

## Laser Cooling in Perfection.

Reliable. Precise. Versatile.



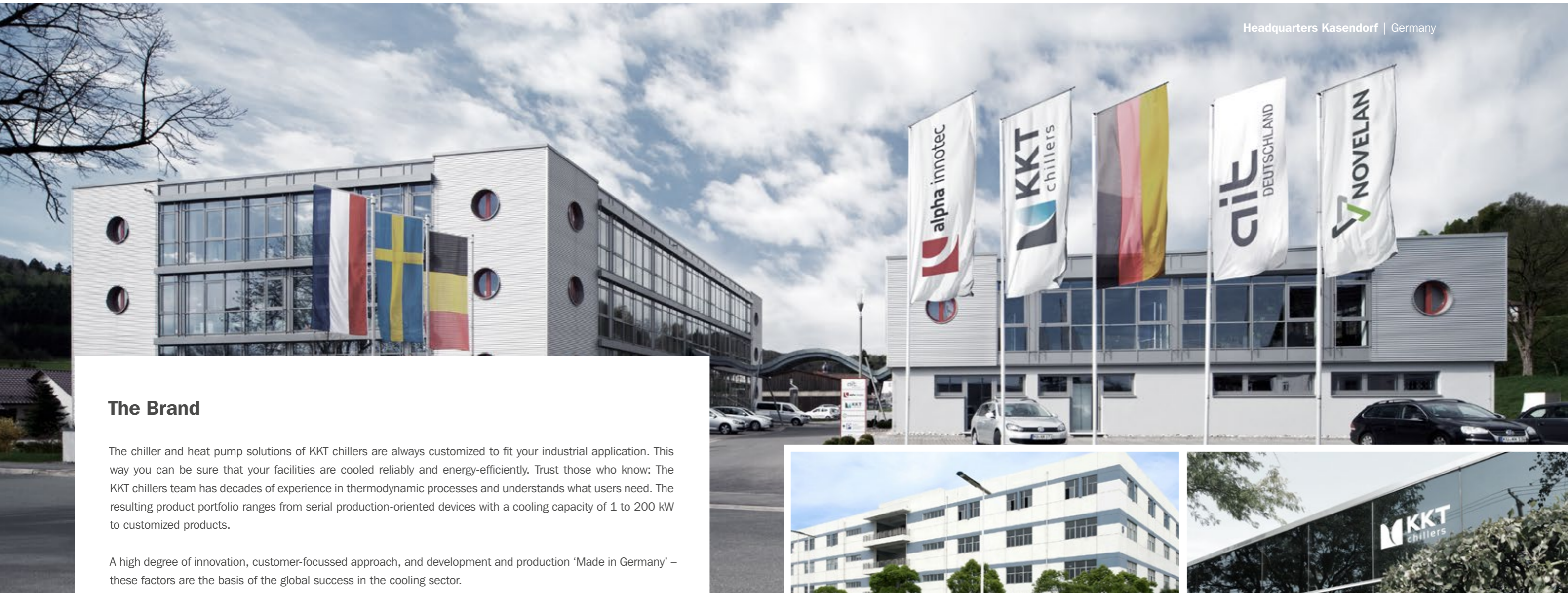


# KKT CHILLERS

INNOVATION IS OUR STANDARD.



Headquarters Kasendorf | Germany



## The Brand

The chiller and heat pump solutions of KKT chillers are always customized to fit your industrial application. This way you can be sure that your facilities are cooled reliably and energy-efficiently. Trust those who know: The KKT chillers team has decades of experience in thermodynamic processes and understands what users need. The resulting product portfolio ranges from serial production-oriented devices with a cooling capacity of 1 to 200 kW to customized products.

A high degree of innovation, customer-focussed approach, and development and production 'Made in Germany' – these factors are the basis of the global success in the cooling sector.

The in-house Technology Center is at the cutting-edge of development laboratories and test institutes. The state of the art centre amalgamates the latest inspection and testing standards.

KKT chillers has long become a valuable global player in the chiller market, thanks to the sites in Germany, USA and China as well as the global service network.

KKT chillers – a brand of ait - deutschland GmbH.



Location Suzhou | China



Location Elk Grove Village | USA



# LASER TECHNOLOGY

COOLING OF RESONATORS, OPTICS AND LASER HEADS.



**LASER CUTTING**  
**LASER WELDING**  
**LASER BRAZING** LASER PERFORATING  
**LASER DRILLING** **LASER DECOATING**  
**LASER CLEANING**



**LASER HARDENING**  
**LASER DEPAINTING**  
**LASER MELTING**

### Include the expertise of KKT chillers

When it comes to highly complex development projects, it makes great sense to consider the issue of process and component cooling early on. To this end, KKT chillers offers “Resident Engineering”: the KKT chillers engineers will support your development process from the outset, providing you with the extensive knowledge in matters of cooling technology.

### Basic types and options

KKT chillers provides you with the cooling solution you want. All chiller model series are modular systems that can easily be adapted to your requirements and specifications thanks to a wide range of options and equipment. If necessary, KKT chillers can even integrate chillers in the casings of your lasers or machines.

### Digital data management

What is the water temperature right now? And the water pressure? How high is the conductivity? Your chiller can answer these and more questions at the push of a button – because it digitally records all the relevant process and control variables. This means all data can be called up via many different interface protocols, including PROFIBUS, Modbus, DeviceNet, CANopen and PROFINET. This setup also facilitates reliable and cost-effective remote facility maintenance.

### Cool solutions for hot laser applications

KKT chillers is the specialist for cooling laser components and develops custom-fit laser cooling solutions in cooperation with leading manufacturers of CO<sub>2</sub>, disk, diode and fiber lasers. The range of services comprises cooling technologies for thermal processes such as laser cutting and laser welding as well as for additive manufacturing processes such as 3D printing.

## VARIABLE COOLING CYCLE

AIR OR WATER: RELIABLE – IN ANY CASE.



Discover the KKT chillers vBoxX with innovative augmented reality technology. Just scan the code and download the free KKT chillers app.



## VARIO-LINE

COOLING CAPACITY 6 - 28 KW

### Air-cooled or water-cooled

For the cooling cycle, you have a choice between an air-cooled and a water-cooled condenser.

**Air-cooling:** Your system runs autonomously and does not require an additional cooling source. Waste heat is emitted into the ambient air and can be used for heating in winter.

**Water-cooling:** Waste heat is fed into the existing cooling water network, which allows the system to operate independent of the ambient temperature.

### Reliability

Thanks to their individual alignment with your specifications, the chillers of KKT chillers are particularly precise and reliable.

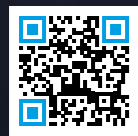
On top of that, the team of engineers and technicians at KKT chillers ensures top quality – from the project launch to the inspection of chillers at the in-house test facilities and the 24/7 customer support.





# EXACT TEMPERATURES

PRECISE TO THE DOT.



Discover all the advantages of the KKT chillers cBoxX. Just scan the code to get right to the product video.

## COMPACT-LINE

COOLING CAPACITY 30 - 200 KW



### Precise cooling

Your chiller will cool your source of radiation precisely – also in the case of load fluctuations. It adheres to the flow temperatures that you have set, even in the partial load range with a temperature accuracy of  $\pm 1\text{K}$  as a standard. Depending on load profile, even lower temperature fluctuations are possible.

Another benefit: speed-controlled components automatically adapt your chiller's cooling output to the existing load profile of your laser application – so your system is energy-efficient and cost-efficient.

### Temperature limit monitoring

The temperature limit monitoring integrated by KKT chillers protects your system against too high or too low temperatures per coolant cycle.

## APPLICATION-SPECIFIC SETUP

ALWAYS MADE TO MEASURE.

### Solution for two consumers

Choose the model with a second consumer pump to operate two water circuits independently of each other from one system.

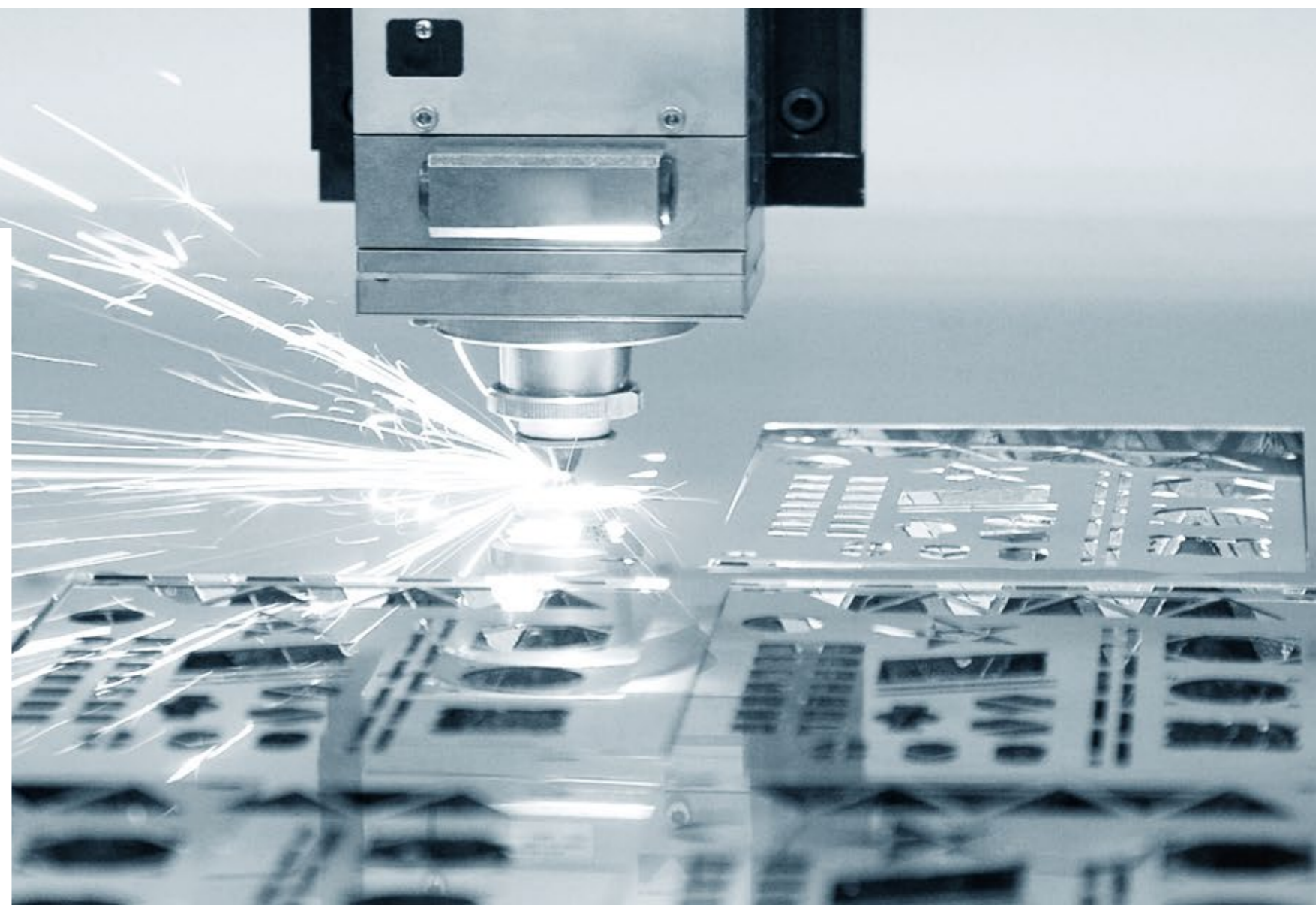
### Solution for two temperature levels

You would like to set two different temperatures, for instance for the resonator and optics cycle? Simply choose a dual-circuit system with control valve and second consumer pump as well as an optional heat exchanger for the hydraulic separation.

### Solution for two media

You would like to use regular and DI water? Best to choose the dual-circuit system with separated coolant circuits and a tank and consumer pump each.

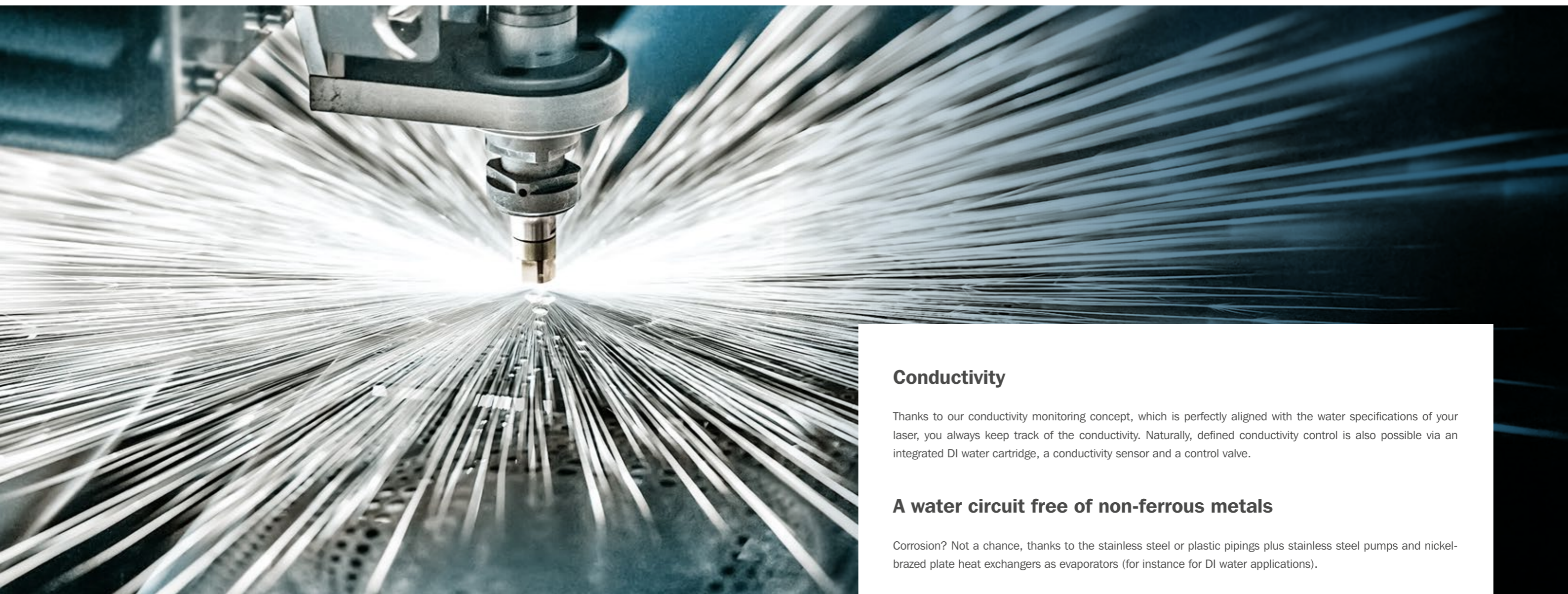
None of these solutions is perfect for you? No worries, just send your requirements to KKT chillers to prepare a tailor-made offer for you.





## SYNCHRONIZED CONDUCTIVITY

PLUS CORROSION PROTECTION.



### Conductivity

Thanks to our conductivity monitoring concept, which is perfectly aligned with the water specifications of your laser, you always keep track of the conductivity. Naturally, defined conductivity control is also possible via an integrated DI water cartridge, a conductivity sensor and a control valve.

### A water circuit free of non-ferrous metals

Corrosion? Not a chance, thanks to the stainless steel or plastic pipings plus stainless steel pumps and nickel-brazed plate heat exchangers as evaporators (for instance for DI water applications).



# AFTER SALES SERVICE

EXPERT SERVICE TECHNICIANS IN ACTION.



## Service – around the clock.

No one can predict a system breakdown. But should it happen, KKT chillers' years of experience and well-structured service organization guarantee fast response and trouble-shooting.

Do you require help with one of your chillers? You can reach KKT chillers 365 days a year, 7 days a week, 24 hours a day.

## Service – around the world.

To ensure swift and reliable maintenance and repair services, KKT chillers runs a close-knit global service network, which is continuously optimized and expanded in keeping with your requirements and plant locations.

24/7  
Customer Support



For frequently updated contact information of the individual service locations, please see

[www.kkt-chillers.com/en/service/service-locations/](http://www.kkt-chillers.com/en/service/service-locations/)

### KKT chillers Germany

ait-deutschland GmbH  
Industriestraße 3  
95359 Kasendorf

S +49 9228 9977 7190  
F +49 9228 9977 7474  
E [service@kkt-chillers.com](mailto:service@kkt-chillers.com)

### KKT chillers USA

KKT chillers, Inc.  
1280 Landmeier Road  
Elk Grove Village, IL 60007

TF +1 866 517 6867  
F +1 847 734 1601  
E [techsupport@kkt-chillersusa.com](mailto:techsupport@kkt-chillersusa.com)

### KKT chillers East Asia

Sales and Service Office  
5-1-D, No. 333 Xingpu Road  
Modern Industrial Park  
Suzhou 215021, Jiangsu Province, P.R.C.

S +86 512 6790 3091  
F +86 512 6287 1077  
E [service@kkt-chillerscn.com](mailto:service@kkt-chillerscn.com)





For an overview of all  
our applications, please see  
[www.kkt-chillers.com/en/applications/](http://www.kkt-chillers.com/en/applications/)



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