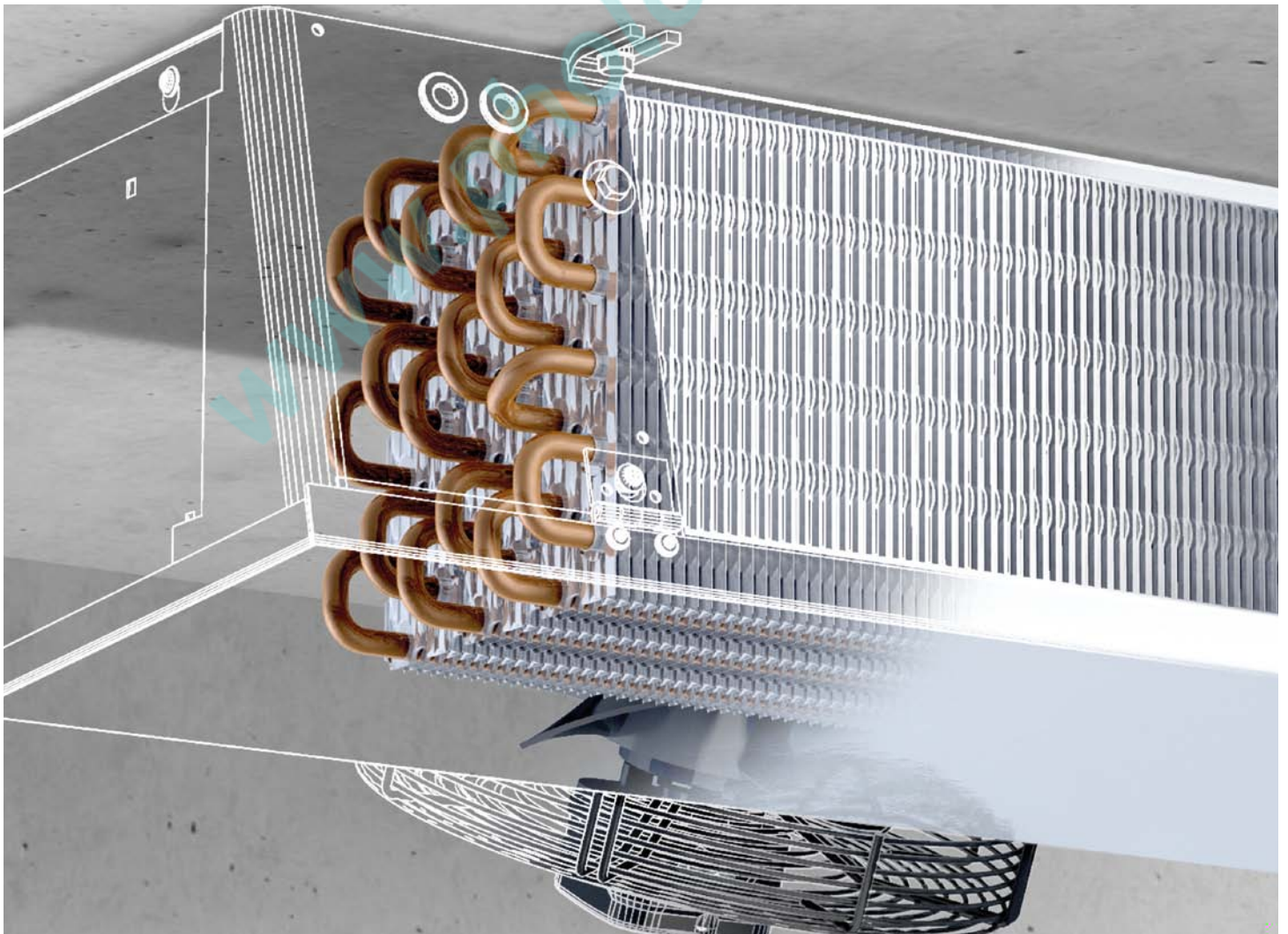


Küba compact DF

CEILING MOUNTED COOLER FOR CATERING & RETAIL





WE ARE KELVION – THE NEW BRAND IN HEAT EXCHANGE

GEA Heat Exchangers has changed: another new standalone company has been created out of the former Heat Exchanger Division of the GEA Group AG. The name Kelvion is new, but we continue as global experts in heat exchange. As always, we remain committed to earning your trust.

You'll still recognize us. We continue to develop our products, manufacture them with precision and distribute globally. We continue to offer one of the world's largest heat exchanger product portfolios: Plate heat exchangers, shell & tube heat exchangers, finned tube heat exchangers, modular cooling towers and refrigeration heat exchangers for a wide range of applications.

We operate in global markets for power generation, oil and gas, chemistry, marine applications, climate and environment, and food and beverages. From us, you can expect products with outstanding levels of efficiency, safety, and sustainability. More importantly, we care about your business, like close, trusted partners.

Customers rely on us to understand their needs, boost their performance, and deliver products that always get the job done. We compete for the toughest deals, in the harshest environments. But we're not too big to care. We're Kelvion – ready to take on the challenges of heat exchange. www.kelvion.com

Experts in Heat Exchange.

Küba compact DF

THE SPACE-SAVING HELPER IN COLD ROOMS, FOOD STORAGE, FOOD PREPARATION COOL CABINETS.



Capacity range (for SC2)

1,5 kW    10 kW

Temperature range (t_{L1})

-25°C     +20°C

Type Designation Code

1 2 3 4 5 6

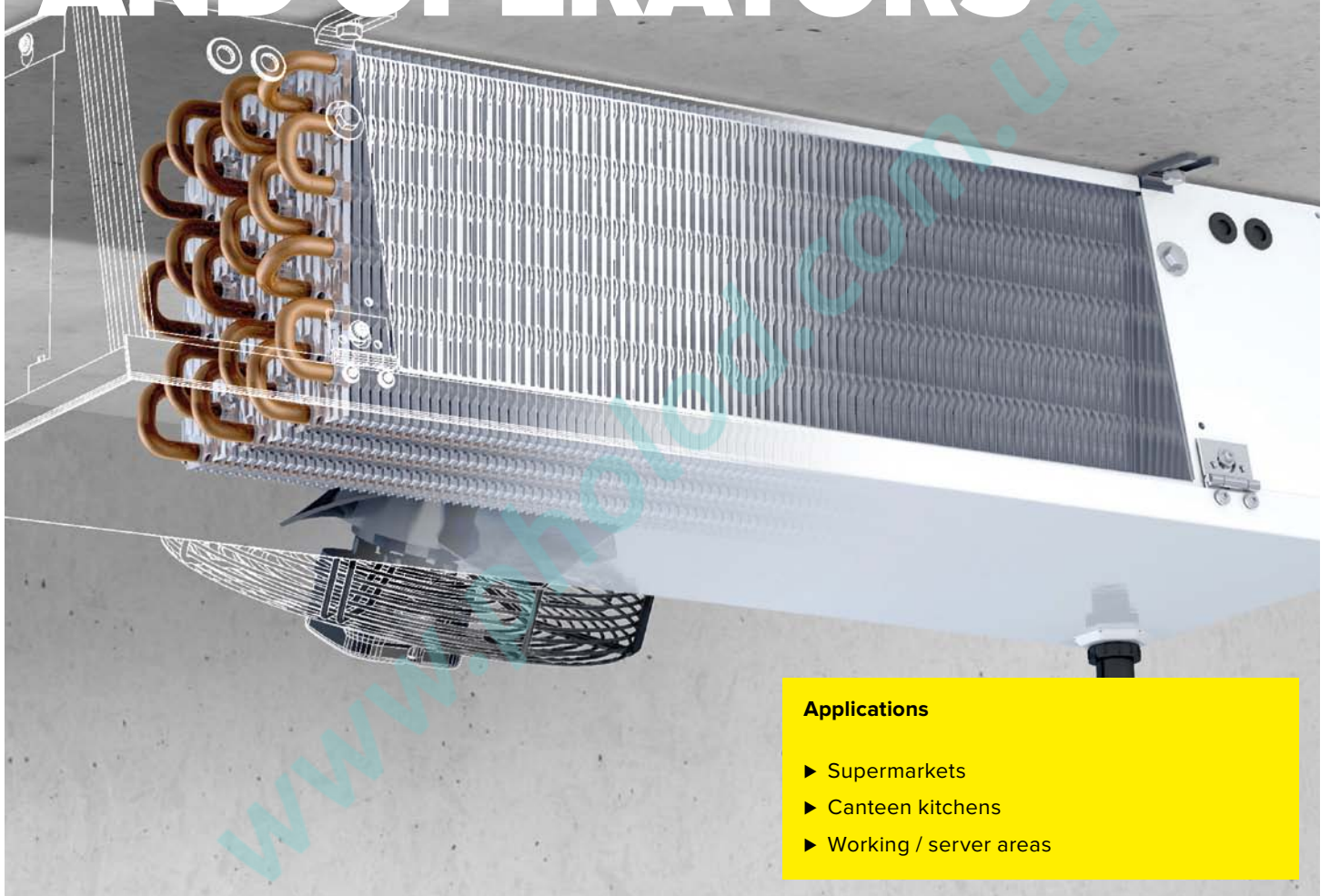
DF B E 07 1 D

- 1 Model range designation
- 2 Fin spacing
- 3 Electric defrost
- 4 Size
- 5 Number of fans
- 6 Generation Code



Küba compact DF

APPLICATION BENEFITS FOR CONTRACTORS AND OPERATORS



Applications

- ▶ Supermarkets
- ▶ Canteen kitchens
- ▶ Working / server areas

FOR HIGH TURNOVER OF GOODS

Apart from fruit, vegetables and dairy products, packaged deep frozen products are part of the standard range of products of food retailers. It is essential that the required cold chain temperatures are maintained constantly during storage.

To determine which unit cooler fits to a cold storage, size and the chilled goods stored have to be considered. Food retailers are characterised by a frequent movement of goods and storage times as short as 1 - 3 days.

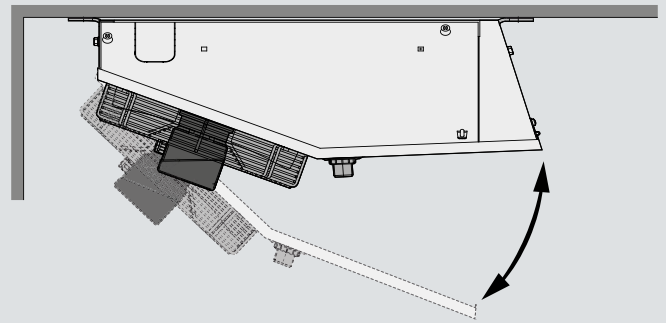
The evaporator's cooling capacity has to be dimensioned accordingly to ensure that the indoor temperature remains constant.

The Küba compact DF (especially for small rooms) is the first choice for these applications. The compact evaporator has the appropriate cooling capacity to ensure the uniform distribution of air even in the corners.

HYGIENE IN THE COLD ROOM

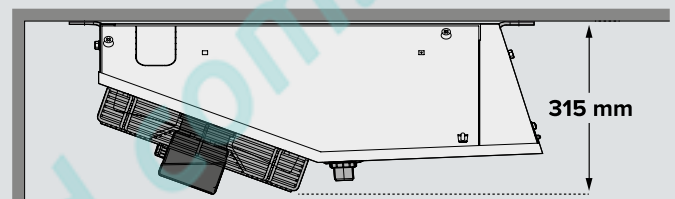
The Küba compact DF air cooler pursues a major objective: Keeping goods hygienically fresh in a cold room.

The food service specialist compact DF ensures best conditions right from the start – Hygiene and protection of chilled goods are priority: All component parts are easy to access and simple to clean.



LOW-SILHOUETTE DESIGN

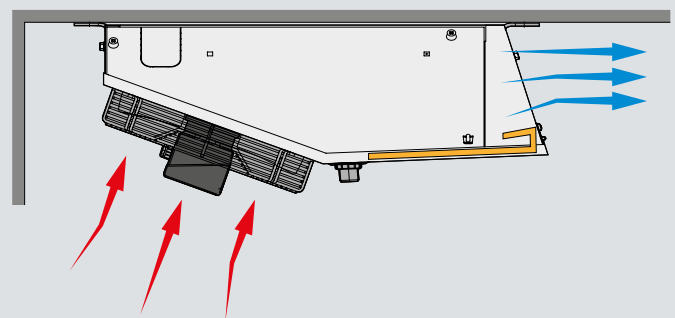
The Küba compact DF fully lives up to its name and is a power pack in small spaces. The compact DF provides reliable cooling power in temperature ranges both below and above zero, due to our Kelvion temperature security.



BEST AIR GUIDANCE THROUGH BUILT-IN BAFFLE PLATE

The integrated baffle-plates guide the cold air across the ceiling and thereby far into the room.

Even distribution of cold air guarantees chilled goods natural appearance and their taste. Retention of their full value is therefore ensured.



Küba compact DF

BASIC VERSION

CASING

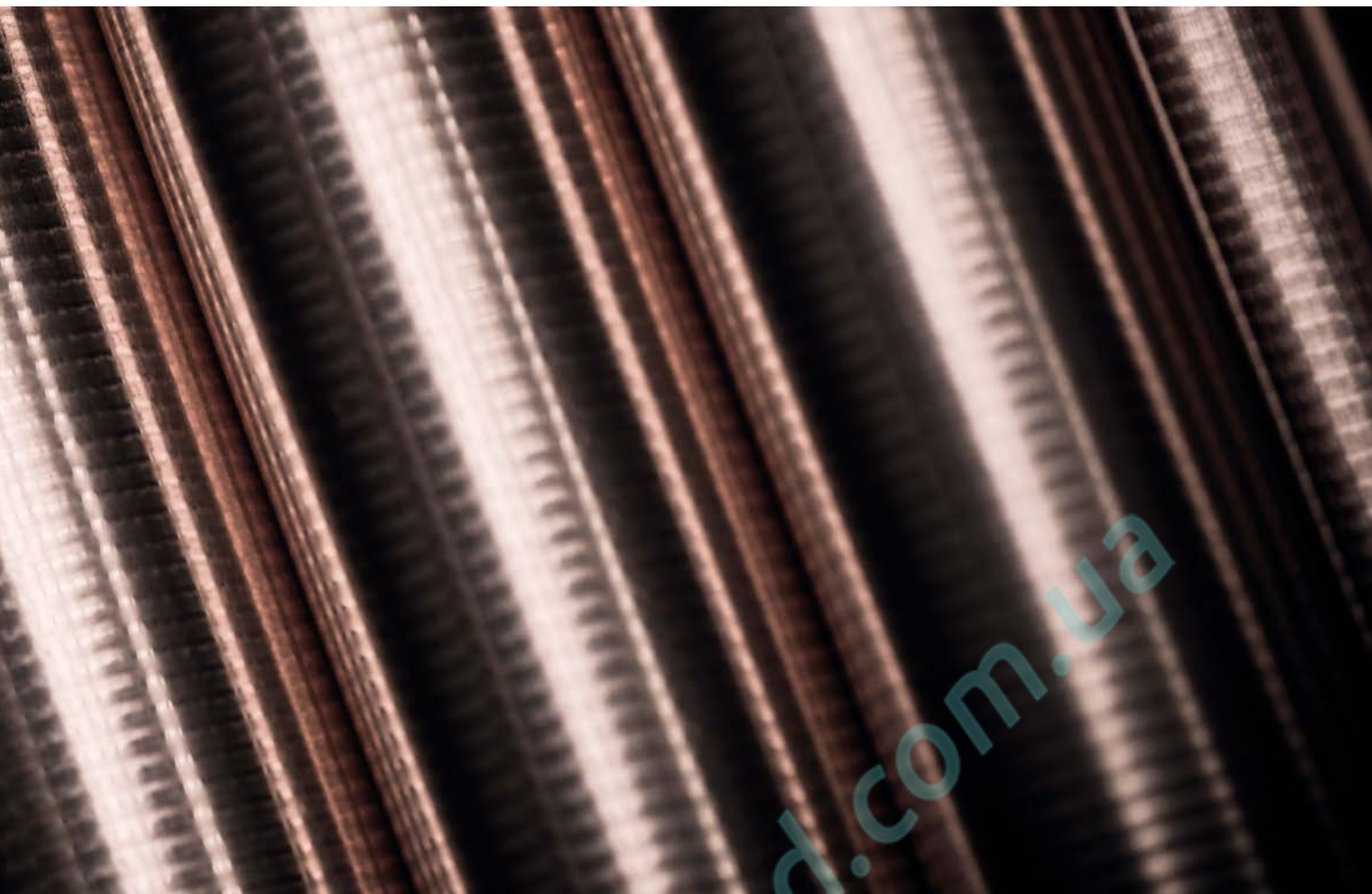
- ▶ Aluminum, Sendzimir zinc-plated steel
- ▶ Best quality powder coated edges thanks to high-grade powder coating, RAL 9010 pure white
- ▶ Food-safe
- ▶ Smooth surfaces: Easy to clean
- ▶ Hinged drip tray, removable
- ▶ Removable side panels
- ▶ Drip tray: additional integrated splash pan

ELECTRIC DEFROST

- ▶ Tubular heater: Stainless steel
- ▶ Connections: steam-proof
- ▶ Mains voltage: 1/N/PE 230V 50/60Hz
- ▶ Readily wired for connection box
- ▶ Optimized tubular heater configurations ensure fast and even defrosting
- ▶ Aluminum tube sleeves: Ensure excellent heat transfer to the fins and thus effective defrosting cycles with optimized service life

HEAT EXCHANGER

- ▶ Tube: Copper, inner finned, \varnothing 12 mm
- ▶ Fins: Aluminum HFE® fins
- ▶ End plates: Aluminum
- ▶ Staggered tube system
- ▶ Fin spacing:
A = 4,5 mm
B = 7 mm
- ▶ Fins flared to form-fit the core tube
- ▶ Internal cleanliness according to DIN 14276
- ▶ Connection Inlet:
DFA/B 051,061,071,052 D: Single injection via copper pipe for solder connection, sealed
DFA D: Venturi distributor with multiple injection
DFB D: Küba-CAL® distributor with multiple injection
- ▶ Connection Outlet:
Copper pipe for solder connection with schrader valve UNF 7/16", sealed



FAN UNIT

- ▶ AC technology
- ▶ Blow-through axial fan
- ▶ Fan diameter: 300 mm
- ▶ Permissible motor ambient temperatures: -30° C up to +60° C
- ▶ Supply voltage: 1/N/PE 230V 50/60Hz
- ▶ Motor protection: Built-in thermal contact (inaccessible)
- ▶ Protection class: IP44
- ▶ Insulation class: B
- ▶ Fans are wired to one internal distribution box
- ▶ Motor Control:
 - Phase control
 - Transformer
 - Delta/Star
 - Frequency converter

Please observe the manufacturer's information!

MOTOR LABEL DATA

Type	50 Hz				60 Hz		
	Ø mm	rpm	W	A	rpm	W	A
DF 051-074 D	300	1,350	70	0.32	1,500	90	0.40

Motor data per fan

Data provided by the manufacturer

TECHNICAL DATA DFA (E)

Küba compact DF | Fin spacing 4.5 mm

Type	Rating Q _o at 50 Hz, DT1, R404A		Cooling surface	Air flow	Air throw ***	Tube volume	Connections		Sound	Fans (Operational values at 50 Hz)					
	SC1	SC2					Inlet	Outlet		L _{WA}	Blade	Current	Per fan		
	kW	kW											Ømm	Ømm	dB(A)
DFA 051 D	2.6	1.8	6.9	950	9	1.4	10 x1.0*	12 x1.0	68	300	230 V -1	1,350	75	0.35	
DFA 061 D	3.1	2.0	8.3	1,100	11	1.7	10 x1.0*	12 x1.0	68	300	230 V -1	1,350	75	0.35	
DFA 071 D	3.7	2.4	12.3	1,035	11	2.5	10 x1.0*	18 x1.0	68	300	230 V -1	1,350	75	0.35	
DFA 052 D	5.1	3.4	13.8	1,900	11	2.7	10 x1.0*	18 x1.0	71	300	230 V -1	1,350	75	0.35	
DFA 062 D	6.3	4.1	16.6	2,200	13	3.2	12 x1.0**	22 x1.0	71	300	230 V -1	1,350	75	0.35	
DFA 072 D	7.4	4.7	24.7	2,070	13	4.8	12 x1.0**	22 x1.0	71	300	230 V -1	1,350	75	0.35	
DFA 063 D	9.4	5.9	24.9	3,300	15	4.8	12 x1.0**	22 x1.0	73	300	230 V -1	1,350	75	0.35	
DFA 073 D	11.1	7.1	37.0	3,105	15	7.1	12 x1.0**	28 x1.5	73	300	230 V -1	1,350	75	0.35	
DFA 064 D	12.6	8.0	33.2	4,400	18	6.3	12 x1.0**	28 x1.5	74	300	230 V -1	1,350	75	0.35	
DFA 074 D	14.9	9.8	49.4	4,140	18	9.4	15 x1.0**	28 x1.5	74	300	230 V -1	1,350	75	0.35	

Standard condition t₁ t₀ DT1
 NB1/SC1 +10°C 0°C 10K
 NB2/SC2 0°C -8°C 8K

* Single injection
 ** Multiple injection via flow distributor
 *** Throw limit at 0.5 m/s

Subject to modification.

TECHNICAL DATA DFB (E)

Küba compact DF | Fin spacing 7 mm

Type	Rating Q _o at 50 Hz, DT1, R404A		Cooling surface	Air flow	Air throw ***	Tube volume	Connections		Sound	Fans (Operational values at 50 Hz)					
	SC1	SC2					Inlet	Outlet		L _{WA}	Blade	Current	Per fan		
	kW	kW											Ømm	Ømm	dB(A)
DFB 051 D	1.5	1.1	4.6	1,070	9	1.4	10 x1.0*	12 x1.0	68	300	230 V -1	1,350	75	0.35	
DFB 061 D	1.8	1.5	5.5	1,300	11	1.7	10 x1.0*	12 x1.0	68	300	230 V -1	1,350	75	0.35	
DFB 071 D	2.1	1.8	8.2	1,130	11	2.5	10 x1.0*	18 x1.0	68	300	230 V -1	1,350	75	0.35	
DFB 052 D	2.9	2.2	9.2	2,140	11	2.7	10 x1.0*	18 x1.0	71	300	230 V -1	1,350	75	0.35	
DFB 062 D	3.5	2.9	11.1	2,600	13	3.2	12 x1.0**	22 x1.0	71	300	230 V -1	1,350	75	0.35	
DFB 072 D	4.1	3.5	16.5	2,260	13	4.8	12 x1.0**	22 x1.0	71	300	230 V -1	1,350	75	0.35	
DFB 063 D	5.1	4.3	16.6	3,900	15	4.8	12 x1.0**	22 x1.0	73	300	230 V -1	1,350	75	0.35	
DFB 073 D	6.2	5.3	24.7	3,390	15	7.1	12 x1.0**	28 x1.5	73	300	230 V -1	1,350	75	0.35	
DFB 064 D	6.9	5.8	22.1	5,200	18	6.3	12 x1.0**	28 x1.5	74	300	230 V -1	1,350	75	0.35	
DFB 074 D	8.5	7.0	33.0	4,520	18	9.4	15 x1.0**	28 x1.5	74	300	230 V -1	1,350	75	0.35	

Standard condition t₁ t₀ DT1
 NB2/SC2 +10°C 0°C 10K
 NB3/SC3 0°C -8°C 8K

* Single injection
 ** Multiple injection via flow distributor
 *** Throw limit at 0.5 m/s

Subject to modification.

DIMENSIONS, WEIGHTS, ELECTRIC DEFROST

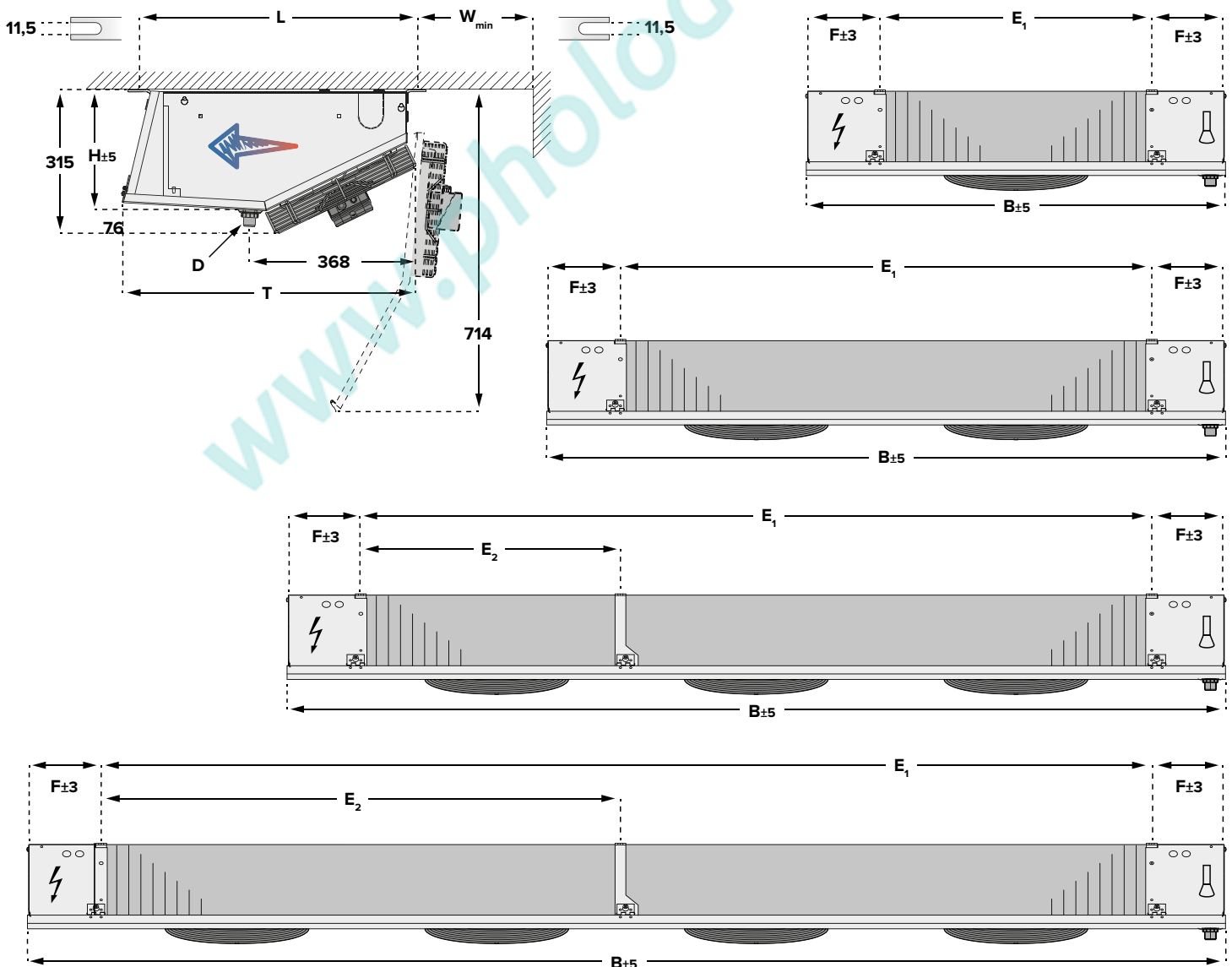
Küba compact DF

Type	Dimensions								Electric Defrost 230 V-1 / 400 V-3-Y	Weight (net) Unpacked		Weight (gross) Packed		Drain
	H	B	T	L	E ₁	E ₂	F	W _{min}	Coil	DFA/B	DFA/B E	DFA/B	DFA/B E	D
	mm	mm	mm	mm	mm	mm	mm	mm	kW	kg	kg	kg	kg	inch
DF 051 D	268	872	626	612	530	-	171	100	1.1	20	20	23	23	G ¾
DF 061 D	268	972	626	612	630	-	171	100	1.2	23	23	26	26	G ¾
DF 071 D	268	972	626	612	630	-	171	100	1.2	25	25	28	28	G ¾
DF 052 D	268	1,372	626	612	1,030	-	171	100	1.8	32	32	54	54	G ¾
DF 062 D	268	1,572	626	612	1,230	-	171	100	2.1	37	37	60	60	G ¾
DF 072 D	268	1,572	626	612	1,230	-	171	100	2.1	40	40	63	63	G ¾
DF 063 D	268	2,172	626	612	1,830	629	171	100	3.0	52	52	88	88	G ¾
DF 073 D	268	2,172	626	612	1,830	629	171	100	3.0	56	56	92	92	G ¾
DF 064 D	268	2,772	626	612	2,430	1,229	171	100	3.9	68	68	108	108	G ¾
DF 074 D	268	2,772	626	612	2,430	1,229	171	100	3.9	75	75	115	115	G ¾

The dimensions are only valid for the standard model design!
Note the differences in dimension among versions and accessories.

DIMENSIONAL DRAWINGS

Küba compact DF



Küba compact DF

VARIANTS

MOTOR - VARIANTS

V 1.33 FANS, SILENT VERSION

Fans 230V±10% V-1~
50/60 Hz; 1,100 rpm
Reduced air volume flow
Lower sound power level

V 1.50 EC FANS WITH FIXED SPEEDS

Fixed fan speed at optimal operating point

V 1.52 EC FAN WITH CONTROLLABLE SPEED

Fans adjustable

PROTECTION AGAINST CORROSION

V 6.01 CORROSION PROTECTION 1

Tubing: Copper
Fins: Aluminum, epoxy-resin-coated
End plates: Aluminum protective coating
Casing: Aluminum/zinc coated steel,
protective coating on both sides

V 6.04 CORROSION PROTECTION 4

Tubing: Copper
Fins: Aluminum, epoxy-resin-coated
End plates: Aluminum
Casing: Aluminum/zinc coated steel,
protective coating on on one side



CONSTRUCTION - VARIANTS

V 2.05 WATER / BRINE CIRCULATION

With a large number of circuits
(small pressure drop)

V 2.06 WATER / BRINE CIRCULATION

With a small number of circuits
(large pressure drop)

CO₂ - VARIANTS

V 7.45 CO₂ - DIRECT EXPANSION

up to 45 bar operating pressure

V 7.60 CO₂ - DIRECT EXPANSION

up to 60 bar operating pressure

www.pholed.com.ua

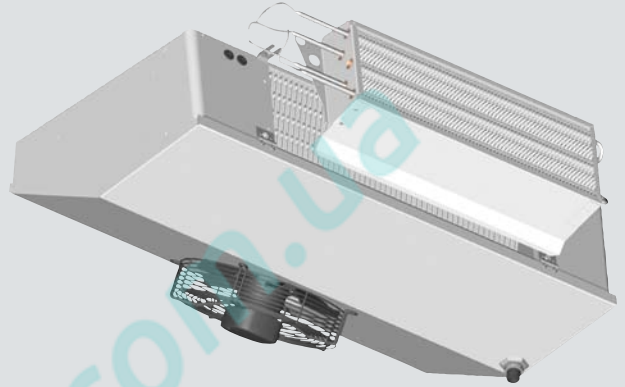
ACCESSORIES

ELECTRIC HEATER DFHR

For air coolers with forced-draft fans, for assembly on site.
 Suitable for air conditioning, or heating, in the winter.
 For optimal heat transfer, the heater rods are fitted in Cu tube sleeves.

Construction:

- ▶ Fully powder-coated (RAL 9010)
- ▶ 230 ± 10% V-1~ or 400 ± 10% V-3~ -Y
- ▶ Heater elements with CrNi steel sleeve
- ▶ Connections: steam-proof
- ▶ Connecting cable 1.0 mm² x 1000 mm
- ▶ Casing: steel, continuous hot-dip zinc coated
- ▶ Fins: Aluminum
- ▶ Tube sleeves: Copper



Selection table & Technical data:

For Type	Description	Dimensions		Weight	Current	Capacity
		H	L	kg	A	kW
DF 051 D	DFHR 500	210	500	1.4	3.7	0.8
DF 061 D	DFHR 600	210	600	1.7	4.2	1.0
DF 071 D	DFHR 600	210	600	1.7	4.2	1.0
DF 052 D	DFHR 1000	210	1,000	2.4	7.5	1.7
DF 062 D	DFHR 1200	210	1,200	2.9	8.3	1.9
DF 072 D	DFHR 1200	210	1,200	2.9	8.3	1.9
DF 063 D	DFHR 1800	210	1,800	4.2	12.5	2.9
DF 073 D	DFHR 1800	210	1,800	4.2	12.5	2.9
DF 064 D	DFHR 2400	210	2,400	5.6	16.3	3.8
DF 074 D	DFHR 2400	210	2,400	5.6	16.3	3.8

NOTE:

Operate only when the air cooler fans are running, to prevent the cold storage ceiling from overheating.
 Please observe the corresponding safety guidelines.

www.pholod.com.ua

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