

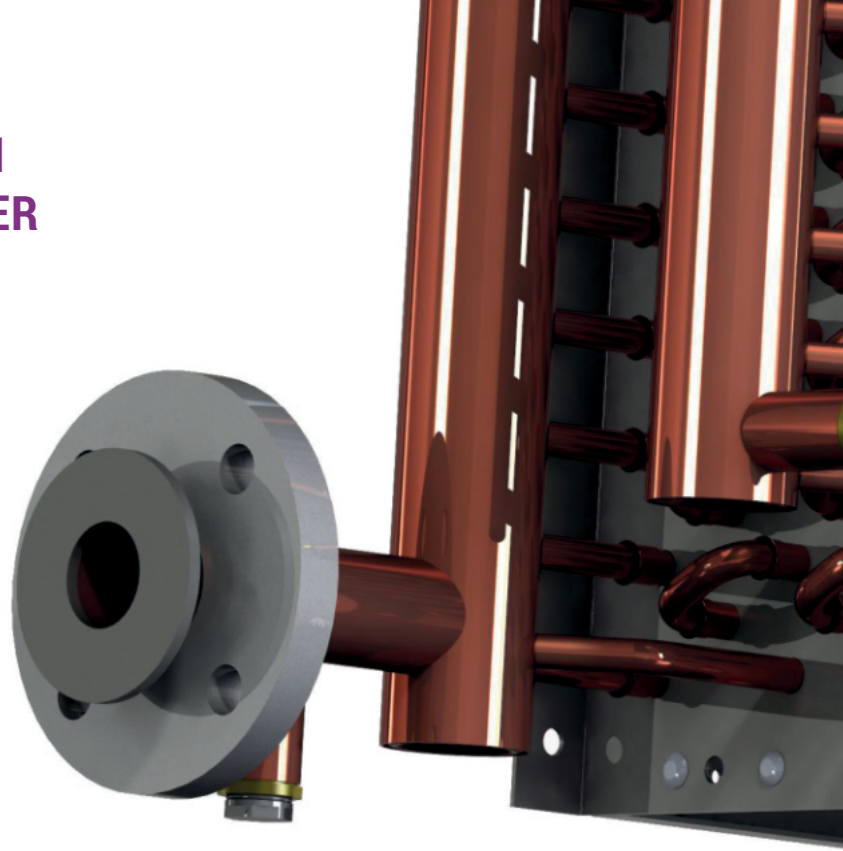


4COILS TECH ●

EXPERIENCE INSIDE

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**WE ARE A LEADING EUROPEAN
MANUFACTURER AND SUPPLIER
OF HIGH-QUALITY HEAT
EXCHANGERS.**



We produce tailor-made heat exchangers for small, medium and large customers in the heating, ventilation, air-conditioning & refrigeration sectors, both in the form of serial and one-piece production coils.

We provide a professional and flexible approach, a swift response and an openness to constant innovation.

WHY OUR COMPANY

- all our products are manufactured in the **Czech Republic** in the heart of Europe
- strategic location of the manufacturing plant near a motorway junction and 20 minutes from **Prague international airport**
- more than **80 % of products** are manufactured for export
- in **Europe** we supply to countries from Portugal to Russia and from Sweden to Greece, but also to **North Africa** and for the **Middle East**
- last year we delivered **133 000 products to 39 countries** around the world
- thanks to the flexible system we are able to **manufacture thousands of series as well as one-piece orders**

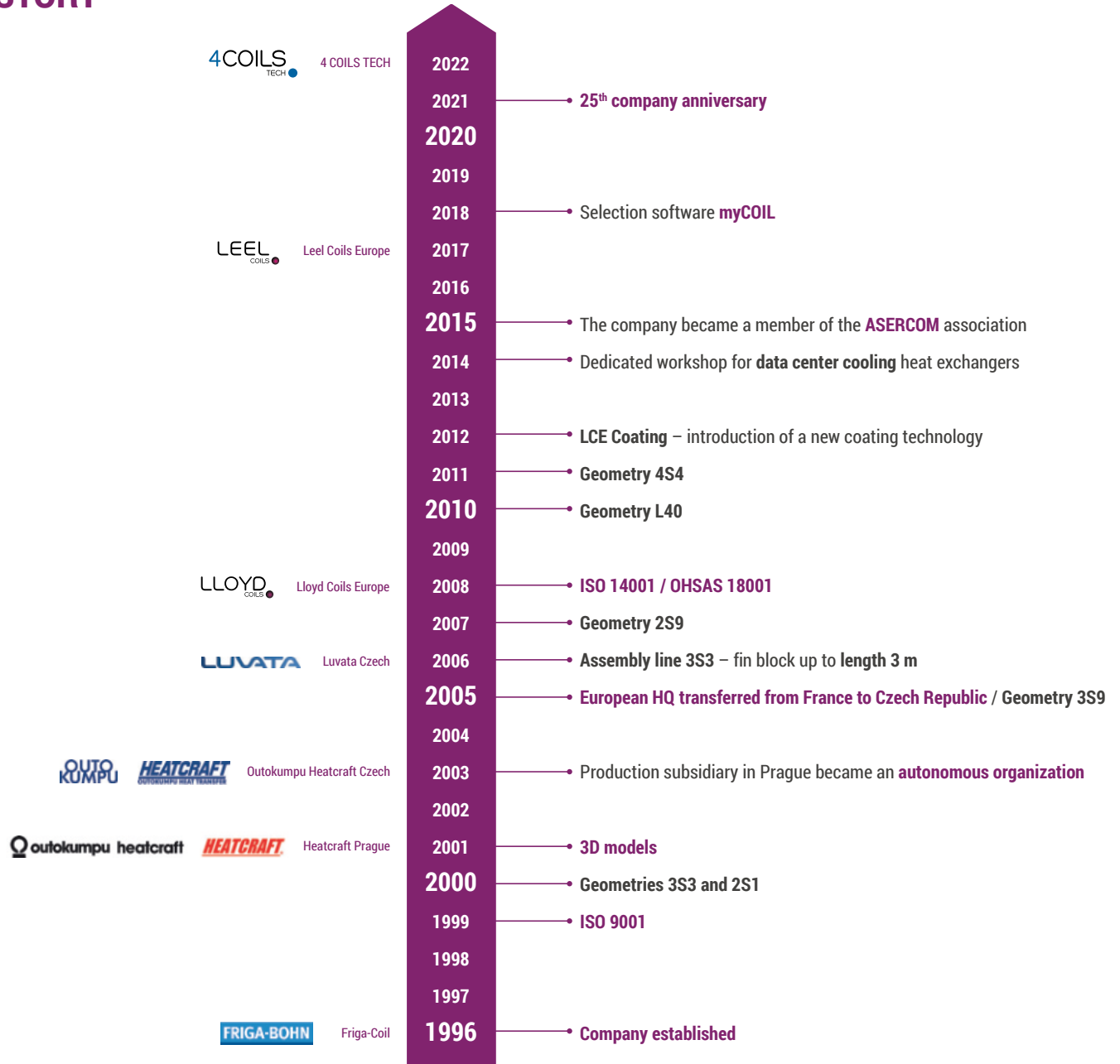
WHAT WE OFFER OUR CUSTOMERS

- **design and manufacture** of fluid heat exchangers, coolers, evaporators and condensers
- we manufacture products **from 95 mm up to 9 000 mm length**
- professional **customer service**
- supply **OEM products** to company leaders in the **HVAC&R** segment
- **experienced staff**
- thanks to continuous development we follow the **latest trends in the industry** e.g. heat exchangers for environment friendly refrigerants etc.
- using **PRO / ENGINEER (CREO) professional CAD software**, we are able to deliver a new product with a very short lead time





HISTORY



QUALITY

Our **quality control system**, as well as our approach to the environment and working conditions of our employees, have been **successfully certified by an independent company**. Our commitments in these areas are set out in the Quality, Environment and Health and Safety Policy.

As part of our way of thinking, which we call “**Continuous Improvement Mindset**”, we continue to work to further develop established processes as well as to create new and **effective solutions**.

WE HOLD THE FOLLOWING CERTIFICATES:

ISO 9001:2015 – Quality Management System

ISO 14001:2015 – Environmental Management System

ISO 45001:2018 – Occupational Health and Safety Management System

WE DECLARE COMPLIANCE WITH THE FOLLOWING EU REGULATIONS:

REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)

Regulation (EC) No 1907/2006

Protection of human health and the environment within the organisation

RoHS (Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment)

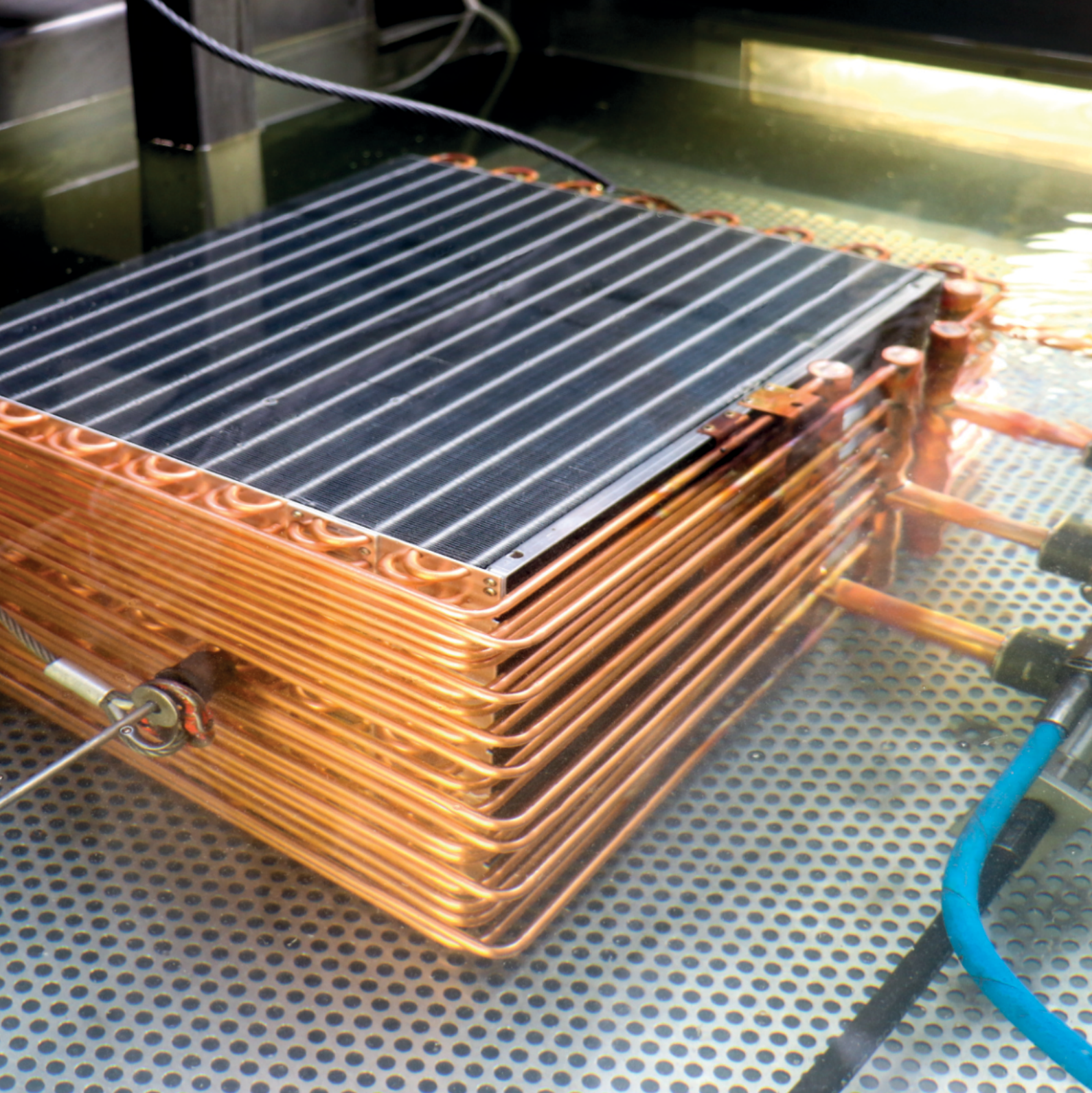
Directive 2011/65/EU + 2015/863/EU of the European Parliament and of the Council

The list of restricted substances (DEHP, BBP, DBP and DIBP)

PED (Pressure Equipment Directive)

Directive 2014/68/EU of the European Parliament and of the Council

Harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment



OUR PRODUCTS

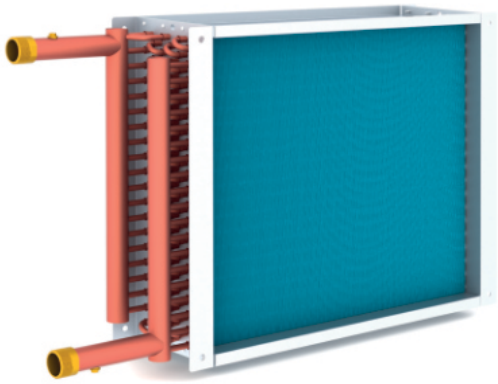
FLUID COILS

EVAPORATORS FOR HVAC&R

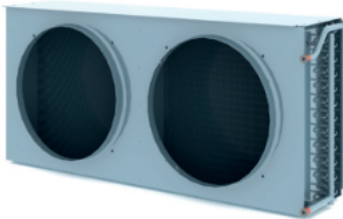
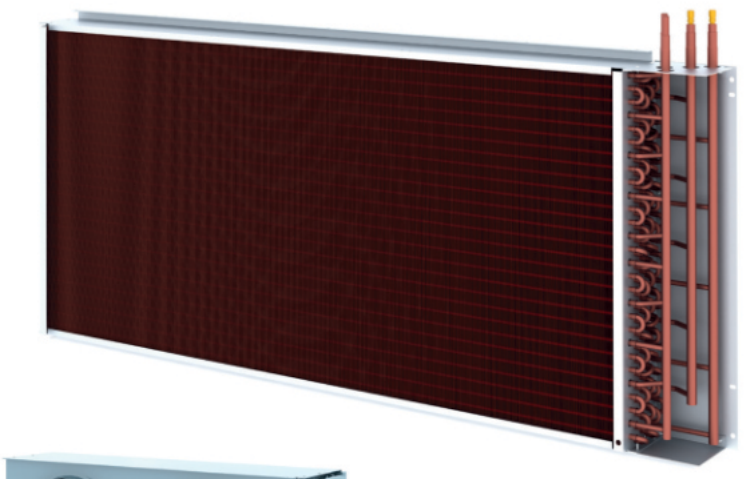
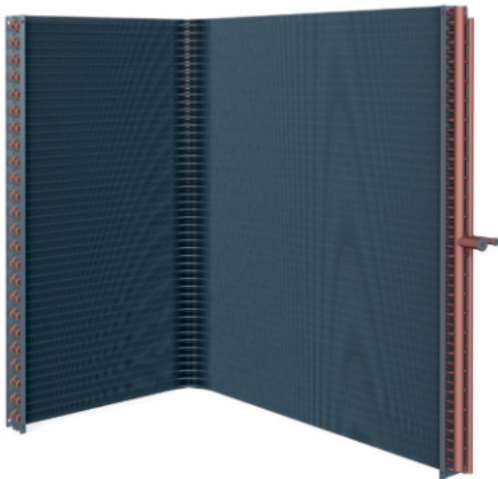
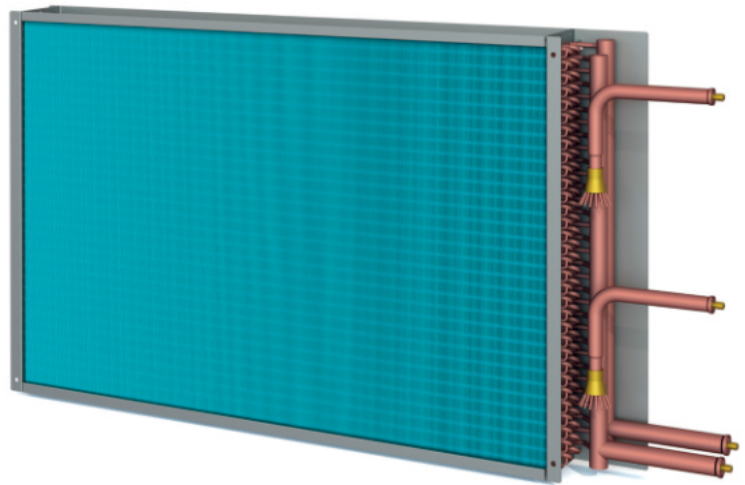
CONDENSERS FOR HVAC&R

COILS FOR HEAT PUMPS

GLYCOL COILS



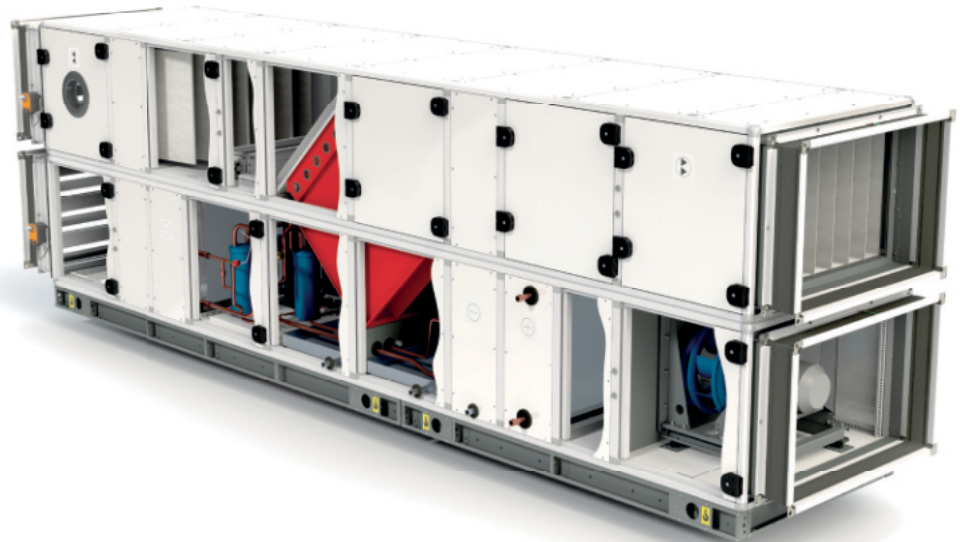
GLYCOL COILS



CONDENSERS FOR HVAC&R

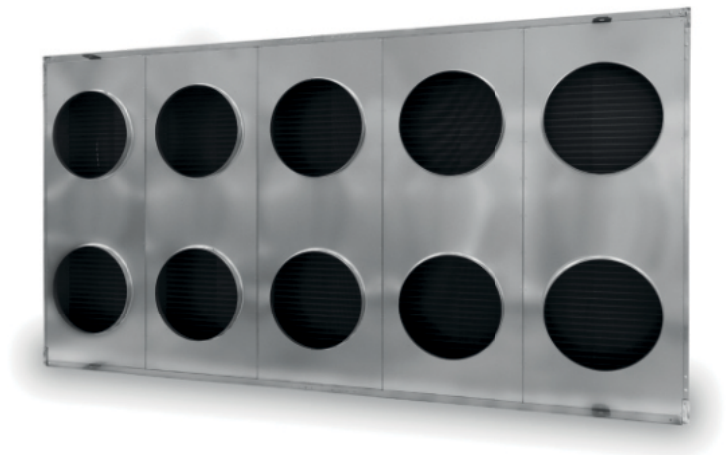
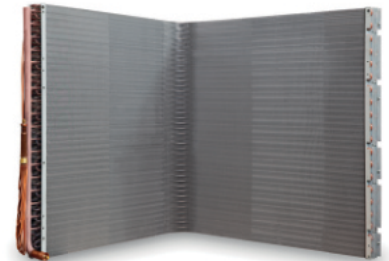
APPLICATION

- air handling units
- heat pumps
- transport AC and refrigeration
- cooling boxes and displays
- chillers
- convectors
- rooftops
- condensing units
- milk tanks
- air curtains
- vending machines for packaged beverages
- other applications



OFFERED SOLUTION

- casing with integrated fan collar for axial fans from \varnothing 260 up to 630 mm
- circuiting for horizontal, vertical or combined use
- straight or bent coils
- usage with high pressure refrigerants R-32 and R410A (tested up to 50 bar)
- some patterns may be produced with defrosting slots/grooves
- powder coat painting in 17 standard colours or according to choice
- the ability to deliver LCE Coating offering anti-corrosion and anti-microbial protection
- possibility to offer evaporators with double fin spacing



TECHNICAL SPECIFICATION

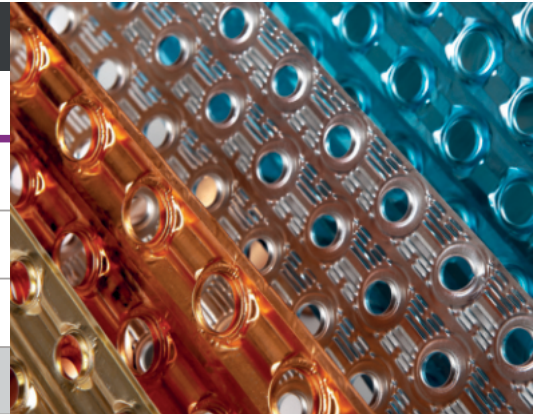
COPPER TUBE		
DIAMETER	TUBE TYPE	
5.000 mm	smooth	
	grooved	
7.000 mm	smooth	
	grooved	
5/16" (7.937 mm)	smooth	thin-walled
		thick-walled
	grooved	
3/8" (9.525 mm)	smooth	thin-walled
		thick-walled
	grooved	standard
		super grooved
1/2" (12.700 mm)	smooth	thin-walled
		thick-walled
	grooved	standard
5/8" (15.875 mm)	smooth	thin-walled
		thick-walled



FIN

MATERIAL

aluminium	standard
	with hydrophilic layer
	with hydrophobic layer
copper	standard



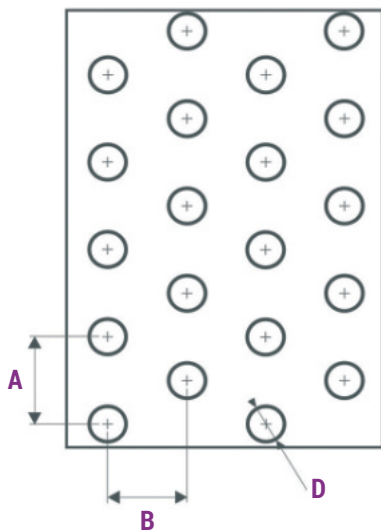
CASING

SPECIFICATION

thickness	up to 3 mm	0.5 / 1.0 / 1.2 / 1.5 / 2.0 / 2.5 / 3.0 mm
material	galvanized steel	DX51 / DX53
	aluminium	AL5005 / AL5754
	copper	Cu-ETP (CW004A) / Cu-DHP (CW024A) status R240
	brass	CuZn37 (EN CW508L)
	stainless steel	AISI304 / AISI316L

PRODUCTION CAPABILITIES

TUBE DIAMETER "D"	PATTERN	MEASUREMENT "A"	MEASUREMENT "B"	CORRUGATIONS
5.000 mm	0S1	20.00	17.32	G, P
7.000 mm	1S1	25.00	12.50	G, P
5/16" (7.937 mm)	2S1	25.40	19.05	G, G*, G**, R, P
	2S9			E
3/8" (9.525 mm)	3S2	25.40	19.05	G, G**, P
	3S9			E
	3S3	25.00	21.65	G, P, E
1/2" (12.700 mm)	4S4	40.48	34.93	G, G***
	4S6	31.75	27.43	G, R, P
5/8" (15.875 mm)	5S4	38.00	32.91	R



CORRUGATIONS

G, R – corrugated fin



P, S – plain fin

E – louvered fin

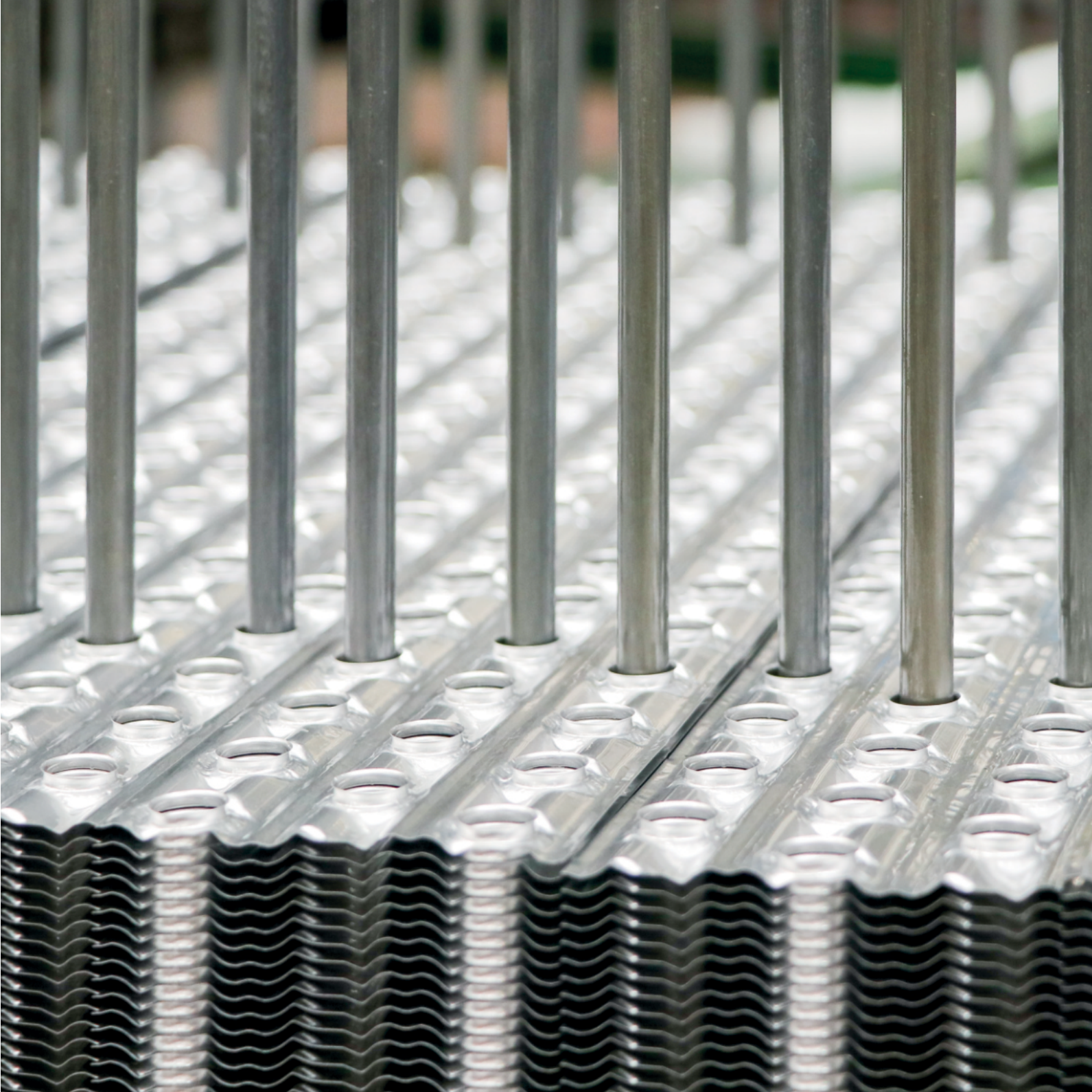


All measurement is in millimeters.

G* – fin is cut under angle 56°19' (only even number of rows)

G** – defrosting slots \varnothing 6.5 x 12 mm

G*** – defrosting round holes \varnothing 9.9 mm



LCE COATING

In 2012 we introduced a new technology of surface protection called LCE Coating. It is a **revolutionary technology** that protects heat exchanger coils from corrosion, mould and bacteria growth in a very effective way. Unlike solvent-based coatings, LCE Coating is a **water-based product** that brings us significant improvements; **Super Hydrophobic effect** and **Anti-microbial protection**.

LCE COATING BENEFITS:

- increases the lifetime of your units in highly aggressive environments
- anti-microbial protection prevents bacteria growing inside your units
- repairable on-site coating
- no impact on capacity
- 100 % penetration of coil surface thanks to the application by total coil immersion
- super hydrophobic surface

LCE Coating guarantees 100 % penetration & protection. The entire coil is immersed into a liquid form of the LCE Coating, letting the liquid penetrate even the smallest spaces between fins including fin collars, louvres, heat slots and all other type of forming.

Tests found 100 % penetration on fin blocks with 24 fins per inch !

LCE Coating is a **highly functional anti-corrosion protection** that provides a protective elastic layer on the whole surface of the coil. This layer is capable of withstanding thermal expansion of the coil without cracking.

Elasticity is a critical ability to prevent the creation of small cracks where corrosion begins. With this feature, you can be sure that the protection works even when the unit is operating under the most difficult working conditions.



NO MORE CORROSION

Many air handling units are working in aggressive environments such as coastal locations, food production lines, animal shelters, piggery units etc. where the standard protection isn't enough. LCE Coating offers a perfect solution for coils in such environments.

CERTIFICATED:

- **Passed ASTM B117 (Salt spray test)**
10 000 hours in heating/cooling cycles changing temperatures between 60°C and 5°C
- **Passed ASTM G85:A1 (Acetic Acid-Salt spray test)**
to prove positive impact on coils used in food industry
- **Passed ASTM G87 (SO₂ test)**
the same as G85, only in usage acidic SO₂ electrolyte
- **Passed ASTM D552 (Flexibility test)**
to demonstrate the adhesion of the surface of the protective layer to the substrate surface of the coil
- **Passed ASTM G85:A5 (Indirect spraying of dilute salt and ammonium sulphate)**
at 23°C and followed by 1 hour exposure of dry air at 35°C. Test proving resistance in salt containing environment and industrial applications
- **Passed ASTM G21 (Test for resistance to mold and fungi)**
important aspect for evaporators

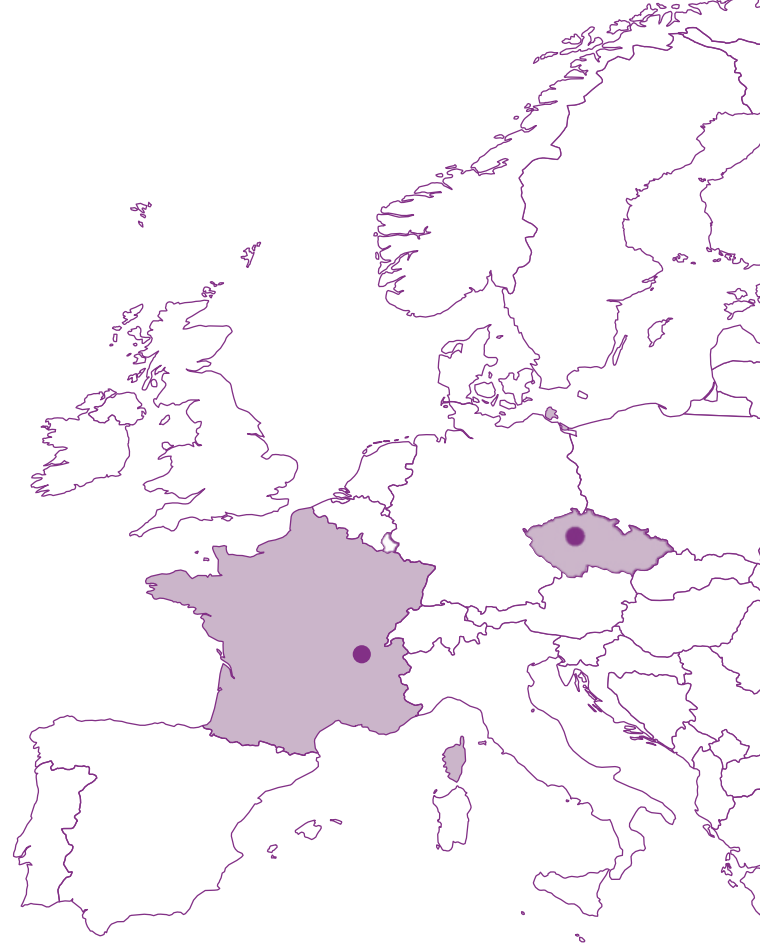
SALES MANAGERS

Our sales managers are available to discuss your inquiry, suggest the best possible solutions, arrange delivery dates, provide prices, payment and contract terms. They will be available to you during your order and for any additional requirements or questions.

You can rely on them.

Sales managers are located in **Prague** (Czech Republic) and **Lyon** (France).

Each of them is responsible for a different sales area in order to be close to our customers.



SALES SUPPORT TEAM

Our sales support colleagues are responsible for the day-to-day **communication with the customer** and the **order administration**. Once you want to place an order, ask about the current order status, change the delivery date or have any question, they will be happy to help you.

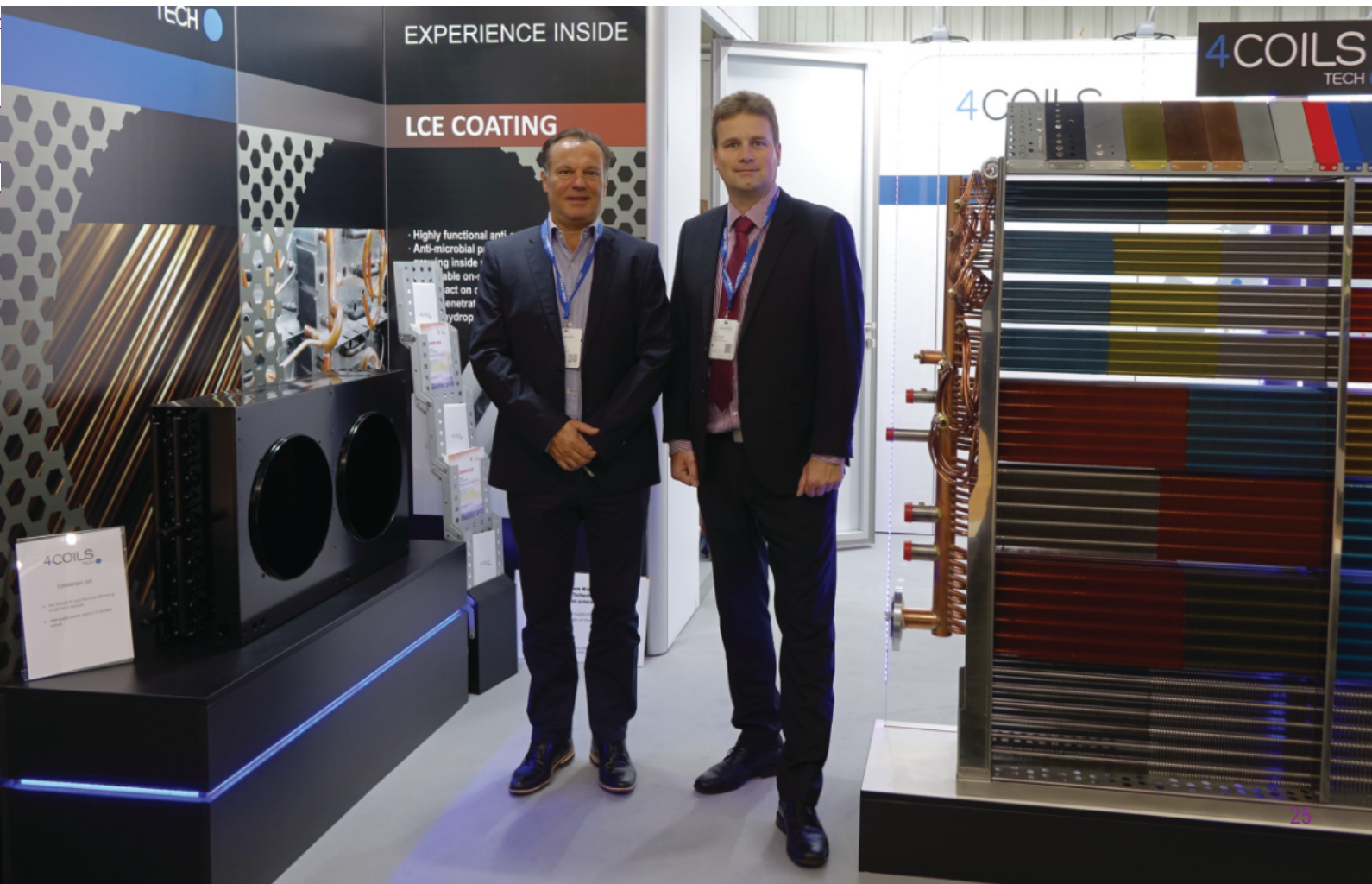
Our sales support team is based in Prague, they speak multiple languages and are available at any time.

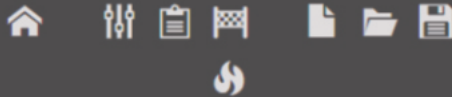
CUSTOMER PORTAL

The customer portal allows you to **monitor the current progress of your order**, from placing to delivering to your required address. You can find there **current drawings** of your coils as well.

The customer portal can be found at the following link: <http://portal.4coilstech.eu/customers/>

In case that you don't have access or have any questions about customer portal, please contact our sales support team who will be happy to advise you.





Fluid



Verify Coil Performance

Requested Capacity

kW

Capacity Reserve %

Counter flow

AIR

Entering air temperature

FLUID

Working fluid

Entering fluid temperature

GEOMETRY

Geometry

- 4S6
- 3S3
- 3S2
- 2S1

FINNED BLOCK

Insert of rows

6

Number of tubes

84

Finned length

0.9 m

Fin Spacing

2.12 mm = 12 FPI

CIRCUIT AND CONNECTION

Number of circuits

1

N. of injections

31

Optimize tubes not used

Connection

Copper body - brass connection

Optimize connections size

Same side connections

Fan

Name: FN071-SD_6F_7P1 (400V A)

Minimal flow [m³/h]: 6500

Maximal flow [m³/h]: 14600

	Volume flow [m³/h]	Pressure [Pa]
1.	7850.00	145.40
2.	10550.00	98.70
3.	13250.00	38.20

Save Use Cancel

SELECTION SOFTWARE

The selection software **myCOIL** is a special application developed by us for **calculation of heat exchanger parameters**. The application is available in several language versions.

THE SOFTWARE WAS SET UP IN COOPERATION WITH:

- University of Padova
(Università degli Studi di Padova)
- University of Milan
(Università degli Studi di Milano)
- French Technical Center CETIAT
(Centre Technique des Industries
Aérouliques et Thermiques)
- JANKA ENGINEERING laboratory

THE SELECTION SOFTWARE MYCOIL INCLUDES THE FOLLOWING MODULES:

1. fluid coil
2. evaporator
3. condenser
4. heat pump
5. glycol circuit
6. determination of refrigerant features
7. determination of air features

MODULES 1-6 CAN WORK IN ONE OF THE FOLLOWING MODES:

- **performance verification**
used to calculate the heat exchanger performance based on knowledge of air and medium or refrigerant parameters and heat exchanger geometry
- **finding suitable heat exchangers**
based on knowledge of air and medium or refrigerant parameters and the required heat exchanger performance or air outlet temperature

After using one of the above modes the customer receives a technical sheet with a list of the resulting parameters.

MODULES 7-8:

- These are for obtaining the physical features of air or refrigerant at a definite point.

myCOIL

The software is provided to our registered customers on www.mycoil.eu free of charge.

Access for registered customers and registration form for new users can be found here: www.mycoil.eu

The new user will receive an e-mail with **username and password** within one week or we will contact you by phone.

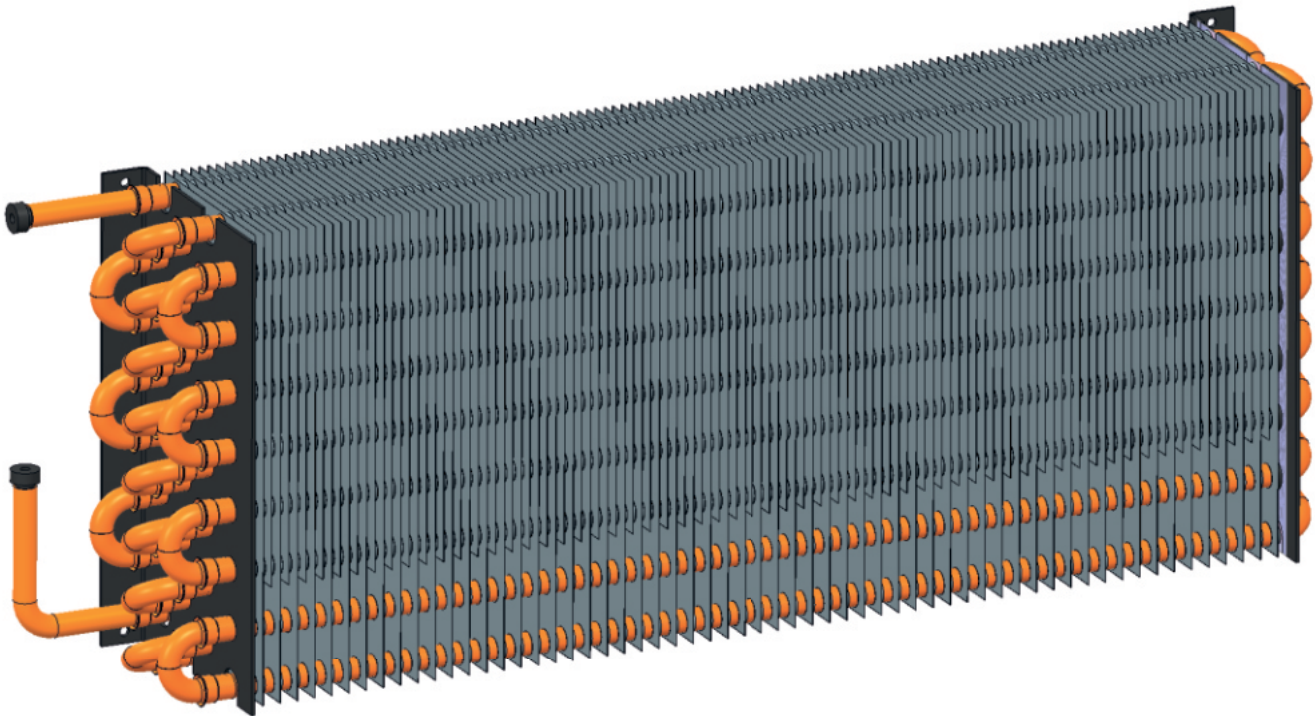
TECHNICAL DRAWINGS

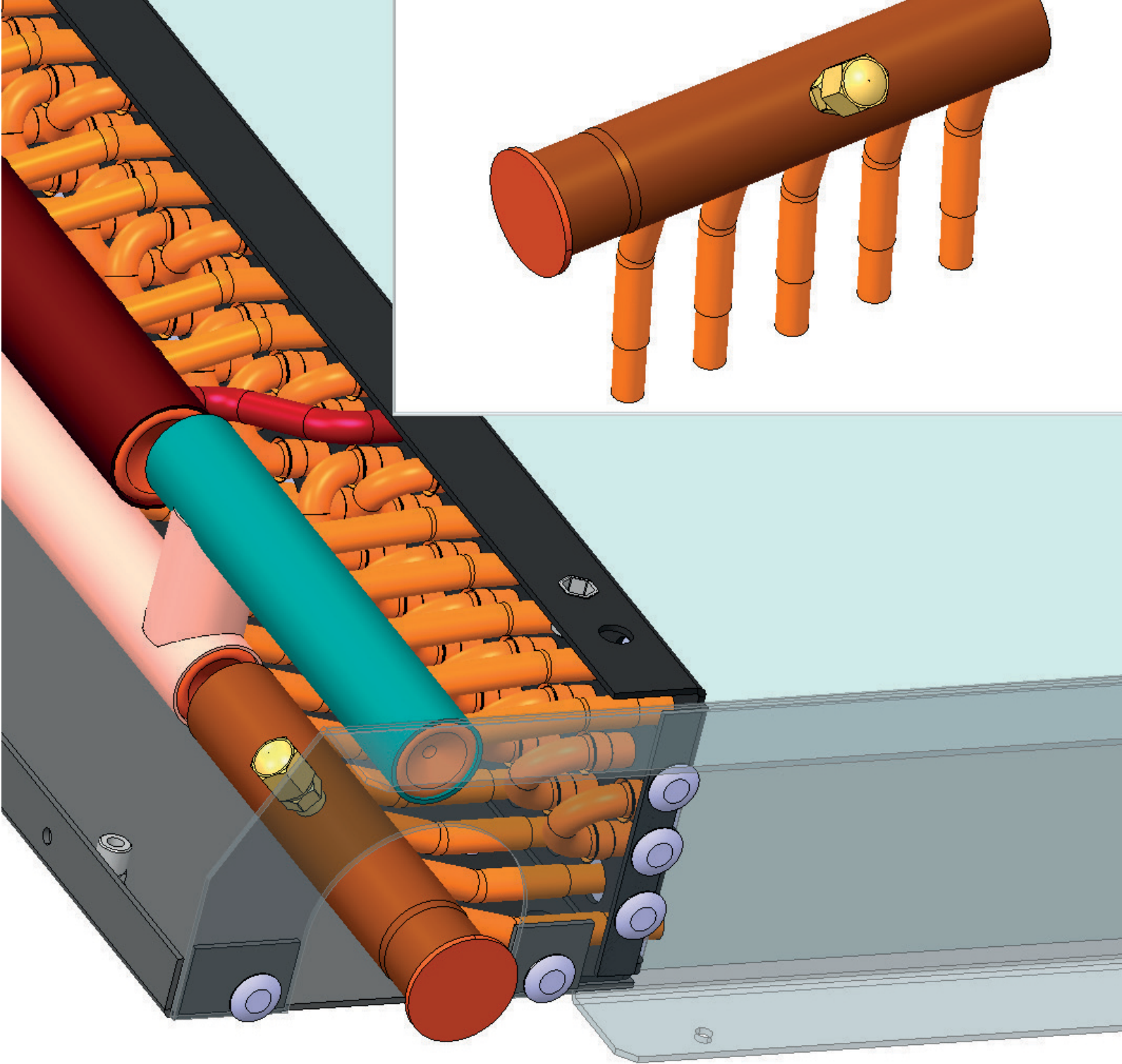
Technical drawings are sent to customers for approval together with the **3D model** in STEP format prior to production.

Once we finish the 3D coil model, we prepare an **overview drawing** with the positions of the main product parts. This means the fixation points and connection points.

We prepare **production drawings** of the components after 3D design approval by customer.

- we create 3D models in **PRO/ENGINEER (CREO)**
- we have more than **20 000 current drawings** in our database
- we draw on average **1 800 drawings in recent years**
- fast response with average lead time **5 working days** since specification





CONTACTS

HEADQUARTERS CZECH REPUBLIC

ADDRESS

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Vrážská 143
153 00 Prague 5 – Radotín
Czech Republic

CRN 13981391
VAT CZ13981391

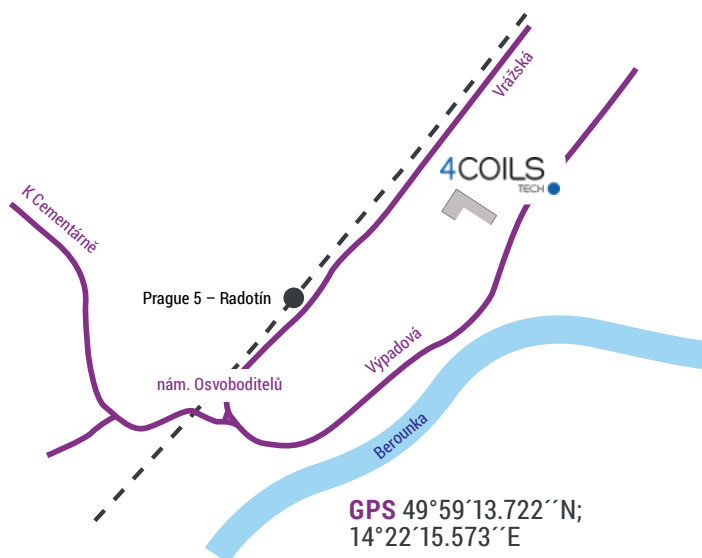
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SALES OFFICE FRANCE

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