the OLH can be prefabricated inside a container but is also available as a stand-alone version for placing it into a building. Many customers of KTI decide to go for a combination of an Air Heater together with the Hot Water Station.

Containerized version of an OLH 1000

OLH installed beside a HWS inside a container

Technical Features OLH

Hot water Station HWS	OLH 180	OLH 300	OLH 1000
Output	210 kW	380 kW	1000 kW
Dimensions in mm	2060 x 700 x 2255	3235 x 1100 x 1510	2800 x 1150 x 2000
Air outlet (at inlet -10 °C)	130-150 °C		
Medium	oil / gas / combi		
Max. oil consumption	21 l/h	38 l/h	100 l/h
Air volume flow rate	6480 m³/h	9720 m³/h	11480 m³/h
Air pressure	6200 Pa	6700 Pa	6700 Pa
Steaming (otional)	250 °C + 100 kg/h water		
Electrical energy requirements with burner	19 kW	32 kW	80 kW
Weight	1700 kg	2400 kg	3500 kg

TURBO

Your Advantages

- **Cost-effective and robust heating system for all applications**
- **Just one burner for hot air and hot water generation**
- **High efficiency through full exploitation of thermal energy**
- **STEAM function for a fast thawing of the aggregates**
- **3 versions – 3 use cases**
- **No extra chimney required**

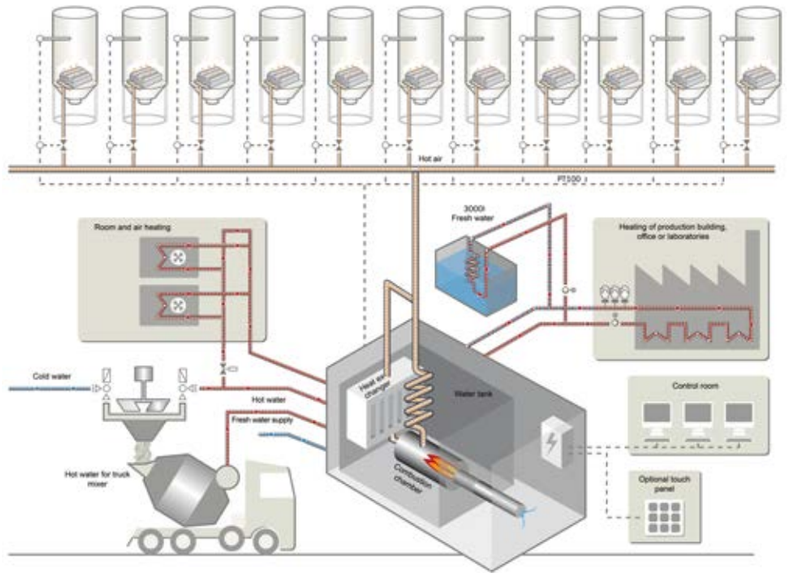
SAUTER Design

The SAUTER TURBO product family sets its focus on cost effectiveness. A major advantage of this system is the generation of hot air and hot water with only one burner. This improves the efficiency and almost no energy is lost. Any energy generated by the oil or gas burner directly transits into the heating medium. While the required fresh water is heated via the heater battery, a mixture of hot combustion gas and air passes through the silos to heat the aggregates and/or sand. Therefore, the entire energy is exploited for concrete heating and losses are minimized.

The TURBO concept is based on SAUTER heating components that have been tested over a long period and are fully established for providing absolute reliability. Materials and parts of highest standards are used, including a heavy-duty stainless steel heat exchanger, a well-insulated hot water tank in sizes of 6 or 8 m³ and a state-of-the-art burner for a robust operation with an output of 1000 or 1500 kW.
All TURBOs come with an integrated STEAM function for rapid thawing of the aggregates. Injecting water into the mixture of hot air and exhaust gas increases the effectiveness at very high temperatures. With this in place, concrete heating is possible within only a short period.

Technical Features TURBO

TURBO	Turbo 1000	Turbo 1500
Output	1000 kW	1500 kW
Dimensions in mm	5800 x 2000 x 2400	6000 x 2300 x 2400
Water storage	6000 l	8000 l
Medium	oil / gas	
Max. oil consumption	100 l/h	150 l/h
Air volume flow rate	1200 m³/h	1500 m³/h
Air pressure	45000 Pa	
Electrical energy requirements with burner	45 kW	55 kW
Antifreeze heater	9 kW	



The new TURBO Switch

Gas control valves inside a TURBO

30% steam | **70% water**

OR

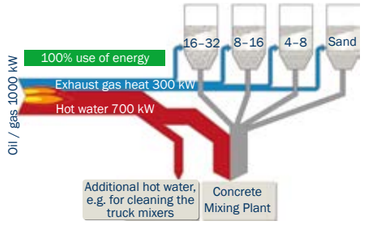
75% steam | **25% water**

The new TURBO Switch combines the functions of the TURBO Splash as well as the functions of the TURBO Dragon. So, it produces either mainly steam or mainly hot water. Of course, with a 100% energy efficiency.

TURBO Switch	Turbo Switch 1000	Turbo Switch 1500
Energy distribution water/air*	70%/30%	70%/30%
Energy distribution water/steam**	25%/75%	25%/75%
Water flow rate at ΔT=40 °C	15000 l/h	22500 l/h
Water flow rate at ΔT=60 °C	10000 l/h	15000 l/h
Max. water temperature	85 °C	85 °C
Air outlet (at inlet -10 °C)	250 °C	250 °C

*Normal operation **Turbo Steam

The new TURBO Splash

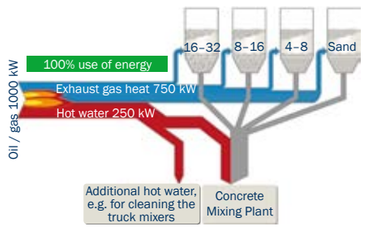


30% air | **70% water**

With a water flow rate of up to 22500 l/h, the new TURBO Splash produces hot water (70%) and hot air (30%). Since the fed energy is used without any loss, the TURBO Splash does not need a chimney.

TURBO Splash	Turbo Splash 1000	Turbo Splash 1500
Energy distribution water/air	70%/30%	70%/30%
Water flow rate at ΔT=40 °C	10700 l/h	15800 l/h
Water flow rate at ΔT=60 °C	7100 l/h	10500 l/h
Max. water temperature	85 °C	85 °C
Air outlet (at inlet -10 °C)	250 °C	250 °C

The new TURBO Dragon



75% steam | **25% water**

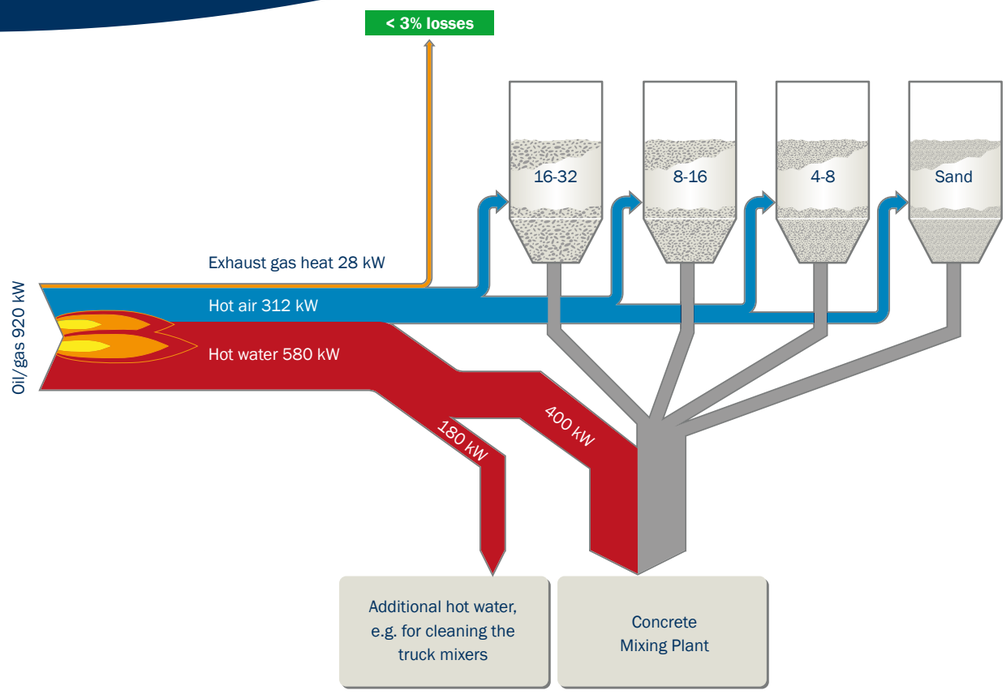
The new TURBO Dragon produces up to 3500 m³ steam (75%) plus hot water (25%). The fed energy is used without any loss for steaming and thawing of the gravel. The TURBO Dragon does not need any chimney.

TURBO Dragon	Turbo Dragon 1000	Turbo Dragon 1500
Energy distribution water/air	25%/75%	25%/75%
Water flow rate at ΔT=40 °C	5300 l/h	8000 l/h
Water flow rate at ΔT=60 °C	3500 l/h	5300 l/h
Max. water temperature	85 °C	85 °C
Air outlet (at inlet -10 °C)	250 °C	250 °C

BOOSTER

Your Advantages

- Large output up to 1320 kW, less than 3% exhaust gas loss
- Separation of clean hot process air and combustion gas
- 100% emission-free hot air ensures safety in closed rooms
- No contamination of the aggregates with exhaust gas
- Adjustable burner output for maximum efficiency and lowest energy consumption
- Hot air temperature up to 340 °C incl. POWER-BOOST function
- Up to 17300 l/h process water at 65 °C



SAUTER Design

KTI's SAUTER BOOSTER is a combined system that produces hot water and hot air in only one unit. The special and unique feature of a BOOSTER system is that completely clean air is produced by separating the exhaust gases and fresh air while a TURBO system provides a mixture of both. The advantage for the customer is that there is no inherent risk of having exhaust gases in a silo or closed room. Furthermore, no residual particles of excess oil or burning gas will be mixed with the aggregates or sand.

Equipping a BOOSTER with the optional efficiency package reduces the energy consumption drastically and contributes positively to costs. Therefore, the exhaust gases enter a special flue gas-water heat exchanger, where the exhaust gas temperature is reduced to a minimum of approx. 70 °C.

The inherent energy is utilized for pre-heating the fresh air before entering the heater battery. In total, an energy efficiency of up to 97% in the overall performance can be achieved due to low exhaust gas flow rates.

The integrated POWER-BOOST function allows a short-term boost of energy into the silos. Therefore, fine water is sprayed and injected into the air duct. At the same time, the burner output is set to the highest level. Hence, the heated and humidified air carries an enormous amount of heating energy into the silos.

Containerized BOOSTER systems under harsh climatic conditions

Technical Features BOOSTER

BOOSTER with Efficiency-Package	Booster 1000	Booster 1500
Output	920 kW	1320 kW
Dimensions in mm	5900 x 2200 x 2300	9100 x 2300 x 2300
Energy distribution water/air	65 %/35 %	65 %/35 %
Water storage	6500 l	9000 l
Water flow rate at ΔT=40 °C	12200 l/h	17500 l/h
Water flow rate at ΔT=60 °C	8000 l/h	11600 l/h
Max. water temperature	85 °C	85 °
Air outlet (at inlet -10 °C)	320 °C	320 °C
Medium	oil / gas / combi	
Max. oil consumption	92 l/h	132 l/h
Air volumeflow rate	2800 m³/h	3600 m³/h
Air pressure	20000 Pa	30000 Pa
Max. steam flow rate	150 kg/h	200 kg/h
Electrical energy requirements with burner	65 kW	85 kW
Antifreeze heater	9 kW	9 kW

Containerized BOOSTER

Pre-assembled BOOSTER for installation inside a building

CombiMaster
(Type: CM)

Your Advantages

- **All-in-one system providing cold water & air or hot water & air**
- **All year-round operation possible with only one plant**
- **Optimal temperature controlled concrete throughout all seasons**
- **Highest flexibility due to compact containerized installation**
- **Highest efficiency for low operation costs**

SAUTER Design

The CombiMaster is the only solution on the market to use both the air and water as a cooling and heating medium. While cold or hot air is blown into the existing bins or silos of the concrete batching plant to cool or heat the aggregates, cold or hot water can be added to the mixer directly. This is the most cost-effective solution to ensure the desired concrete temperature – in summer as in winter.
As the CombiMaster is a combined cooling and heating plant, a refrigeration cycle and two heating plants are installed – the basis are the reliable chiller and air plants of KTI and the systems HWS (Hot Water Station) and OLH (Hot Air Plant) of the SAUTER series. As all equipment is installed inside and on top of a container, its footprint is very small – just a 40-ft-container.

Latest design of the CombiMaster – Live image on top

Hot & Cold Environments

Climate change is resulting in increasingly hot summers and sudden periods of intensive cold in winter. Building contractors are under constant economic pressure. At the same time, building projects must be completed within ever-shorter time frames. Building has become a round-the-year activity.
The Combined Cooling and Heating Plant, KTI-SAUTER CombiMaster (CM) is the ideal solution, specifically designed for these purposes. The CombiMaster combines two competences in one plant, KTI's experience as the worldwide # 1 in concrete cooling systems, and excellence of the world's leader in concrete heating, SAUTER.

Technical Features – CM50

Cooling Mode		Heating Mode	
Installed Refrigeration Capacity	257 kW	**Installed Heating Capacity**	600 kW
Cold Water Capacity	5 m³/h	**Hot Water Capacity**	5 m³/h
Cold Water Temperature	4 °C	**Hot Water Temperature**	85 °C
Water Inlet temperature	15 °C max.	**Water Inlet temperature**	5 °C min.
Cold Air Capacity	177 kW	**Hot Air Capacity**	300 kW
Cold Air Temperature	7 °C (@max. Ambient Temp)	**Hot Air Temperature**	130 °C (@min. Ambient Temp)
Ambient Air Temperature	35 °C max.	**Ambient Air Temperature**	-10 °C min.

Technical Dimensions	
Container Size	40-ft HC + chiller on top
Air Ducting	DN400
Water Piping	DN65

For higher production capacities of 80m³ concrete per day, the CM80 is available. Please contact your KTI and/or SAUTER sales partner.

Cooling and Heating Solution in One Hand

In mega projects like the building of hydropower dams or airports, the construction works last over several years. Over the entire year certain temperature limits of the fresh concrete must not be exceed to achieve optimal strength and durability.

KTI offers holistic plant setups comprising concrete cooling and heating equipment to deliver an all-year-round solution. KTI-Plersch offers a broad portfolio of cooling equipment. This enables our engineers to advise and design an entire setup covering all demands in terms of temperature controlled concrete.

KTI-Plersch's product range comprises the following plant types:

- **CCWP (Containerized Cold Water Plant)**
- **CIWP (Containerized Ice Water Plant)**
- **CCAP (Aggregate Cooling by Air)**
- **CAC-w (Aggregate Cooling by Water)**
- **FLIP (Flake Ice Plant)**
- **PLIP (Plate Ice Plant)**
- **MIS (Mobile Ice Storage)**
- **Accessoires**

With KTI concrete cooling equipment concrete and aggregate cooling is possible.
Concreting in hot weather conditions is not a problem anymore.

SAUTER-CONTROL
Intuitive user interface

All SAUTER concrete heating systems are equipped with the same user interface. The handling is very easy and all functionalities are subdivided in a logical way. Remote access is available and the system is multilingual, of course. Customization is also possible. Behind this user-friendly interface, a Siemens PLC – well-known for its reliability and its optimized functionalities – is installed.

The graphical front-end is user-friendly and the same with all heating plants (picture shows the TURBO).

The choice of languages can be customized.

The dashboard informs precisely of the plant's functions. The timer allows to fix working hours.

The new PLC controls automatically and independently up to 32 bins. The site manager has always a perfect overview.

Your Advantages

- SAUTER interface included in all heating plants
- User-friendly touch panel in various languages
- Remote control for all plants availables
- Siemens PLC for highest reliability and optimized functionalities
- Intuitive design for simple operation
- Customized sub-pages

KTI-ONLINE
Remote monitoring system

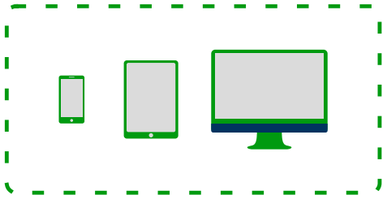
Monitor your SAUTER plant with KTI-ONLINE by using your smart phone, tablet or just a standard desktop computer. The browser-independent visualization mirrors the panel screen of the heating system on your device and informs you about its current status.
In case of alarms, KTI-ONLINE enables you to analyze the situation and identify the root cause remotely. Further, the action to be taken to remedy the misfunction can be decided without visiting the SAUTER plant and directly delegated to the operator in charge.
Remote maintenance and monitoring are vital in the area of plant and system operation. KTI offers you the remote module for a safe monitoring of your system. This can also be integrated into existing systems with a PLC controller as a system upgrade.
The remote maintenance system is completely integrated into the system control cabinet and connected directly to the PLC controller. The connection to the Internet is established via the fixed network or also via the mobile telephone network – it is therefore largely independent of the system location.

Benefits of KTI-ONLINE

- **Easy support for optimization of parameters, software updates and troubleshooting**
- **Alarm signaling via E-mail or SMS (optional)**
- **Remote control of systems (optional)**

Your Advantages

- After entering the web address or scanning the QR-code, all data from your plant is available – in real time
- Usable with all common browsers and standard internet access
- Secure access and connection
- Optimized for mobile phones or tablets
- Neither additional software nor IT-knowledge required
- Retrofittable with all PLC controlled SAUTER plants



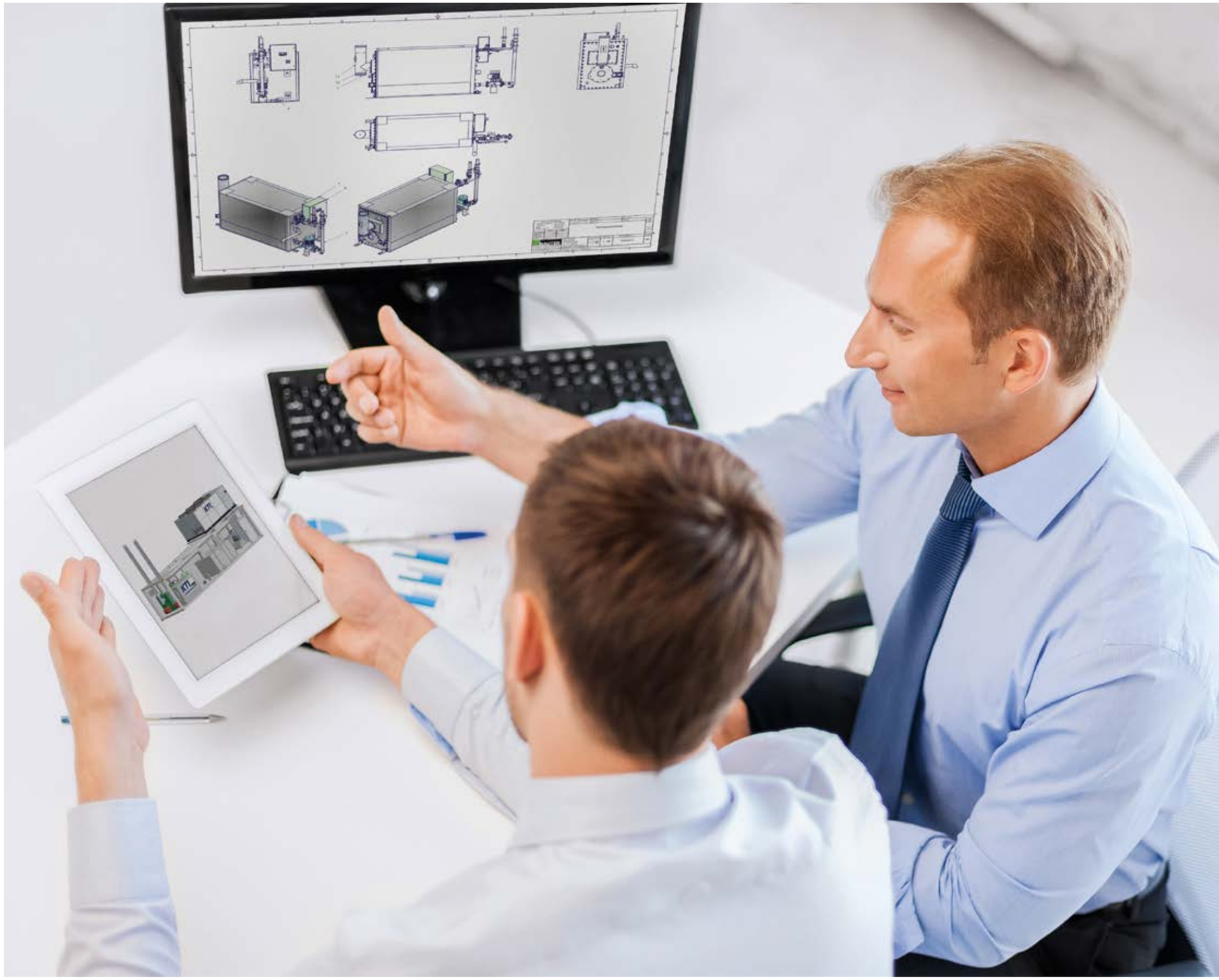
KTI Engineering & Advisory

More than 30 years engineering expertise for optimal advisory

- **Engineering excellence –**
  we utilize our fundamental know-how & experience
- **Technical advisory –**
  we consult our customers for an optimal design
- **Custom-made design –**
  we deliver exactly what our customers require
- **Design-to-cost –**
  we take care about the value for our customers
- **Modular setups –**
  we generate flexibility to our customers
- **Reliability through quality –**
  we deliver proven systems for secure operations

Successful Concrete Heating Projects

- **We calculate the required cooling requirements with our own software SEP©**
- **We advise on heating equipment setup necessary to achieve the target temperature**
- **We provide comparison in terms of technology and energy efficient operations**
- **We elaborate comprehensive solutions for extraordinary and complex projects**
- **We implement the entire heating equipment into the concrete batching system of our customers**



KTI Excellent Service and After Sales

„Excellent service and maximum availability of spare parts is crucial for us to guarantee our customers‘ satisfaction!“

Our Strength

- **Dedicated to customer care**
- **Worldwide service network**
- **Highly qualified teams of service engineers and technicians**
- **Fully equipped service cars**
- **Training of service staff and customer personnel by KTI´s engineers**

Complementing our portfolio of industrial refrigeration & heating solutions, KTI-Plersch offers highly professional technical support and after-sales services. For over 30 years, KTI employs comprehensively qualified teams of professional engineering masters and service technicians worldwide.
SAUTER heating systems are desigend for the harsh conditions in the concrete industry thanks to their excellent and robust workmanship. However, an annual maintenance considerably extends the service life of your installed system and contributes in saving power.

KTI therefore offers annual maintenance activities - as needed or with maintenance contracts at fixed costs. KTI's SAUTER customers decide about the maintenance intervals: three comprehensive service contracts are available – Basic, Standard and Plus.
KTI also offers complete burner maintenances as a certified Riello service partner. This annual inspection not only saves fuel but also ensures that operational safety is maintained. Spare parts for all common burner models are of course held in stock in the KTI warehouses.

Your Benefits

- **KTI service mentality**
- **German quality standard**
- **Enhanced reliability**
- **Optimized running costs**
- **Longer life expectancy**
- **Minimized breakdowns**
- **100% spare parts availability**
- **Permanent service availability**
- **On-site and inhouse training**
- **Service contracts**

Good Maintenance Pays Off

Service Package Contracts	Service Package Basic	Service Package Standard	Service Package Plus
Inspection of burner and system		YES	
Analysis of the error log for the exact evaluation of the system status		YES	
Professional analysis of the necessary work		YES	
On-site visits per year	1	1	2
Period of inspections	May – August	April – September	No time restriction
Documentation of the completed work		YES	
Material costs	– 5 %	– 10 %	– 20 %
Wear parts included up to		100 €	200 €

You can benefit from excellent service quality and opt for a SAUTER maintenance contract to ensure that your heating system also achieves optimum performance next winter.

For more information, please contact your SAUTER sales partner.

Your Advantages

- **Maintenance schedules can be planned**
- **Fastest response time in the event of a system stoppage in winter**
- **Price advantage for spare parts**
- **Highly trained service engineers**
- **Burner maintenance by the system manufacturer**

References Worldwide

KTI Production Facilities

KTI Headquarter and Production Facility in Germany

Production Facility in Dubai

Important Details, Units and Conversions

Container dimensions	width [ft.]	length [ft.]	height [ft.]	width [mm]	length [mm]	height [mm]
20-ft. Container Standard	8	20	8,5	2438	6096	2591
20-ft. Container High-Cube	8	20	9,5	2438	6096	2896
40-ft. Container Standard	8	40	8,5	2438	12192	2591
40-ft. Container High-Cube	8	40	9,5	2438	12192	2896

Lengths					
meter	1m =	39,4 in =	3,28 ft. =	1,094 yd =	100 cm
yard	1 yd =	36 in =	3,00 ft. =	0,914 m =	91,4 cm
foot	1 ft =	12 in =	0,333 yd	0,305 m =	30,5 cm
inch	1 in =	25,4 mm			

Area					
square meter	1 sqm =	1552 in^2 =	10,9 $ft.^2$ =	1,196 yd^2 =	10000 cm^2
square yard	1 sqyd =	1296 in^2 =	9,0 $ft.^2$ =	0,8360 m^2 =	8360 cm^2
square foot	1 sqft =	144 in^2 =	0,1111 yd^2 =	0,0929 m^2 =	929 cm^2

Volume						
cubicmeter	1 m^3 =	1.000 l =	35,31 $ft.^3$ =	1,308 yd^3 =	264 US-Gal =	220 Imp-Gal
cubicyard	1 yd^3 =	765 l =	0,7646 m^3 =	27 ft^3 =	202 US-Gal =	168 Imp-Gal
cubic-foot	1 $ft.^3$ =	28,3 l =	0,0283 m^3 =	0,037 yd^3 =	7,481 US-Gal =	6,229 Imp-Gal
liter	1 l =		0,0353 $ft.^3$ =		0,264 US-Gal =	0,220 Imp-Gal
US-Gallon	1 US-Gal =	3,785 l	0,1337 $ft.^3$ =			0,8327 Imp-Gal
Imperial Gallon	1 Imp-Gal =	4,546 l	0,1605 $ft.^3$ =		1,201 US-Gal =	

Weight / Force				
kilogram	1 kg =	9,81 N =	2,205 lbs =	35,3 oz
Newton	1 N =	0,102 kg		
pound	1 lb =	0,454 kg =	4,45 N =	16 oz
ounce	1 oz =	28,35g =	0,063 lb	

Pressure				
bar	1 bar =	1 kg / cm^2 =	1000 mbar	14,504 psi
pound per square inch	1 psi =	0,06895 bar =	68,95 mbar	6,90 kPa
Water Column	1 m WC =	98,1 mbar	39,4 in WC	
Pascal	1 PA =	0,01 mbar =	1,00 N/m^2	0,102 mm WC

Energy					
Kilowatt-hour	1 kWh =	860 kcal =	3600 kJ =	3413 Btu =	0,012 ref.ton-day

Power					
Kilowatt - thermal	1 kW =	860 kcal / h =	3600 kJ / h =	0,2846 US tons.	0,2572 Br. tons.
Kilowatt - mechanical	1 kW =	1,36 PS =	1,341 HP		
US refrigeration ton	1 US ton =	3,513 kW =	3.024 kcal/ h =	0,9037 Br. tons	
British refrigeration ton	1 Br. ton =	3,888 kW =	3.340 kcal/ h =	1,1045 US tons	

Temperature		
Kelvin	1 K =	1,8 F
Fahrenheit	1 F =	0,556 K
Centigrade	°C =	(°F - 32) * 5/9
Fahrenheit	°F =	(°C * 9/5) + 32