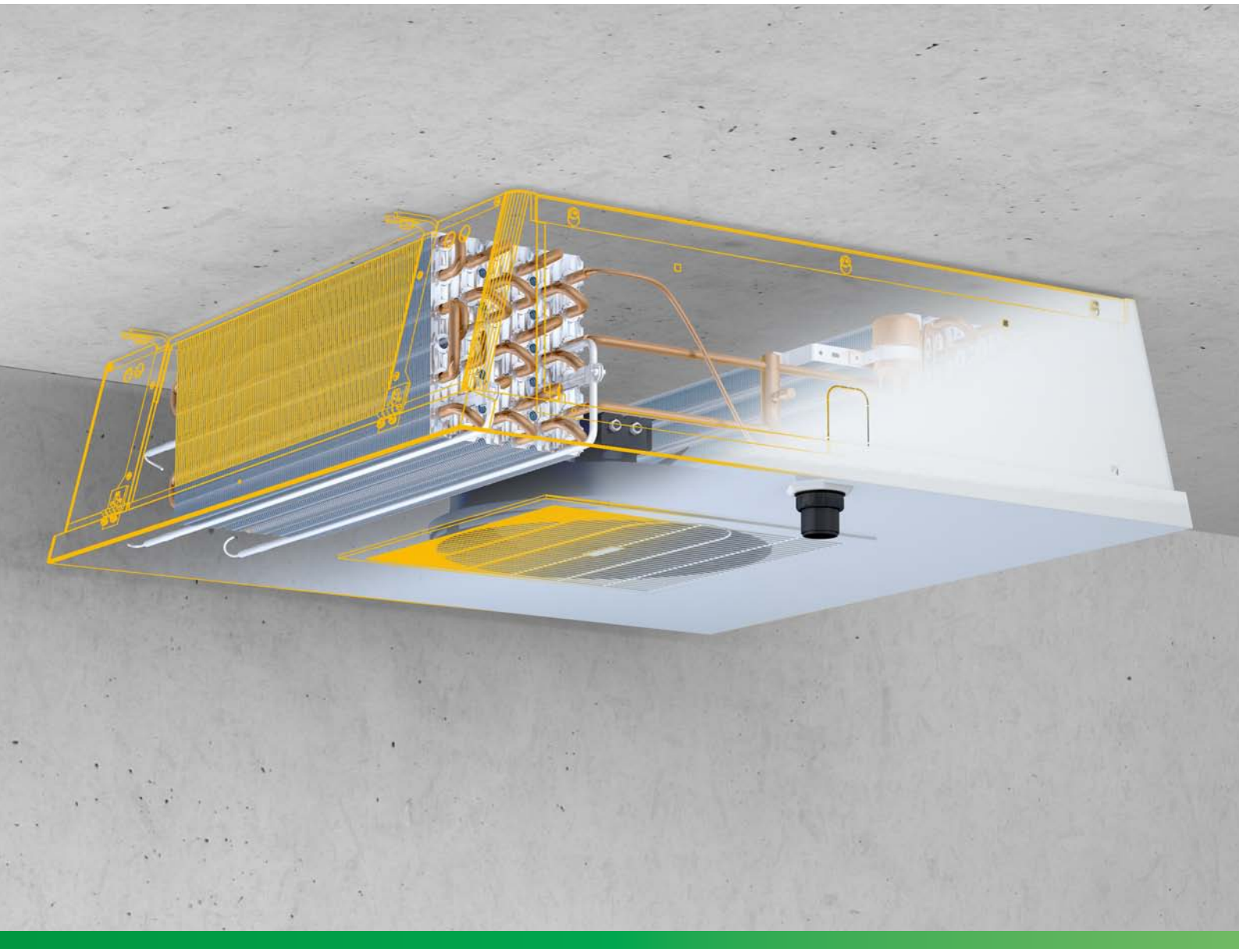
CHANGING
GEA HEAT EXCHANGERS



Küba *comfort* DP

Draught-free ventilation and extremely quiet operation

Küba *comfort* DP

Draught-free ventilation and extremely quiet operation



Low air speed in the cold room



Integrated air baffle plate



Type designation code

1	2	3	4	5	6
DP	B	E	04	4	C

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

Küba *comfort* DP



Capacity range (for SC2)

1.8 kW 25 kW

Temperature range (t_{L1})

0°C +20°C

Number of fans

to

Content

Application benefits for contractors and operators 4
Basic version 6
Technical data – DPA(E) [Speed N normal] 8
Technical data – DPA(E) [Speed L quiet] 8
Technical data – DPA(E) [Speed S very quiet] 8
Technical data – DPB(E) [Speed N normal] 9
Technical data – DPA(E) [Speed L quiet] 9
Technical data – DPA(E) [Speed S very quiet] 9
Dimensions, weights, electric defrost, drain 10
Variants 11
Accessories 12



Applications

- Working areas
- Sales areas for sensitive goods

Küba *comfort* DP

Application benefits for contractors and operators

Our Küba *comfort* DP is the gentle one in the Küba Green Line, cooling with empathy where people are working.

Draught-free ventilation and extremely quiet operation create a pleasant ambience in the room.

Of course the Küba *comfort* DP creates best conditions for processing the goods and allows comfortable cleaning.

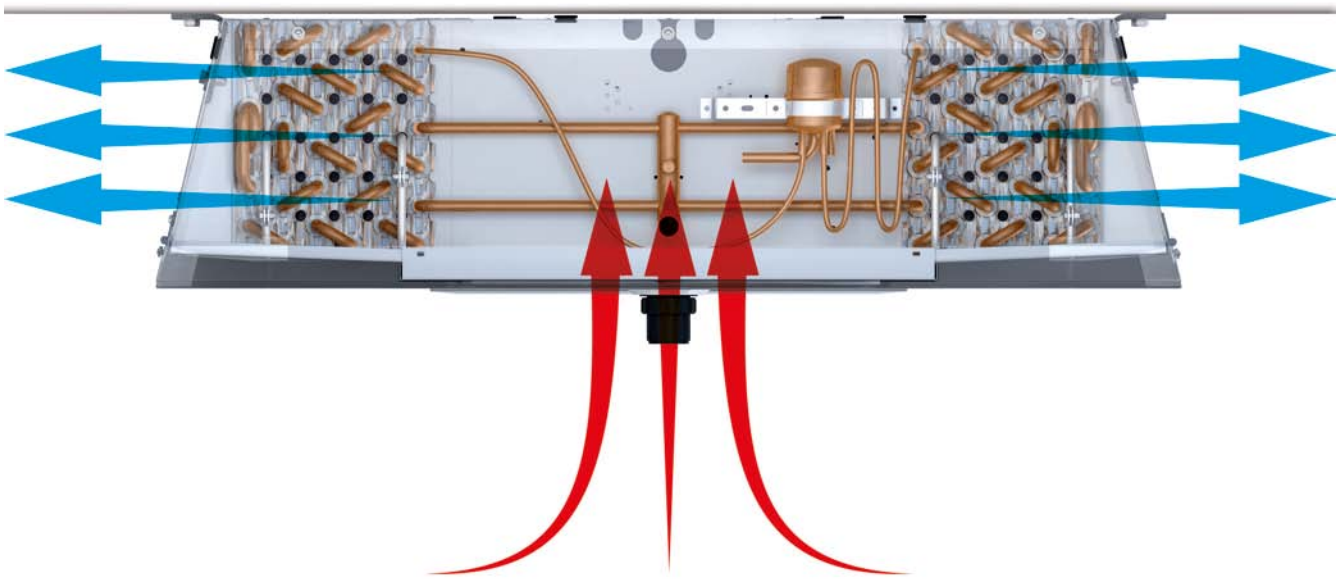
- Küba *comfort* DP naturally also creates optimal conditions for processing of the goods and offers comfortable options for cleaning.
- Integrated air baffles ensure low air speeds (up to 0.8 m/s) in the cold room, guiding the air to the ceiling of the cell, thereby reaching far into the room.
- Integrated silent version, standard with fans (normal level "N", silent level "L").
- Extremely silent version with level "S", with accessories (capacitor or level switch).
- Space saving due to low height of only 303 mm

Küba *comfort* DP

from the Küba Green Line production range

The technical cooling demands and spatial conditions are only one aspect. Safety and health are top priority as soon as people need to work in cold rooms. For staff to perform their work without adverse effects their wellbeing must be assured.

Reduced noise and comfortable air movement are significant contributing factors to a pleasant indoor climate. The demands made on equipment to ensure a constant temperature in rooms where sensitive goods such as cut flowers are exhibited for sale and where people also need to work are, of course, correspondingly high.



Draught-free air movement and silent operation create a pleasant indoor climate for the people and excellent conditions for the processing and short-time storage of sensitive products.

The air in the room is drawn in by the fans and exhausted via the heat exchangers on both sides. The integrated air baffle of the Küba *comfort* DP guides the air towards the ceiling where the Coanda effect carries it far into the room.

The Küba *comfort* DP in this way creates optimal air flow at very low air velocity.

Power ratings range from 2.2 kW to 28 kW. Low frame height saves space and allows its use even in rooms with low ceilings. In addition, the drip tray hinges down to facilitate comfortable cleaning.



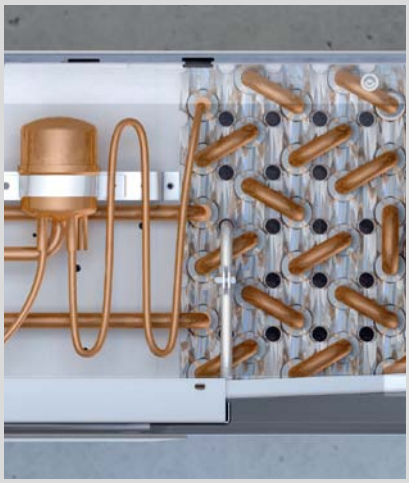
Küba *comfort* DP

Basic version



Casing

- Sendzimir zinc-plated steel, smooth
- High-grade powder coating RAL 9018 papyrus white
- Food-safe
- Easy to clean
- Best quality powder coated edges
- Drip tray can be folded down and unclipped
- Double drip tray
- Compact design



Heat exchanger for direct expansion

- Heat exchanger with staggered tube system consisting of special copper tubes, drawn oxygen-free and inner finned according to DIN EN 12735-1,2 with 12 mm diameter and closed, pure-aluminum HFE fins
- Internal cleanliness according to DIN 8964
- Fin spacing: A = 4.5 mm | B = 7 mm
- Fins flared to form-fit the core tube
- Highly effective heat transfer and compact design
- Tubing: Cu-Special Fins: Aluminium End plates: Aluminium
- Küba-CAL® refrigerant distributor with multiple injection



Electric defrost

- Heaters with CrNi steel sleeve
- Vapour-tight connections
- Mains voltage: 230 V-1/400V-3-Y
- Wired ready to connect in junction boxes
- Optimized tubular heater configurations ensure fast and even defrosting
- Fins flared to form-fit the core tube
- Aluminium heat pipes that ensure excellent heat transfer to the fins and thus effective defrosting cycles with optimized service life.



Fans

- Fans are wired to an internal distribution box
- With built-in protector, according to VDE provisions
- Permissible motor ambient temperatures: -30° C bis +60° C
- Available fan diameter: 350 mm
- Protection class: IP44
- Insulation class: F
- Plug connection on motor
- 230 V 50/60 Hz IP 44 only adjustable-via transformer at 50Hz
- Minimum Voltage = 100 V
- Operating values are the values of the built-in motor at +20 °C, with an un-obstructed air flow and a dry surface
- Controller:
  Phase control ☐
  Transformer ☑ (50Hz only)
  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
DP 031-044 C	350	1,390	140	0.62	1,550	195	0.86

Motor data per fan

*Data provided by the manufacturer

Küba *comfort* DP

Technical data – DPA(E) [**Speed N** normal]

4,5 mm

	Type	Rating Q_0 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	m²	m³/h	m	dm³	Ø mm	Ø mm	db(A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
1	**DPA 031C**	5.4	3.8	16.3	1,720	2x11	3.4	10 x1.0**	22 x1.0	74	350	230 V-1	1,335	158	0.7
	DPA 041C	6.3	4.4	24.3	1,620	2x9	5.1	10 x1.0**	22 x1.0	74	350	230 V-1	1,335	158	0.7
2	**DPA 032C**	10.8	7.6	32.6	3,440	2x12	6.8	10 x1.0**	28 x1.5	77	350	230 V-1	1,335	158	0.7
	DPA 042C	12.5	8.6	48.6	3,240	2x10	10.2	10 x1.0**	28 x1.5	77	350	230 V-1	1,335	158	0.7
3	**DPA 033C**	16.3	11.0	48.9	5,160	2x13	10.2	10 x1.0**	28 x1.5	79	350	230 V-1	1,335	158	0.7
	DPA 043C	18.8	12.9	72.9	4,860	2x11	15.3	15 x1.0**	35 x1.5	79	350	230 V-1	1,335	158	0.7
4	**DPA 034C**	21.7	14.9	65.2	6,880	2x14	13.6	15 x1.0**	35 x1.5	80	350	230 V-1	1,335	158	0.7
	DPA 044C	25.0	17.2	97.2	6,480	2x12	20.4	22 x1.0**	35 x1.5	80	350	230 V-1	1,335	158	0.7

Subject to modification.

Technical data – DPA(E) [**Speed L** quiet]

	Type	Rating Q_0 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	m²	m³/h	m	dm³	Ø mm	Ø mm	db(A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
1	**DPA 031C**	3.7	2.7	16.3	1,064	2x8	3.4	10 x1.0**	22 x1.0	64	350	230 V-1	935	112	0.8
	DPA 041C	4.0	2.9	24.3	950	2x5	5.1	10 x1.0**	22 x1.0	64	350	230 V-1	935	112	0.8
2	**DPA 032C**	7.4	5.5	32.6	2,128	2x9	6.8	10 x1.0**	28 x1.5	67	350	230 V-1	935	112	0.8
	DPA 042C	7.9	5.7	48.6	1,900	2x6	10.2	10 x1.0**	28 x1.5	67	350	230 V-1	935	112	0.8
3	**DPA 033C**	11.1	8.1	48.9	3,192	2x10	10.2	10 x1.0**	28 x1.5	69	350	230 V-1	935	112	0.8
	DPA 043C	11.9	8.6	72.9	2,850	2x7	15.3	15 x1.0**	35 x1.5	69	350	230 V-1	935	112	0.8
4	**DPA 034C**	14.9	10.9	65.2	4,256	2x11	13.6	15 x1.0**	35 x1.5	70	350	230 V-1	935	112	0.8
	DPA 044C	15.9	11.4	97.2	3,800	2x8	20.4	22 x1.0**	35 x1.5	70	350	230 V-1	935	112	0.8

Subject to modification.

Technical data – DPA(E) [**Speed S** very quiet]

	Type	Rating Q_0 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	m²	m³/h	m	dm³	Ø mm	Ø mm	db(A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
1	**DPA 031C**	3.0	2.1	16,3	760	2x5	3.4	10 x1.0**	22 x1.0	56	350	230 V-1	715	85	0.7
	DPA 041C	3.1	2.2	24,3	670	2x4	5.1	10 x1.0**	22 x1.0	56	350	230 V-1	715	85	0.7
2	**DPA 032C**	6.1	4.3	32,6	1.520	2x6	6.8	10 x1.0**	28 x1.5	59	350	230 V-1	715	85	0.7
	DPA 042C	6.3	4.1	48,6	1.340	2x5	10.2	10 x1.0**	28 x1.5	59	350	230 V-1	715	85	0.7
3	**DPA 033C**	9.1	6.3	48,9	2.280	2x7	10.2	10 x1.0**	28 x1.5	61	350	230 V-1	715	85	0.7
	DPA 043C	9.4	6.4	72,9	2.010	2x6	15.3	15 x1.0**	35 x1.5	61	350	230 V-1	715	85	0.7
4	**DPA 034C**	12.2	8.5	65,2	3.040	2x8	13.6	15 x1.0**	35 x1.5	62	350	230 V-1	715	85	0.7
	DPA 044C	12.5	8.4	97,2	2.680	2x7	20.4	22 x1.0**	35 x1.5	62	350	230 V-1	715	85	0.7

Subject to modification.

Standard condition	t_{L1}	t_0	DT1
NB1/SC1	+10	0	10
NB2/SC2	0	-8	8

* Single injection

** Multiple injection via Küba-CAL® distributor

*** Throw limit at 0.5 m/s

Operating values are the values of the built-in motor at +20 °C, with an unobstructed air flow and a dry surface

Küba *comfort* DP

Technical data – DPB (E) [**Speed N** normal]

Type	Rating Q_0 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	m²	m³/h	m	dm³	Ø mm	Ø mm	db (A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
DPB 031C	4.4	3.1	11.0	1,850	2x11	3.4	10 x1.0**	22 x1.0	74	350	230 V-1	1,335	158	0.7
DPB 041C	5.5	3.8	16.4	1,770	2x9	5.1	10 x1.0**	22 x1.0	74	350	230 V-1	1,335	158	0.7
DPB 032C	8.8	6.2	22.0	3,700	2x12	6.8	10 x1.0**	28 x1.5	77	350	230 V-1	1,335	158	0.7
DPB 042C	10.9	7.5	32.8	3,540	2x10	10.2	10 x1.0**	28 x1.5	77	350	230 V-1	1,335	158	0.7
DPB 033C	13.1	9.0	33.0	5,550	2x13	10.2	10 x1.0**	28 x1.5	79	350	230 V-1	1,335	158	0.7
DPB 043C	16.4	11.3	49.2	5,310	2x11	15.3	15 x1.0**	35 x1.5	79	350	230 V-1	1,335	158	0.7
DPB 034C	17.5	12.2	44.0	7,400	2x14	13.6	15 x1.0**	35 x1.5	80	350	230 V-1	1,335	158	0.7
DPB 044C	21.8	15.1	65.6	7,080	2x12	20.4	22 x1.0**	35 x1.5	80	350	230 V-1	1,335	158	0.7

Subject to modification.

Technical data – DPB (E) [**Speed L** quiet]

Type	Rating Q_0 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	m²	m³/h	m	dm³	Ø mm	Ø mm	db (A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
DPB 031C	3.5	2.5	11.0	1,300	2x8	3.4	10 x1.0**	22 x1.0	64	350	230 V-1	935	112	0.8
DPB 041C	4.0	2.8	16.4	1,140	2x5	5.1	10 x1.0**	22 x1.0	64	350	230 V-1	935	112	0.8
DPB 032C	7.0	5.0	22.0	2,600	2x9	6.8	10 x1.0**	28 x1.5	67	350	230 V-1	935	112	0.8
DPB 042C	8.0	5.6	32.8	2,280	2x6	10.2	10 x1.0**	28 x1.5	67	350	230 V-1	935	112	0.8
DPB 033C	10.6	7.3	33.0	3,900	2x10	10.2	10 x1.0**	28 x1.5	69	350	230 V-1	935	112	0.8
DPB 043C	12.1	8.4	49.2	3,420	2x7	15.3	15 x1.0**	35 x1.5	69	350	230 V-1	935	112	0.8
DPB 034C	14.1	9.8	44.0	5,200	2x11	13.6	15 x1.0**	35 x1.5	70	350	230 V-1	935	112	0.8
DPB 044C	16.1	11.2	65.6	4,560	2x8	20.4	22 x1.0**	35 x1.5	70	350	230 V-1	935	112	0.8

Subject to modification.

Technical data – DPB (E) [**Speed S** very quiet]

Type	Rating Q_0 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	m²	m³/h	m	dm³	Ø mm	Ø mm	db (A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
DPB 031C	2.6	1.8	11.0	810	2x11	3.4	10 x1.0**	22 x1.0	56	350	230 V-1	715	85	0.7
DPB 041C	3.1	2.2	16.4	800	2x9	5.1	10 x1.0**	22 x1.0	56	350	230 V-1	715	85	0.7
DPB 032C	5.1	3.6	22.0	1,620	2x12	6.8	10 x1.0**	28 x1.5	59	350	230 V-1	715	85	0.7
DPB 042C	6.3	4.4	32.8	1,600	2x10	10.2	10 x1.0**	28 x1.5	59	350	230 V-1	715	85	0.7
DPB 033C	7.7	5.4	33.0	2,430	2x13	10.2	10 x1.0**	28 x1.5	61	350	230 V-1	715	85	0.7
DPB 043C	9.4	6.5	49.2	2,400	2x11	15.3	15 x1.0**	35 x1.5	61	350	230 V-1	715	85	0.7
DPB 034C	10.3	7.2	44.0	3,240	2x14	13.6	15 x1.0**	35 x1.5	62	350	230 V-1	715	85	0.7
DPB 044C	12.5	8.7	65.6	3,200	2x12	20.4	22 x1.0**	35 x1.5	62	350	230 V-1	715	85	0.7

Subject to modification.

Standard condition	t_{L1}	t_0	DT1
NB1/SC1	+10	0	10
NB2/SC2	0	-8	8

* Single injection

** Multiple injection via Küba-CAL® distributor

*** Throw limit at 0.5 m/s

Operating values are the values of the built-in motor at +20 °C, with an unobstructed air flow and a dry surface

Küba *comfort* DP

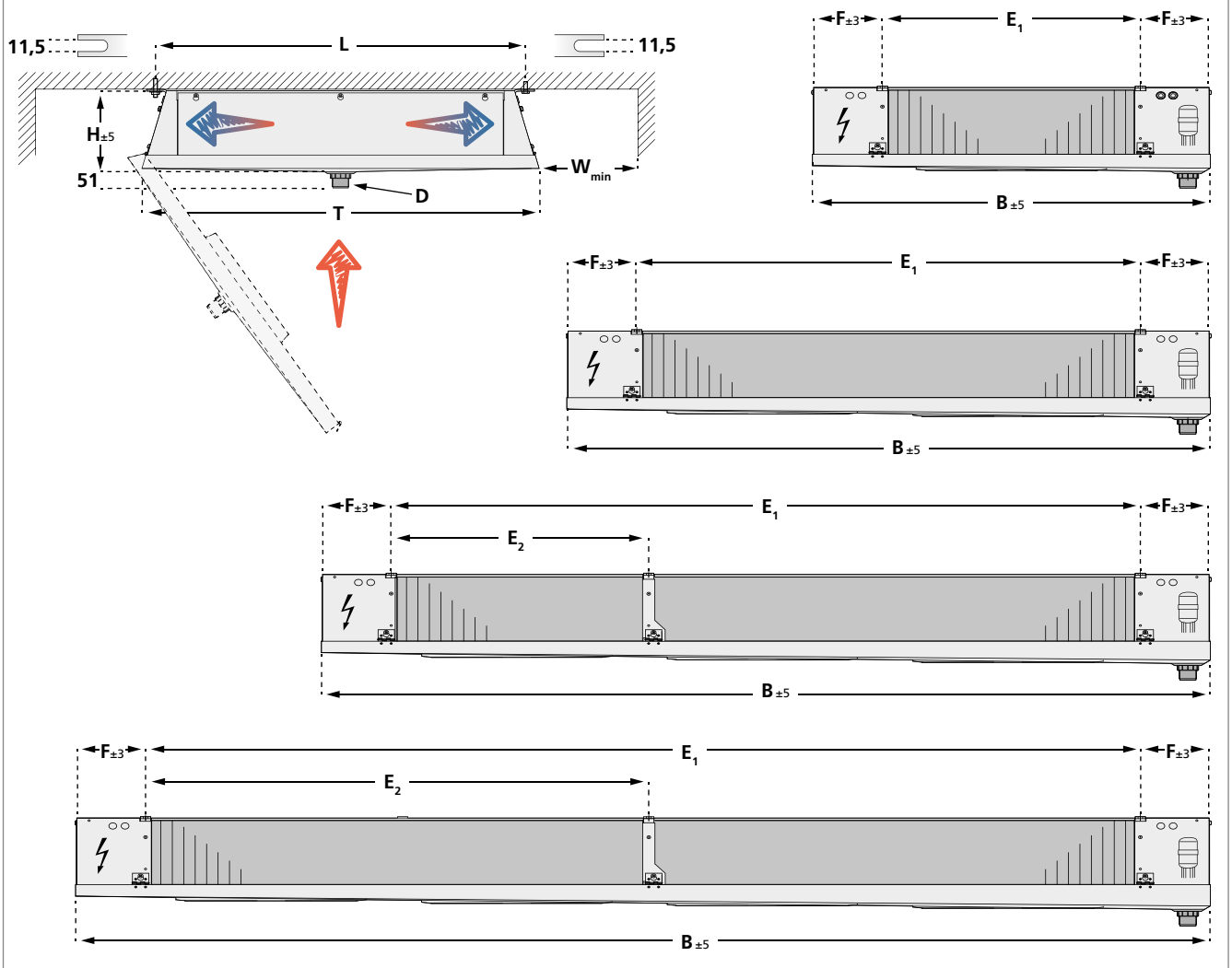
Dimensions, weights, electric defrost, drain

	Type	Dimensions								Electrical defrost 230 V-1 / 400 V-3-Y			Weights (net)		Weights (gross)		Drain
		H	B	T	L	E_1	E_2	F	W_{min}	Coil	Tray	Total	DPA/B	DPA/B E	DPA/B	DPA/B E	D
		mm	mm	mm	mm	mm	mm	mm	mm	kW	kW	kW	kg	kg	kg	kg	inch
1	DP 031C	281	972	1,010	930	630	-	171	1,200	2.3	-	2.3	44	47	74	78	G 1¼
	DP 041C	281	972	1,010	930	630	-	171	1,200	2.3	-	2.3	46	49	76	80	G 1¼
2	DP 032C	288	1,572	1,010	930	1,230	-	171	1,200	4.1	-	4.1	68	72	105	109	G 1¼
	DP 042C	288	1,572	1,010	930	1,230	-	171	1,200	4.1	-	4.1	72	76	109	113	G 1¼
3	DP 033C	296	2,172	1,010	930	1,830	629	171	1,200	6.0	-	6.0	96	101	150	155	G 1¼
	DP 043C	296	2,172	1,010	930	1,830	629	171	1,200	6.0	-	6.0	102	107	156	161	G 1¼
4	DP 034C	303	2,772	1,010	930	2,430	1,229	171	1,200	7.8	-	7.8	120	126	182	188	G 1¼
	DP 044C	303	2,772	1,010	930	2,430	1,229	171	1,200	7.8	-	7.8	128	134	188	194	G 1¼

Subject to modification.

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

Dimensional drawings for *comfort* DP (1-4 motors)



Küba *comfort* DP

Variants

Motor-Variants

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 3.09 Double-walled, insulated drip tray
Prevents condensed water from forming on the bottom side of the pan, and it reduces the transfer of defrost heat into the cold rooms.

Construction-variants

V 2.05 Water / brine circulation
With a large number of distributors (small pressure drop)

V 2.06 Water / brine circulation
With a small number of distributors (large pressure drop)

CO_2-Variants

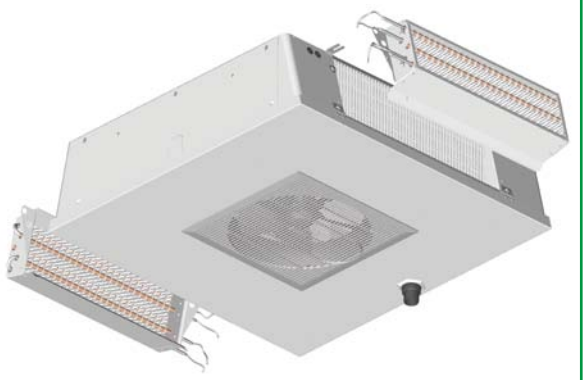
V 7.45 CO_2-Direct expansion
up to 45 bar operating pressure

V 7.60 CO_2-Direct expansion
up to 60 bar operating pressure

Electric heater DPHR

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.

- Fully powder-coated (RAL 9018)
- 230 ± 10% V-1~ or 400 ± 10% V-3~ -Y
- Heater rods with CrNi steel sleeve
- Vapour-tight connections
- Connecting cable 1.0 mm² x 1000 mm
- Casing: steel, continuous hot-dip zinc coated
- Fins: aluminium
- Tube sleeves: Cu



Selection table & dimensions:

						Connected value per register		Connected value per aircooler	
For type	Description	Pieces	Dimensions		Weight	Current	Capacity	Current	Capacity
			H	L	kg	A	kW	A	kW
DP 031C	DPHR 600	2	210	600	1.7	4.2	1.0	8.4	1.92
DP 041C	DPHR 600	2	210	600	1.7	4.2	1.0	8.4	1.92
DP 032C	DPHR 1200	2	210	1,200	2.9	8.3	1.9	16.6	3.82
DP 042C	DPHR 1200	2	210	1,200	2.9	8.3	1.9	16.6	3.82
DP 033C	DPHR 1800	2	210	1,800	4.2	12.5	2.9	25.0	5.74
DP 043C	DPHR 1800	2	210	1,800	4.2	12.5	2.9	25.0	5.74
DP 034C	DPHR 2400	2	210	2,400	5.6	16.3	3.8	32.6	7.5
DP 044C	DPHR 2400	2	210	2,400	5.6	16.3	3.8	32.6	7.5

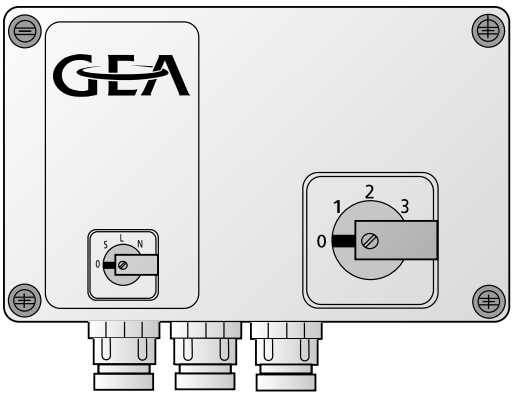
NOTE:

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

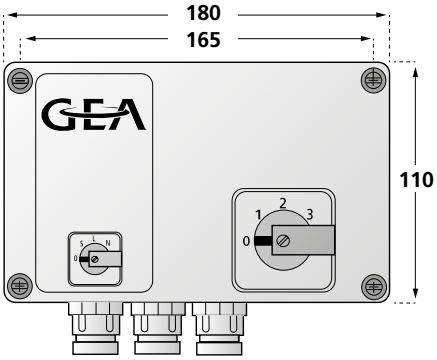
Speed switch operation N, L, S

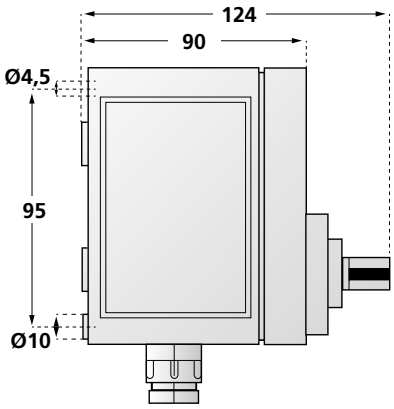
Construction:

- With floating change-over at fan ON/OFF, contact open in switch position o
- Floating drag switch contacts on terminals 11/12
- Capacitor (C) for level S included



Selection table & dimensions:





For type	Description	Bezeichnung	Prot. class	µF
	Speed switch	Capacitor (S)		
DP 031C	SC - 10	C - 10	IP 54	10
DP 041C	SC - 10	C - 10	IP 54	10
DP 032C	SC - 20	C - 20	IP 54	20
DP 042C	SC - 20	C - 20	IP 54	20
DP 033C	SC - 30	C - 30	IP 54	30
DP 043C	SC - 30	C - 30	IP 54	30
DP 034C	SC - 40	C - 40	IP 54	40
DP 044C	SC - 40	C - 40	IP 54	40

Küba *comfort* DP

Notes

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Subject to technical changes