

Hafez Engineering Industries

الحافظ

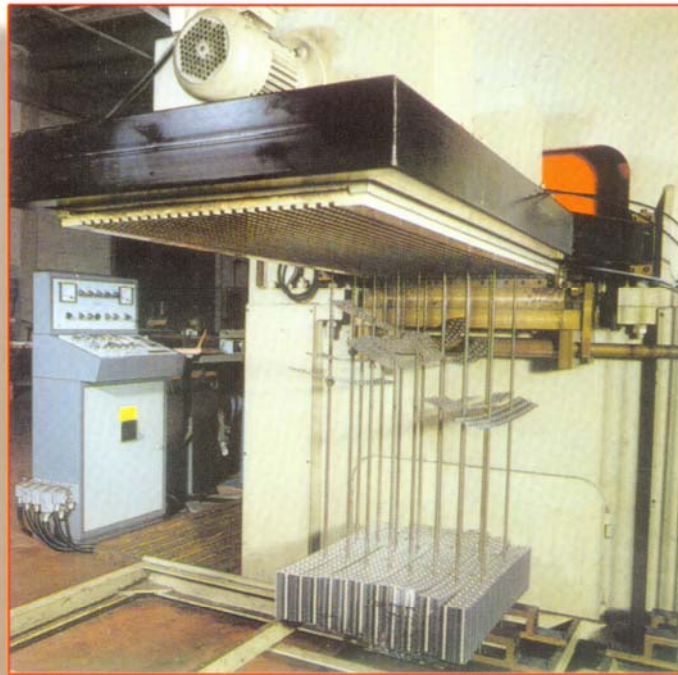
للصناعات الهندسية

THE COMPANY

A team of engineers and technicians specialized in heating technology. A union of wide-ranging and varied research and work experiences, brought together to professionally contribute to solving the many problems that can arise in heat exchange technology.

A young company with a modern organization, dynamically present on markets in both Syria and abroad, a rapid story that is based on advanced technology, quality products, and an excellent customer consultation service.

FIRM ACTIVITIES



PRODUCTIONS:

Our company's standard production is for small & big type condensers cooling coils, & heating coils. In line with the fin types and product specifications mentioned in our catalog we are able to produce special heat exchangers according to the data, sample or drawing supplied by the customer and our design made with the help of 'Coils' software.



Structural features

Finned coils' permitting heat exchange between air and circuit fluid (water, anti-freezes, refrigerants, etc.), are manufactured by using technologically advanced production systems. The high-output aluminium fin production line, totally automated and combined machines, is the most modern and technically correct way to manufacture finned coils.

Finned block

Made of mechanically expanded copper tubes on continuous aluminium fins equipped with collars. Perfect and uniform spacing is achieved by the collars, plus perfect contact and minimum resistance to heat flow between tubes and fins.

Frame

Made of heavy-gauge galvanized sheet that provides good protection for the finned block and the connecting U-tubes. Drawn-collar tube holes in both end - plates are designed to permit unimpeded tube movement due to thermal expansion.

Corrugated fins

All models have fins pressed with a special Corrugated surface. This both increases the strength of the fins and creates a controlled turbulence in the air flow that increases the air/fin heat-transfer coefficient. On the other hand this corrugation does not encourage dirt deposits on the finned coil.

Processing and inspection cycles

Rigorous production and quality control standards are enforced to ensure long and problem-free working life for the coils. All heat exchange coils, U-tubes and collectors are welded, thoroughly washed and de-greased inside and out using when welding is completed the coils are immersed in hot water by air at 30 bar pressure. These processes guarantee delivery of perfectly clean and dehydrated coil.

Use data

Al Hafez heat exchange coils are guaranteed to operate properly within the following working range:

Cooling coils

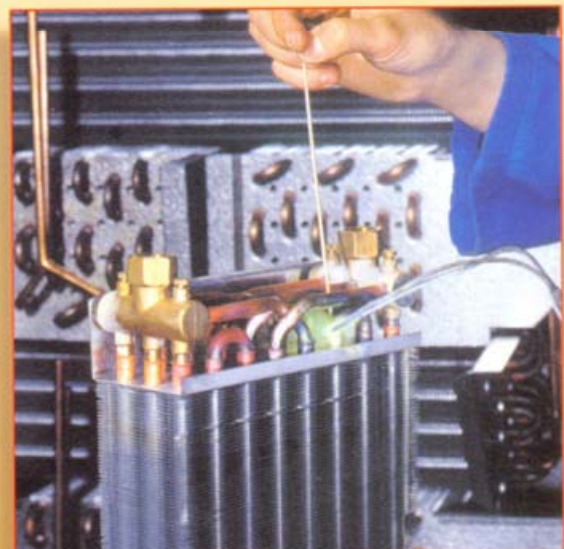
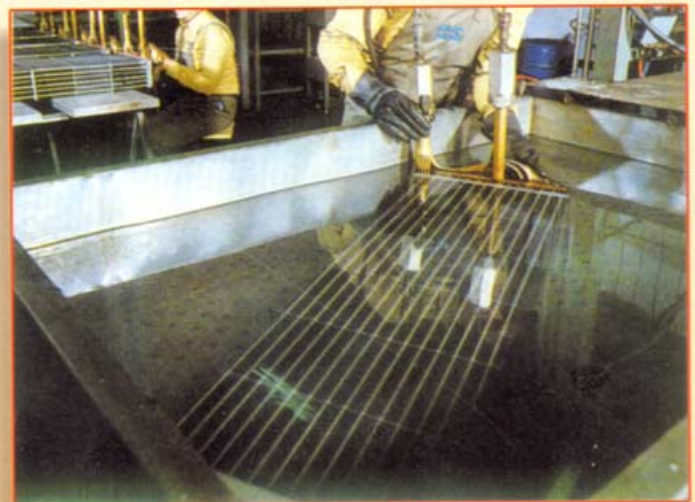
- cold water and anti-freeze solution: 15 bar
- direct expansion: 27 bar

Heating coils

- hot water: 15 bar
- superheated water: 15 bar, 175°C

Condensation coils

condensation of freon: 27 bar



Fin Geometry	Type of coils	Figure	Tube spacing A [mm]	Rows spacing B [mm]	Tube outside diameter Ø [mm-in]	Fin spacing P [mm]	Fin thickness [mm]
In line	7-21-25	—	25	21	7.94 - 5/16"	1.5-1.8-2-2.2	0.12-2
Staggered	10-25-22	2	25.4	22	9.52 - 3/8"	1.8 - 2 - 2.2 - 2.5 - 3 - 3.2 - 3.5 - 3.8 4 - 4.2 - 4.5 - 5 - 5.5 - 6 - 7 - 7.5 - 8	0.12-2
Staggered	10-25-21	2	25	21.5	9.52 - 3/8"	1.8 - 2 - 2.2 - 2.5 - 2.8 3 - 3.2 - 3.5 - 3.8 - 4.5	0.12-2
In line	12-35-35	1	35	35	12 - 1/2"	2 - 2.5 - 3 - 3.5 - 4 4.5 - 5 - 6 - 7 - 8 - 9 - 10	0.12-2
In line	16-50-50	1	50	50	16 - 5/8"	2 - 2.25 - 2.5 - 2.75 - 3 - 3.5 4 - 4.5 - 5 - 6 - 7 - 8 - 9 - 10	0.12-2

Figure 1

**Option heater
3/8**

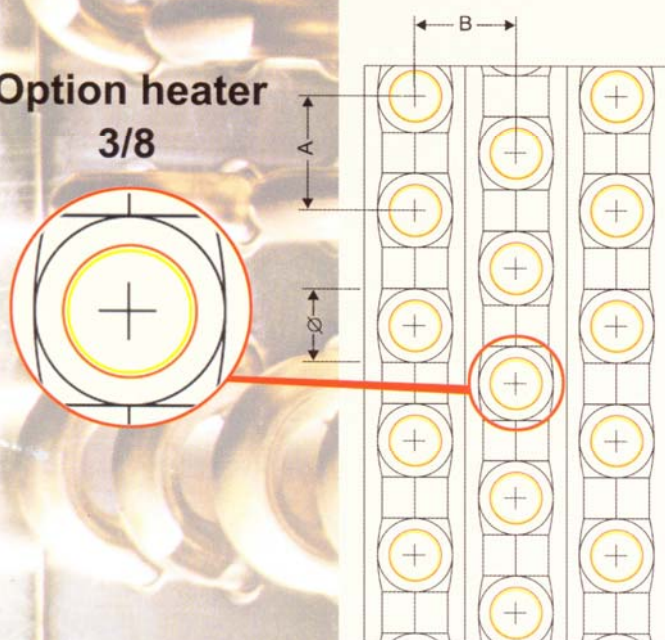
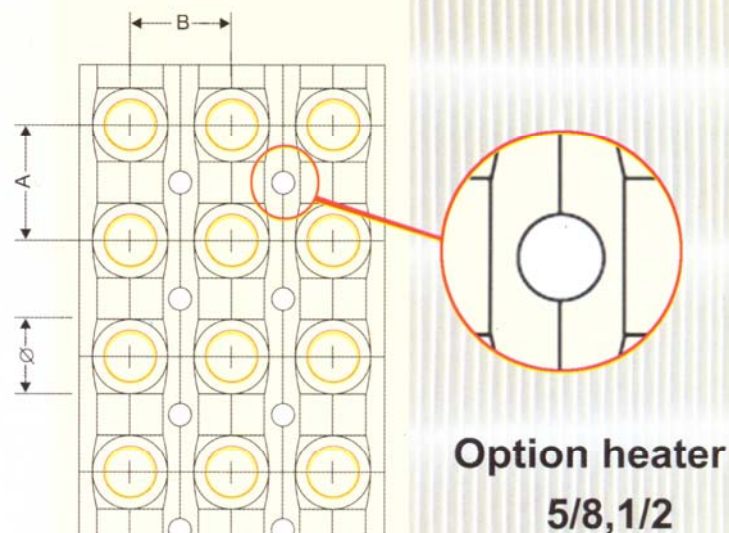


Figure 2



Fin surface: -corrugated
-Louvered
-Flat
Material: -copper for tubes
-aluminum for fins
Fin edge: -Flat
-Rippled
Frame: -Galvanized sheet
-Aluminum

Headers: -Galvanized steel pipe
(water coil)
-Copper
(DX - condensing coil)

Distributers: -Copper
(Cappillary)

Coil form: -Flat
-L or U bend
-Round

- Computerized Coil selection

HAFECO provides coil selection and rating support for all of your application needs. Data required for coil selection

- The company is ISO 9001 certified by Tuv cert. Germany.

- The company establishes and applies a quality system for design and manufacture of refrigeration and air conditioning equipment among which is heat exchange coils

hafeço COIL
Manufacturing Inc.

Date: 10/06/1998 17:38:32
Customer: RUKN ELDEEN - DAMAS
Job Name: Phone 5128
Comments: Quoted by: ENG. M. MON

Chilled Water - BWL-30x60-7R-8F-WR

Input

Capacity [Kcal/h] = 18000.0
Air flow [cu.mt/h] = 3400.0
Air temp. Inlet [C] = 27.00
Inlet rel. humidity [%] = 45.00
Freon pres.drop [m.c.a] = 7.00

Output values

Capacity [Kcal/h] = 17481.1
Air flow [cu.mt/h] = 3400.0
Height [mm] = 500.00
Evapor. Temperature [C] = 7.20
Air temp. inlet [C] = 27.00
Inlet rel. Humidity [%] = 45.00
Freon president drop [m.c.a] = 5.63
Fin pitch [mm] = 1.80
Number of rows = 4.00
Rows pitch [mm] = 21.65
O. D. [Mm] = 10.00

Freon flow
Lenght [cu.mt/h] = .43
Condens. Temperature [C] = 800.00
Air temp. Outlet [C] = 54.00
outlet rel. Humidity [%] = 13.45
Air press.drop [mm.c.a] = 84.67
Number of tubes x row = 8.00
Number of circuits = 20.00
Tubes pitch [mm] = 6.00
I. D. [Mm] = 25.00
9.30

Coil Specs

Rows 7
Fin Spacing 8 (FPI)
Feeds 20
Passes 7
Tubes Dropped 0

Total Performance
Sensible Performance 263898 (BTUH)
Sensible Heat Ratio 184968 (BTUH)
0.7

Coil Specs

Rows 7
Fin Spacing 8 (FPI)
Feeds 20
Passes 7
Tubes Dropped 0

Calculations are in accordance with input data and industry practice.
See Terms & Conditions of Sale, Warranty, and Limitation of Liability.
E-mail: hafeco@net.sy

www.al-hafezgroup.com
E-mail: hafeco@net.sy

Coil Discription

VERTICAL

HORIZONTAL

Hot Water
Cold Water

Direct
Expansin

Condenser

Hot Water
Cold Water

Direct
Expansin

Condenser

HW-V
CW-V

DX-V

CD-V

HW-H
CW-H

DX-H

CD-H



CERTIFICATE

The TÜV CERT Certification Body
of Rheinisch-Westfälischer TÜV e.V.

hereby certifies in accordance with TÜV CERT
procedure that

HAFEZ ENGINEERING INDUSTRIES CO.
(HAFCO)

P.O. Box 257
Aleppo-Syria

has established and applies a quality system for

Design and manufacture of refrigeration and air
conditioning equipment:

water chillers, package and split a/c units, air handling
units, fan coils, cooling towers and heat exchanger coils
(condensers, evaporators and water coils)

An audit was performed, Report No. 3.0.2-247/99

Proof has been furnished that the requirements according to

ISO 9001 : 1994 / EN ISO 9001 : 1994

are fulfilled. The certificate is valid until March 2003

Certificate Registration No. 04100 0444



RWTUV

Essen, 28.03.2000

Kulak
TÜV CERT Certification Body
of Rheinisch-Westfälischer TÜV e.V.

*Why You Choose
Hafex
Engineering Industries ?*



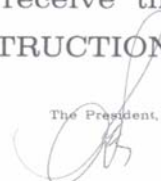
The President of Editorial OFFICE
certifies that the firm

HAFEZ ENGINEERING INDUSTRIES CO.

has been elected to receive the
11th INTERNATIONAL CONSTRUCTION AWARD

Madrid, 25th October 1999

The President,




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Aleppo: 2212136
Homs: 478947

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