

REFRION
COOL GENERATION

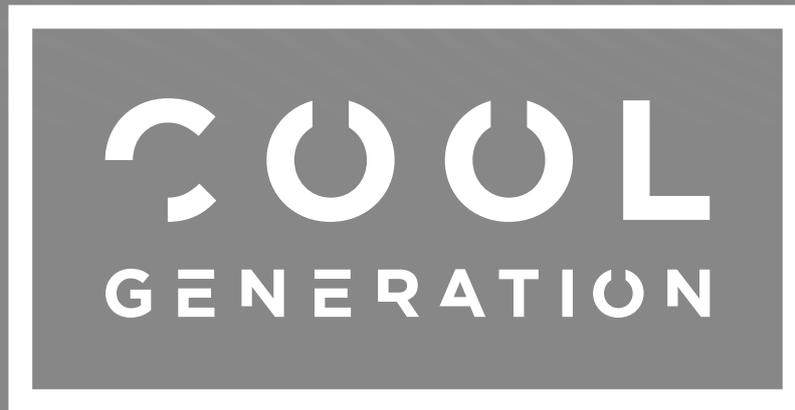
HEAT EXCHANGERS



Member of



REFRION



Refrion is a **European market leader** in the **industrial refrigeration sector, data centres and the ventilated equipment sector**. Founded in 2002, the group employs over **100 professionals** in the manufacture of **Dry Coolers, condensers and heat exchangers**.

We have chosen to be a future-proof company, conducting our business in a way that **fully respects natural resources**. That's because we believe that caring for the planet isn't just common sense - it's a necessity.

We have opted for **progress that fully** respects the environment in which we live. That's why we were the first to introduce **an innovation that has revolutionised** the industrial refrigeration and data centre sectors: the **adiabatic system**. Adopting this **intelligent solution** allows water savings of up to 95% and a net reduction of **energy consumption and CO² emissions**.

That's why Refrion is the First for Adiabatics.
That's why Refrion is part of the COOL GENERATION.

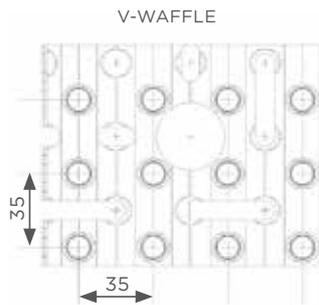
A SOLUTION FOR EVERY NEED

A vast range of different-shaped exchangers that meet any functional requirement in the refrigeration and air conditioning sector.

REFRIGERATION



SQUARE SHAPE



3510
tube
Ø 3/8"

FEATURES:

Suitable for low temperatures, it is mostly used for commercial refrigeration and suitable for use with modern refrigerants fluid (e.g. R-744).

TUBES:

Copper Cu-DHP smooth/grooved

FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

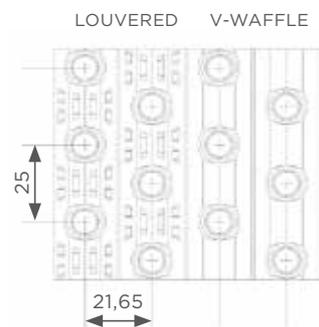
FIN SURFACE:

V-WAFFLE

AIR CONDITIONING



TRIANGULAR SHAPE



2507
tube
Ø 7,2 mm

FEATURES:

Suitable for any application (condensation - evaporation) with the new refrigeration gases (R410A - CO2).

TUBES:

Copper Cu-DHP smooth/grooved - Copper Cu-Fe2P smooth

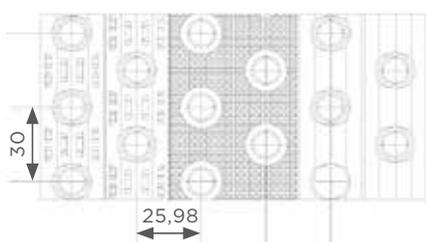
FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

FIN SURFACE:

V-WAFFLE - LOUVERED

LOUVERED PIRAMID DIPLE V-WAFFLE



3110
tube
Ø 3/8"

FEATURES:

Mostly used for the air-conditioning and industrial processing fields.

Suitable for applications which require a high design pressure (i.e. R410A).

TUBES:

Copper Cu-DHP smooth/grooved

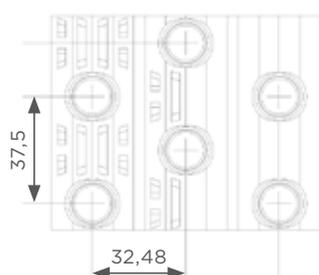
FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

FIN SURFACE:

PIRAMID DIPLE - LOUVERED - V-WAFFLE

LOUVERED V-WAFFLE



3712
tube
Ø 12 mm

FEATURES:

Used for air conditioning and air treatment. Stainless steel tubes suitable for the use with cooling or process fluids non-compatible with copper (e.g.: R-717).

TUBES:

Copper Cu-DHP smooth/grooved - AISI 304 smooth - AISI 316L smooth

FIN MATERIALS:

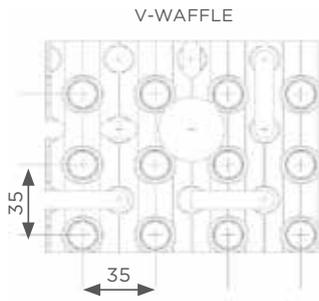
Aluminium (A80XX) - Pre-painted aluminium (A80XX) - AIMg2.5 (A5052) - AIMg3 (A5754) - AISI 304 - AISI 316L - Copper

FIN SURFACE:

V-WAFFLE - LOUVERED



SQUARE SHAPE



3512
tube
Ø 12 mm

FEATURES:

Suitable for low temperatures, used mostly for commercial refrigeration.

TUBES:

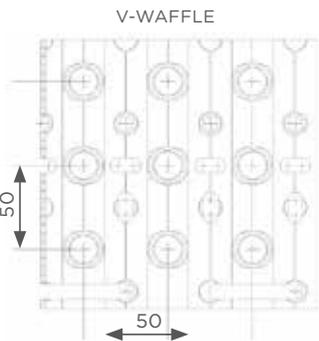
Copper Cu-DHP smooth/grooved

FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

FIN SURFACE:

V-WAFFLE



5016
tube
Ø 5/8"

FEATURES:

Suitable especially for low temperatures, it is used mostly for commercial refrigeration.

TUBES:

Copper Cu-DHP smooth/grooved - AISI 304 smooth - AISI 316L smooth

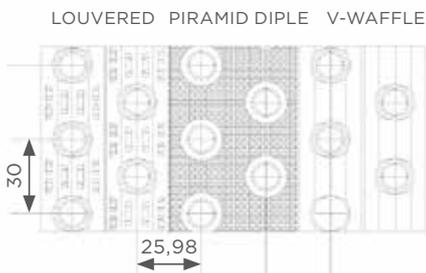
FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

FIN SURFACE:

V-WAFFLE

TRIANGULAR SHAPE



3120
tube
Ø 12 mm

FEATURES:

Mostly used for the air-conditioning and industrial processing fields.

Suitable for applications which require a high design pressure (i.e. R410A).

TUBES:

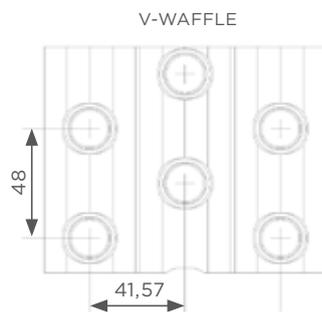
Copper Cu-DHP smooth/grooved

FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

FIN SURFACE:

PIRAMID DIPLE - LOUVERED - V-WAFFLE



4816
tube
Ø 5/8"

FEATURES:

Used for the industrial refrigeration and the industrial processes. It is also used for the air treatment.

Stainless steel tubes suitable for the use with cooling or process fluids non-compatible with copper (e.g.: R-717).

TUBES:

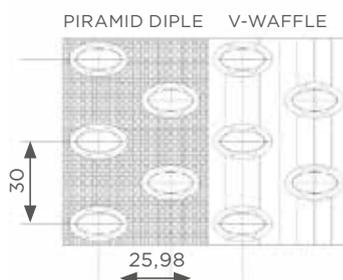
Copper Cu-DHP smooth/grooved - AISI 304 smooth - AISI 316L smooth

FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

FIN SURFACE:

V-WAFFLE



31SO
oval
tube

FEATURES:

For water heat exchangers with operating pressure up to 16 bar.

TUBES:

Copper Cu-DHP smooth

FIN MATERIALS:

Aluminium (A80XX) - Pre-painted aluminium (A80XX) - Copper

FIN SURFACE:

V-WAFFLE - PIRAMID DIPLE

SCAN HERE
AND WATCH MORE



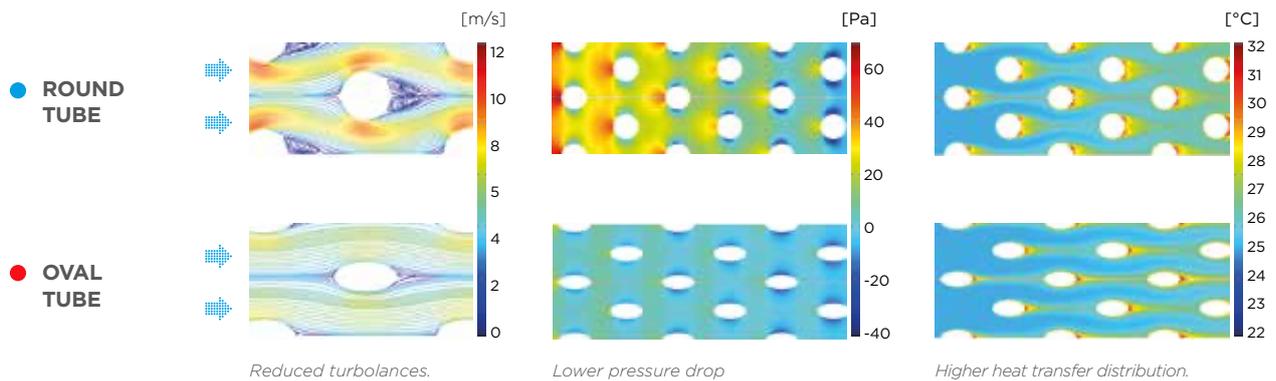
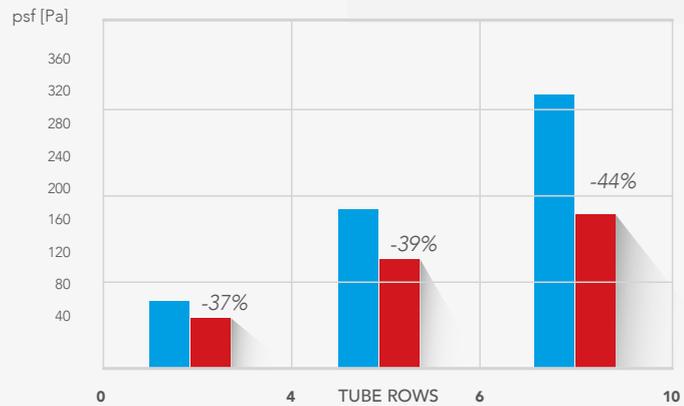
OVAL TUBES

The revolutionary 3ISO geometry with oval tubes is the real innovation in the production of heat exchangers.

The 3ISO geometry enhances performances up to 15% compared to the round tube geometries. Air-side pressure drops can be reduced by 40%, allowing a better performance of the axial fans. All this leads to a quieter operation and a lower energy consumption.



ROUND AND OVAL TUBE COMPARISON



Refrion has developed 3 different adiabatic systems, to guarantee maximum system efficiency for different environmental conditions and a single control system for their management.

SPRAY ADIABATIC SYSTEM



open circuit

HYBRID SPRAY SYSTEM (H.S.S.)



close circuit

INDUSTRIAL ADIABATIC SYSTEM (PADS)

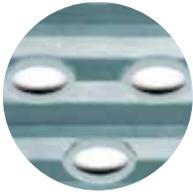


open circuit



close circuit

PROTECTION COATINGS



Pre-painted hydrophilic coating

- High surface tension: it gives the drops of water wetting the fin a flattened shape (contact angle $>15^\circ$).
- It favours circulation and the adiabatic saturation of the air.
- Corrosion resistance (ASTM B117): 250 hours.



Pre-painted Hydrafins®

- Brand-new coating that enhances the performance of the adiabatic spray systems.
- It exploits the benefits of the latent heat of evaporation even when the water spray system is turned off.
- Corrosion resistance (ASTM B117): 1500 hours.



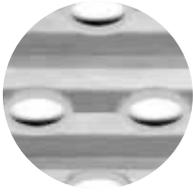
Single layer pre-painted hydrophobic coating

- It gives the drops of water wetting the fin a spheroid shape (contact angle $>50^\circ$) for easier draining.
- Corrosion resistance (ASTM B117): 1000 hours.
- Colour grey



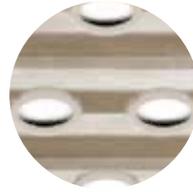
Double layer pre-painted hydrophobic coating

- It gives the drops of water wetting the fin a spheroid shape (contact angle $>50^\circ$) for easier draining.
- Corrosion resistance (ASTM B117): 1500 hours.
- Colour black



Thermoguard®

- Polyurethane based coating.
- High flexible properties.
- Heat conduction and UV resistant properties.
- Prevents chemical and galvanic corrosion.
- Corrosion resistance (ASTM B117): 3000 hours.



BlyGold®

- Heat conductive pigmentation.
- Very high chemical resistance at a low layer thickness.
- Corrosion resistance (ASTM B117): 4000 hours.



Heresite®

- Suitable for marine and salt air environments.
- Withstand exposure to an extensive variety of corrosive and chemical fumes.
- Corrosion resistance (ASTM B117): 6000 hours.



ElectroFin®

- Water-based, flexible cationic epoxy polymer using an electro-coat process.
- It guarantees complete heat exchanger coverage.
- Corrosion resistance (ASTM B117): 6000 hours.
- C5M & C5I High Durability (ISO 12944).

TECHNICAL CHART

TYPE	Ø	SHAPE	N° TUBES min-max	N° ROWS min-max	FIN PACK LENGTH min-max [mm]	FIN SPACING min-max [mm]
3510	3/8"	■	4-68	1-12	400-12000	2-10
3512	12mm	■	4-68	1-12	400-12000	2-10
5016	5/8"	■	4-48	1-12	400-12000	1,4-12
2507	7,2mm	▲	4-66	1-12	400-12000	1,4-3,2
3110	3/8"	▲	4-80	1-12	400-12000	1,6-4
3120	12mm	▲	4-80	1-12	400-12000	1,6-4
3712	12mm	▲	4-64	1-12	400-12000	1,6-4,5
4816	5/8"	▲	4-50	1-12	400-12000	1,4-4,0
3150	OVAL	▲	4-80	1-12	400-12000	1,6-3,5

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