Küba SG *commercial*

The flexible solution for complex refrigeration applications

Küba SG *commercial*

High performance air cooler for complex refrigeration applications

Integrated electrical terminal box

Type designation code

1	2	3	4		5	6	7
SG	A	E	35	-	F	2	3

Refrigerant (Box 5)

F	HFC / CO_2	**G**	Glycol	**N**	Pump operation, NH_3

1 Model range designation
2 Fin spacing
3 Electric defrost
4 Fan diameter
5 Refrigerant
6 Number of rows deep
7 Number of fans

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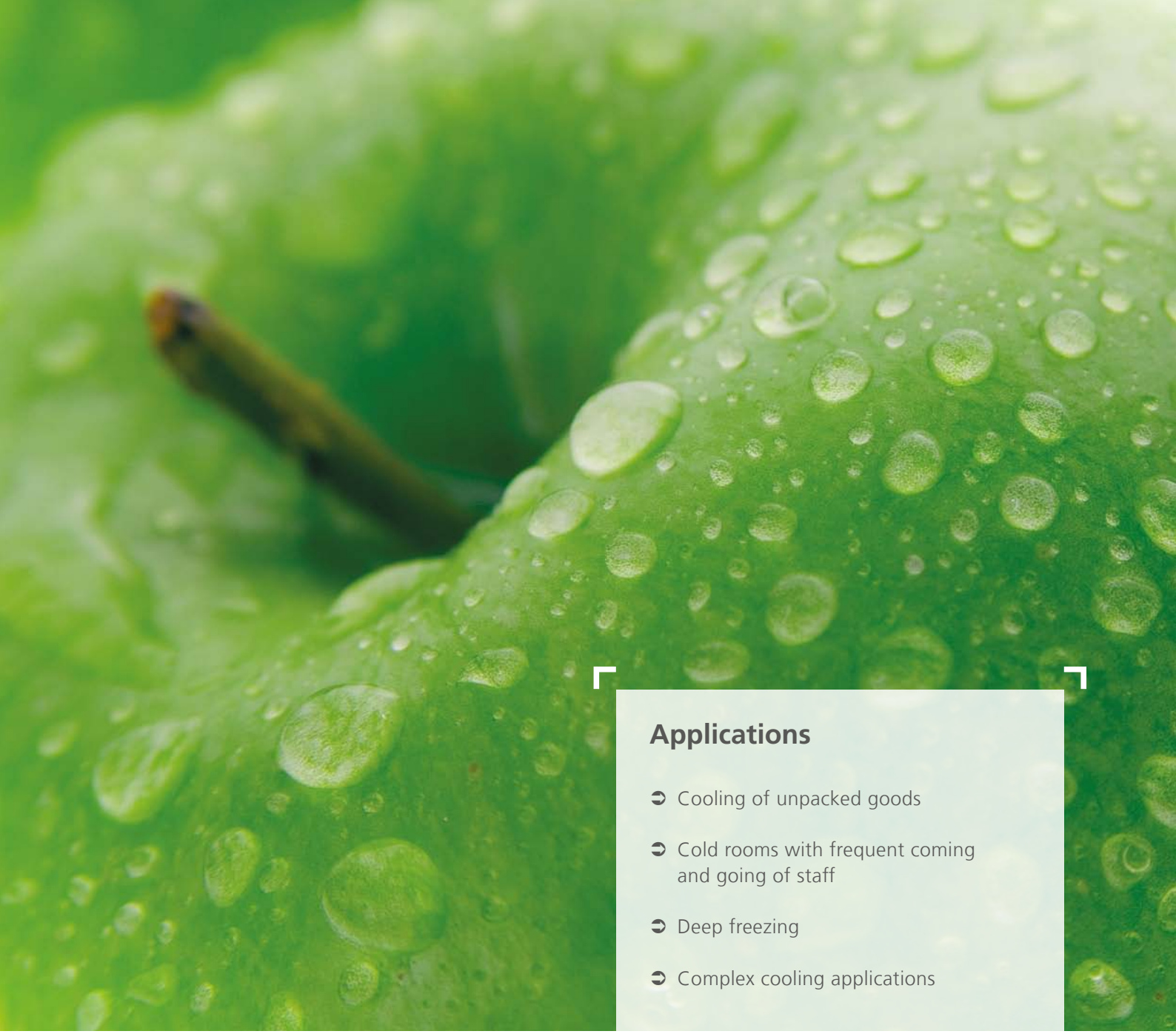
Capacity range (for SC2)

0.6 kW  46 kW

Temperature range (t_{L1})

Number of fans

Content



Applications

- Cooling of unpacked goods
- Cold rooms with frequent coming and going of staff
- Deep freezing
- Complex cooling applications

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Application benefits for contractors and operators

Complex cooling and refrigeration applications have demanding requirements, particularly on system components. GEA Küba has thoroughly reworked its high-performance cooler SG *commercial* and has further optimized the matching of its individual components such as the heat exchanger and the fan system.

As a result, GEA Küba has responded to ever increasing operating costs with sustainable solutions that comply with increasingly strict legal regulations. This means long-term investment security for you.

Whether you have extreme storage conditions or need long-term food freshness – the Küba SG *commercial* is the answer to your requirements and ensures the long term value of your refrigerated product. The focus of our engineering design is on your requirements and is primarily directed to long refrigeration periods between defrost cycles. The SG *commercial* also means low fan power consumption – while maintaining good control characteristics at minimal temperature differences. This results in compressor output as low as possible for the required cooling load.

The results speak for themselves:
A genuine GEA Küba high-performance air cooler.

Küba SG *commercial*

from the GEA Küba Blue Line production range

Maximum energy efficiency

- Aerodynamically integrated fan system with air straightener. The benefit in the cold room is strong, focused flow of air with more flow volume and longer air throw.
- Thanks to the optimal fin structure of the Küba HFE® system, the optimized design of the heat exchanger enables stable control functions with minimum temperature differences, also during part-load operation.
- The EC fans reduce energy consumption by up to 67%, and on an average by approx. 30%. The fan unit is additionally hinged and heated (except SG 23), and it features a new condensate drain.

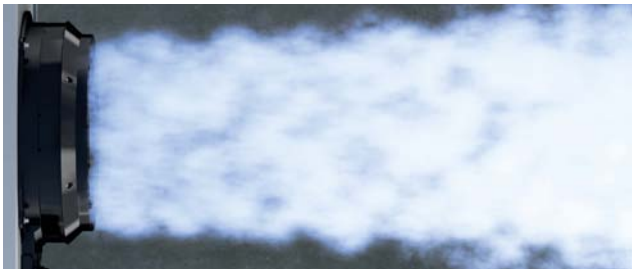
Hygienic without a doubt

- All component parts are easy to access and simple to clean. The hinge-down drip tray and the hinged fans (except SG 23) are already included in the basic version.
- The food-safe and environmentally friendly powder-coating finish means that the surface of the casing is resistant to scratches, impacts, and corrosion.
- The air straightener can be removed with a few simple manual operations and can be easily cleaned. Condensate drainage is integrated into the full bellmouth, which assures effective draining into the drip tray.

Simple installation

- The integrated terminal box with spring-clamp terminals (provided in the standard version, except SG 23) enables fast and sure connections. The thermistor of the fan motor is delivered on terminals.
- The spacious connection areas enable simple handling. This applies especially to the connection to the refrigerant piping and to installation of the expansion valve.
- The round corners and the smooth edges of the casing parts mean no danger of injury for installation and cleaning staff.

Optimal protection of your goods



- The new fan system with air straightener – precisely matched to the heat exchanger – provides up to 15% greater air throw at lower air resistance and higher air volume.
- The many models and options mean that the SG *commercial* – especially for complex refrigeration applications – can be perfectly matched to individual customer requirements.
- Latest technologies and high heat transfer values produce a minimum of temperature differences. Optimal configuration of the air cooler is therefore critical for minimal moisture removal from the product.

Küba SG *commercial*

Basic version

Casing

- Smooth aluminum and zinc coated steel
- High-grade powder coating RAL 9018 papyrus white
- Food-safe
- Best quality powder coated edges
- Enhanced air flow by an extended Coanda effect
- Prevention of ice formation in the wall ring gap
- Condensate drain grooves integrated in the wall ring: they provide effective drainage of the condensate from the fan plate, which is inclined at 3° to the drip tray
- Hinged drip tray and removable side panels
- Stainless steel mounting material
- Plastic drain

Heat exchanger for direct expansion

- Heat exchanger with aligned tube pattern; internally grooved special copper tubes (drawn oxygen-free), according to DIN EN 12735-1,2; diameter: 15 mm; with closed pure-aluminum HFE® fins
- Fin spacing: A = 4.5 mm | B = 7 mm | L = 12 mm
- Fins flared to form-fit the core tube
- Maximum heat transfer with compact dimensions
- **Series SG-F: HFC / CO_2**
  Küba-CAL® refrigerant distributors throughout the entire HFC range
  Tubing: special copper piping with inner fins; *Fins:* Al; *End plates:* Al
- **Series SG-G: Glycol**
  Distribution tubes for multiple injections
  Tubing: Cu smooth; *Fins:* Al;
  End plates: Al
- **Series SG-N: with pump / NH_3**
  Distribution tubes for multi injections
  Tubing: VA; *Fins:* Al;
  End plates: Al

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.
- Integrated tube bushings allow a subsequent modification to an electric defrost system.

SG 23: Standard = ESM-Motor

SG 30, 35, 45: Standard = AC-Motor

Fan system

- Fan system with integrated terminal box and protection against liquid spray
- Permissible motor operating temperatures:
  -30 to +50°C (SG 23 [EC]),
  -40 to +40°C (SG 30,35,45 [AC])
- Built-in protector (AC), wired internally (except SG 45-61,62,63) and connection box integrated in the hinge (not SG 23)
- Pre-wired to springloaded terminals
- Fan diameters available:
  230 / 300 / 350 / 450 mm
- 230 Volt, 50/60 Hz, 1 -phase as AC, (IP 44) or optionally as EC system (IP 54)
- Optional EC motor available with integrated motor management for monitoring of operational parameters to protect the fan unit: excess current, excess temperature, and undervoltage
- Adapter for textile socks and Shut-Up® integrated in the fan system
- Hinged fan system (not SG 23)
- Controller:

	SG 23	SG 30,35,45
Phase control	☐	☑
Transformer	☐	☑
Delta/star	☐	☐
Frequency converter	☐	☑

Please observe the manufacturer's information!

Motor label data*

Type	Ø mm	50 Hz			60 Hz		
		rpm	W	A	rpm	W	A
SG 23 21-35	230	1,600	30	0.24	1,600	30	0.24
SG 23 21-35	230	1,000	14	0.11	1,000	14	0.11
SG 30 21-35	300	1,320	72	0.32	1,500	90	0.40
SG 35 21-45	350	1,400	180	0.81	1,600	250	1.10
SG 45 31-45	450	1,400	245	1.10	1,600	355	1.55
SG 45 61,62,63	450	1,390	510	2.75	1,600	710	3.11

Motor data per fan

*Data provided by the manufacturer

Küba SG *commercial*

Technical data – SGA(E)

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)				
	SC2	SC3					Inlet	Outlet	L_{WA}	Blade	Current	Per Fan		
	kW	kW	m^2	m^3/h	m	dm^3	Ø mm	Ø mm	db(A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
SGA 23-F21	1.3	0.7	6.2	930	11	1.1	10x1.0*	15x1.0	68	230	230 V-1	1,580	30	0.25
SGA 23-F31	1.7	1.0	9.3	900	11	1.6	10x1.0*	15x1.0	68	230	230 V-1	1,580	30	0.25
SGA 30-F21	2.1	1.3	10.9	1,490	16	1.8	10x1.0*	15x1.0	66	300	230 V-1	1,360	65	0.30
SGA 30-F31	2.6	1.7	16.3	1,430	15	2.7	10x1.0*	15x1.0	66	300	230 V-1	1,360	65	0.30
SGA 35-F21	3.6	2.2	16.2	2,900	30	2.7	10x1.0*	22x1.0	73	350	230 V-1	1,430	150	0.70
SGA 35-F31	4.4	2.9	24.1	2,790	29	4.0	12x1.0*	22x1.0	73	350	230 V-1	1,430	150	0.70
SGA 35-F41	5.2	3.5	32.1	2,700	28	5.4	12x1.0**	28x1.5	73	350	230 V-1	1,430	150	0.70
SGA 35-F61	6.2	4.4	47.9	2,510	26	8.0	12x1.0**	28x1.5	73	350	230 V-1	1,430	150	0.70
SGA 45-F31	7.6	4.8	37.2	4,750	40	6.2	12x1.0**	28x1.5	82	450	230 V-1	1,360	275	1.25
SGA 45-F41	8.5	5.7	49.5	4,570	38	8.1	12x1.0**	28x1.5	82	450	230 V-1	1,360	275	1.25
SGA 45-F51	9.8	6.6	61.7	4,420	37	10.3	15x1.0**	35x1.5	82	450	230 V-1	1,360	275	1.25
SGA 45-F61	11.0	7.7	73.9	5,030	44	12.2	12x1.0**	35x1.5	82	450	230 V-1	1,370	500	2.65
SGA 23-F22	2.5	1.6	12.5	1,860	17	2.0	10x1.0*	15x1.0	71	230	230 V-1	1,580	30	0.25
SGA 23-F32	3.0	2.1	18.6	1,800	16	3.0	10x1.0*	15x1.0	71	230	230 V-1	1,580	30	0.25
SGA 30-F22	4.3	2.7	21.8	2,980	22	3.5	12x1.0**	22x1.0	69	300	230 V-1	1,360	65	0.30
SGA 30-F32	5.2	3.5	32.5	2,860	21	5.3	12x1.0**	28x1.5	69	300	230 V-1	1,360	65	0.30
SGA 35-F22	6.8	4.4	32.4	5,800	35	5.2	12x1.0**	28x1.5	76	350	230 V-1	1,430	150	0.70
SGA 35-F32	8.9	6.0	48.3	5,580	34	7.7	12x1.0**	28x1.5	76	350	230 V-1	1,430	150	0.70
SGA 35-F42	10.6	7.2	64.1	5,400	33	10.3	12x1.0**	35x1.5	76	350	230 V-1	1,430	150	0.70
SGA 35-F62	12.4	8.9	95.8	5,020	31	15.2	15x1.0**	35x1.5	76	350	230 V-1	1,430	150	0.70
SGA 45-F32	15.2	9.8	74.5	9,500	45	11.8	15x1.0**	35x1.5	85	450	230 V-1	1,360	275	1.25
SGA 45-F42	17.1	11.7	98.9	9,140	44	15.6	15x1.0**	35x1.5	85	450	230 V-1	1,360	275	1.25
SGA 45-F52	19.8	13.4	123.4	8,840	42	19.6	22x1.0**	42x1.5	85	450	230 V-1	1,360	275	1.25
SGA 45-F62	22.7	16.0	147.8	10,060	50	23.4	22x1.0**	42x1.5	85	450	230 V-1	1,370	500	2.65
SGA 23-F23	3.8	2.4	18.7	2,790	20	3.0	12x1.0**	22x1.0	73	230	230 V-1	1,580	30	0.25
SGA 23-F33	4.6	3.1	27.9	2,700	20	4.4	12x1.0**	22x1.0	73	230	230 V-1	1,580	30	0.25
SGA 30-F23	6.1	4.0	32.8	4,470	25	5.2	12x1.0**	28x1.5	71	300	230 V-1	1,360	65	0.30
SGA 30-F33	7.8	5.4	48.8	4,290	24	7.6	12x1.0**	28x1.5	71	300	230 V-1	1,360	65	0.30
SGA 35-F23	11.0	6.6	48.6	8,700	39	7.7	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGA 35-F33	13.7	9.1	72.4	8,370	38	11.4	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGA 35-F43	15.3	10.6	96.2	8,100	37	15.0	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGA 35-F63	17.3	12.6	143.7	7,530	35	22.5	15x1.0**	42x1.5	78	350	230 V-1	1,430	150	0.70
SGA 45-F33	22.9	14.7	111.7	14,250	49	17.6	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGA 45-F43	26.9	17.7	148.4	13,710	47	23.1	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGA 45-F53	28.1	19.8	185.1	13,260	46	28.7	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGA 45-F63	30.8	29.2	221.8	15,090	53	34.9	22x1.0**	54x2.0	87	450	230 V-1	1,370	500	2.65
SGA 23-F24	5.0	3.2	25.0	3,720	23	3.9	12x1.0**	22x1.0	74	230	230 V-1	1,580	30	0.25
SGA 23-F34	6.5	4.3	37.2	3,600	22	5.8	12x1.0**	28x1.5	74	230	230 V-1	1,580	30	0.25
SGA 30-F24	8.6	5.4	43.7	5,960	28	6.8	12x1.0**	28x1.5	72	300	230 V-1	1,360	65	0.30
SGA 30-F34	10.9	7.1	65.1	5,720	27	10.2	15x1.0**	35x1.5	72	300	230 V-1	1,360	65	0.30
SGA 35-F24	14.3	9.1	64.8	11,600	41	10.1	15x1.0**	35x1.5	79	350	230 V-1	1,430	150	0.70
SGA 35-F34	17.3	11.7	96.5	11,160	40	14.9	15x1.0**	35x1.5	79	350	230 V-1	1,430	150	0.70
SGA 35-F44	21.9	14.6	128.2	10,800	39	20.0	22x1.0**	42x1.5	79	350	230 V-1	1,430	150	0.70
SGA 35-F64	24.3	17.8	191.6	10,040	37	29.6	22x1.0**	42x1.5	79	350	230 V-1	1,430	150	0.70
SGA 45-F34	29.1	19.5	148.9	19,000	51	23.0	22x1.0**	42x1.5	88	450	230 V-1	1,360	275	1.25
SGA 45-F44	34.4	23.6	197.8	18,280	50	31.0	22x1.0**	54x2.0	88	450	230 V-1	1,360	275	1.25
SGA 45-F54	38.3	26.9	246.8	17,680	48	38.4	22x1.0**	54x2.0	88	450	230 V-1	1,360	275	1.25
SGA 23-F25	6.4	4.0	31.2	4,650	24	4.8	12x1.0**	28x1.5	75	230	230 V-1	1,580	30	0.25
SGA 23-F35	7.9	5.4	46.5	4,500	24	7.2	12x1.0**	28x1.5	75	230	230 V-1	1,580	30	0.25
SGA 30-F25	10.4	6.8	54.6	7,450	29	8.5	12x1.0**	35x1.5	73	300	230 V-1	1,360	65	0.30
SGA 30-F35	13.4	9.0	81.3	7,150	28	12.5	15x1.0**	35x1.5	73	300	230 V-1	1,360	65	0.30
SGA 35-F25	18.6	10.9	81.0	14,500	43	12.4	22x1.0**	35x1.5	80	350	230 V-1	1,430	150	0.70
SGA 35-F35	24.2	14.6	120.6	13,950	42	18.6	22x1.0**	42x1.5	80	350	230 V-1	1,430	150	0.70
SGA 35-F45	26.6	18.3	160.3	13,500	41	24.7	22x1.0**	42x1.5	80	350	230 V-1	1,430	150	0.70
SGA 35-F65	31.2	22.6	239.6	12,550	39	37.1	22x1.0**	54x2.0	80	350	230 V-1	1,430	150	0.70
SGA 45-F35	38.9	24.2	186.1	23,750	53	29.0	22x1.0**	54x2.0	89	450	230 V-1	1,360	275	1.25
SGA 45-F45	45.5	29.1	247.3	22,850	51	38.2	28x1.5**	54x2.0	89	450	230 V-1	1,360	275	1.25

Standard condition	t_{L1}	t_0	DT1
NB2/SC2	0	-8	8
NB3/SC3	-18	-25	7

Correction factors for other refrigerants

Refrigerant	NB2/SC2	NB3/SC3
R134a	1.00	0.91
R507	0.97	0.97
R22	0.95	0.95

* Single injection

** Multiple injection through Küba CAL® distributor

*** Throw limit at 0.5 m/s

Subject to modification.

Küba SG *commercial*

Technical data – SGB (E)

7 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)				
	SC2	SC3					Inlet	Outlet	L_{WA}	Blade	Current	Per Fan		
	kW	kW	m^2	m^3/h	m	dm^3	Ø mm	Ø mm	db (A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
SGB 23-F21	0.9	0.5	4.1	990	12	1.1	10x1.0*	15x1.0	68	230	230 V-1	1,580	30	0.25
SGB 23-F31	1.2	0.8	6.1	950	11	1.6	10x1.0*	15x1.0	68	230	230 V-1	1,580	30	0.25
SGB 30-F21	1.5	1.0	7.2	1,550	17	1.8	10x1.0*	15x1.0	66	300	230 V-1	1,360	65	0.30
SGB 30-F31	1.9	1.3	10.7	1,510	16	2.7	10x1.0*	15x1.0	66	300	230 V-1	1,360	65	0.30
SGB 35-F21	2.5	1.6	10.7	3,020	31	2.7	10x1.0*	22x1.0	73	350	230 V-1	1,430	150	0.70
SGB 35-F31	3.4	2.3	15.9	2,950	30	4.0	12x1.0*	22x1.0	73	350	230 V-1	1,430	150	0.70
SGB 35-F41	4.1	2.8	21.1	2,880	29	5.4	12x1.0**	28x1.5	73	350	230 V-1	1,430	150	0.70
SGB 35-F61	5.3	3.7	31.6	2,760	28	8.0	12x1.0**	28 x1.5	73	350	230 V-1	1,430	150	0.70
SGB 45-F31	5.6	3.7	24.5	5,030	42	6.2	12x1.0**	28 x1.5	82	450	230 V-1	1,360	275	1.25
SGB 45-F41	6.7	4.6	32.6	4,920	41	8.1	12x1.0**	28x1.5	82	450	230 V-1	1,360	275	1.25
SGB 45-F51	8.0	5.4	40.6	4,810	40	10.3	15x1.0**	35x1.5	82	450	230 V-1	1,360	275	1.25
SGB 45-F61	9.4	6.6	48.7	5,580	49	12.2	12x1.0**	35x1.5	82	450	230 V-1	1,370	500	2.65
SGB 23-F22	1.8	1.2	8.2	1,980	17	2.0	10x1.0*	15x1.0	71	230	230 V-1	1,580	30	0.25
SGB 23-F32	2.3	1.6	12.3	1,900	17	3.0	10x1.0*	15x1.0	71	230	230 V-1	1,580	30	0.25
SGB 30-F22	3.0	1.9	14.4	3,100	22	3.5	12x1.0**	22x1.0	69	300	230 V-1	1,360	65	0.30
SGB 30-F32	3.9	2.7	21.4	3,020	22	5.3	12x1.0**	28x1.5	69	300	230 V-1	1,360	65	0.30
SGB 35-F22	4.9	3.3	21.3	6,040	36	5.2	12x1.0**	28x1.5	76	350	230 V-1	1,430	150	0.70
SGB 35-F32	6.8	4.6	31.8	5,900	36	7.7	12x1.0**	28x1.5	76	350	230 V-1	1,430	150	0.70
SGB 35-F42	8.3	5.8	42.2	5,760	35	10.3	12x1.0**	35x1.5	76	350	230 V-1	1,430	150	0.70
SGB 35-F62	10.6	7.6	63.1	5,520	34	15.2	15x1.0**	35x1.5	76	350	230 V-1	1,430	150	0.70
SGB 45-F32	11.3	7.4	49.0	10,060	47	11.8	15x1.0**	35x1.5	85	450	230 V-1	1,360	275	1.25
SGB 45-F42	13.5	9.4	65.1	9,840	47	15.6	15x1.0**	35x1.5	85	450	230 V-1	1,360	275	1.25
SGB 45-F52	16.0	10.8	81.3	9,620	46	19.6	22x1.0**	42x1.5	85	450	230 V-1	1,360	275	1.25
SGB 45-F62	19.3	13.5	97.4	11,160	55	23.4	22x1.0**	42x1.5	85	450	230 V-1	1,370	500	2.65
SGB 23-F23	2.7	1.8	12.3	2,970	21	3.0	12x1.0**	22x1.0	73	230	230 V-1	1,580	30	0.25
SGB 23-F33	3.5	2.4	18.4	2,850	20	4.4	12x1.0**	22x1.0	73	230	230 V-1	1,580	30	0.25
SGB 30-F23	4.3	3.0	21.6	4,650	26	5.2	12x1.0**	28x1.5	71	300	230 V-1	1,360	65	0.30
SGB 30-F33	5.9	4.1	32.1	4,530	25	7.6	12x1.0**	28x1.5	71	300	230 V-1	1,360	65	0.30
SGB 35-F23	7.7	4.8	32.0	9,060	40	7.7	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGB 35-F33	10.3	7.0	47.7	8,850	39	11.4	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGB 35-F43	12.2	8.6	63.3	8,640	38	15.0	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGB 35-F63	15.1	11.0	94.7	8,280	37	22.5	15x1.0**	42x1.5	78	350	230 V-1	1,430	150	0.70
SGB 45-F33	17.0	11.2	73.5	15,090	51	17.6	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGB 45-F43	20.9	13.9	97.7	14,760	50	23.1	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGB 45-F53	23.2	16.5	121.9	14,430	49	28.7	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGB 45-F63	27.0	19.3	146.1	16,740	58	34.9	22x1.0**	54x2.0	87	450	230 V-1	1,370	500	2.65
SGB 23-F24	3.6	2.4	16.5	3,960	23	3.9	12x1.0**	22x1.0	74	230	230 V-1	1,580	30	0.25
SGB 23-F34	4.8	3.2	24.5	3,800	23	5.8	12x1.0**	28x1.5	74	230	230 V-1	1,580	30	0.25
SGB 30-F24	6.0	3.9	28.8	6,200	28	6.8	12x1.0**	28x1.5	72	300	230 V-1	1,360	65	0.30
SGB 30-F34	8.1	5.3	42.9	6,040	28	10.2	15x1.0**	35x1.5	72	300	230 V-1	1,360	65	0.30
SGB 35-F24	10.1	6.6	42.7	12,080	42	10.1	15x1.0**	35x1.5	79	350	230 V-1	1,430	150	0.70
SGB 35-F34	13.3	9.3	63.6	11,800	42	14.9	15x1.0**	35x1.5	79	350	230 V-1	1,430	150	0.70
SGB 35-F44	16.9	11.4	84.4	11,520	41	20.0	22x1.0**	42x1.5	79	350	230 V-1	1,430	150	0.70
SGB 35-F64	20.9	15.2	126.2	11,040	40	29.6	22x1.0**	42x1.5	79	350	230 V-1	1,430	150	0.70
SGB 45-F34	22.1	15.1	98.1	20,120	53	23.0	22x1.0**	42x1.5	88	450	230 V-1	1,360	275	1.25
SGB 45-F44	27.2	18.8	130.3	19,680	53	31.0	22x1.0**	54x2.0	88	450	230 V-1	1,360	275	1.25
SGB 45-F54	31.4	22.1	162.5	19,240	52	38.4	22x1.0**	54x2.0	88	450	230 V-1	1,360	275	1.25
SGB 23-F25	4.5	2.9	20.6	4,950	25	4.8	12x1.0**	28x1.5	75	230	230 V-1	1,580	30	0.25
SGB 23-F35	6.0	4.1	30.6	4,750	24	7.2	12x1.0**	28x1.5	75	230	230 V-1	1,580	30	0.25
SGB 30-F25	7.4	5.0	36.0	7,750	30	8.5	12x1.0**	35x1.5	73	300	230 V-1	1,360	65	0.30
SGB 30-F35	10.0	6.8	53.6	7,550	29	12.5	15x1.0**	35x1.5	73	300	230 V-1	1,360	65	0.30
SGB 35-F25	13.0	7.9	53.3	15,100	44	12.4	22x1.0**	35x1.5	80	350	230 V-1	1,430	150	0.70
SGB 35-F35	17.7	11.0	79.4	14,750	43	18.6	22x1.0**	42x1.5	80	350	230 V-1	1,430	150	0.70
SGB 35-F45	20.8	14.5	105.6	14,400	42	24.7	22x1.0**	42x1.5	80	350	230 V-1	1,430	150	0.70
SGB 35-F65	26.6	19.0	157.8	13,800	41	37.1	22x1.0**	54x2.0	80	350	230 V-1	1,430	150	0.70
SGB 45-F35	28.7	18.3	122.6	25,150	55	29.0	22x1.0**	54x2.0	89	450	230 V-1	1,360	275	1.25
SGB 45-F45	35.1	22.8	162.9	24,600	54	38.2	28x1.5**	54x2.0	89	450	230 V-1	1,360	275	1.25

Standard condition	t_{L1}	t_0	DT1
NB2/SC2	0	-8	8
NB3/SC3	-18	-25	7

Correction factors for other refrigerants

Refrigerant	NB2/SC2	NB3/SC3
R134a	1.00	0.91
R507	0.97	0.97
R22	0.95	0.95

* Single injection

** Multiple injection through Küba CAL® distributor

*** Throw limit at 0.5 m/s

Subject to modification.

Küba SG *commercial*

Technical data – SGL(E)

12 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)				
	SC2	SC3					Inlet	Outlet	L_{WA}	Blade	Current	Per Fan		
	kW	kW	m^2	m^3/h	m	dm^3	Ø mm	Ø mm	db(A)	Ø mm	230 ± 10% V-1 50 Hz	rpm	W	A
SGL 23-F21	0.6	0.4	2.5	1,080	13	1.1	10x1.0*	15x1.0	68	230	230 V-1	1,580	30	0.25
SGL 23-F31	0.9	0.6	3.7	980	12	1.6	10x1.0*	15x1.0	68	230	230 V-1	1,580	30	0.25
SGL 30-F21	1.0	0.7	4.4	1,590	17	1.8	10x1.0*	15x1.0	66	300	230 V-1	1,360	65	0.30
SGL 30-F31	1.4	1.0	6.5	1,570	17	2.7	10x1.0*	15x1.0	66	300	230 V-1	1,360	65	0.30
SGL 35-F21	1.8	1.2	6.5	3,120	32	2.7	10x1.0*	22x1.0	73	350	230 V-1	1,430	150	0.70
SGL 35-F31	2.4	1.7	9.7	3,070	31	4.0	12x1.0*	22x1.0	73	350	230 V-1	1,430	150	0.70
SGL 35-F41	3.1	2.2	12.9	3,030	31	5.4	12x1.0**	28x1.5	73	350	230 V-1	1,430	150	0.70
SGL 35-F61	4.1	3.0	19.3	2,960	30	8.0	12x1.0**	28x1.5	73	350	230 V-1	1,430	150	0.70
SGL 45-F31	4.0	2.7	15.0	5,220	44	6.2	12x1.0**	28x1.5	82	450	230 V-1	1,360	275	1.25
SGL 45-F41	5.0	3.5	19.9	5,160	43	8.1	12x1.0**	28x1.5	82	450	230 V-1	1,360	275	1.25
SGL 45-F51	6.1	4.2	24.8	5,110	43	10.3	15x1.0**	35x1.5	82	450	230 V-1	1,360	275	1.25
SGL 45-F61	7.5	5.4	29.8	6,070	53	12.2	12x1.0**	35x1.5	82	450	230 V-1	1,370	500	2.65
SGL 23-F22	1.3	0.9	5.0	2,160	18	2.0	10x1.0*	15x1.0	71	230	230 V-1	1,580	30	0.25
SGL 23-F32	1.7	1.2	7.5	1,960	17	3.0	10x1.0*	15x1.0	71	230	230 V-1	1,580	30	0.25
SGL 30-F22	2.0	1.4	8.8	3,180	23	3.5	12x1.0**	22x1.0	69	300	230 V-1	1,360	65	0.30
SGL 30-F32	2.8	2.0	13.1	3,140	22	5.3	12x1.0**	28x1.5	69	300	230 V-1	1,360	65	0.30
SGL 35-F22	3.5	2.4	13.0	6,240	37	5.2	12x1.0**	28x1.5	76	350	230 V-1	1,430	150	0.70
SGL 35-F32	4.9	3.4	19.4	6,140	37	7.7	12x1.0**	28x1.5	76	350	230 V-1	1,430	150	0.70
SGL 35-F42	6.2	4.4	25.8	6,060	36	10.3	12x1.0**	35x1.5	76	350	230 V-1	1,430	150	0.70
SGL 35-F62	8.3	6.0	38.6	5,920	36	15.2	15x1.0**	35x1.5	76	350	230 V-1	1,430	150	0.70
SGL 45-F32	8.1	5.5	30.0	10,440	49	11.8	15x1.0**	35x1.5	85	450	230 V-1	1,360	275	1.25
SGL 45-F42	10.1	7.1	39.8	10,320	49	15.6	15x1.0**	35x1.5	85	450	230 V-1	1,360	275	1.25
SGL 45-F52	12.1	8.3	49.7	10,220	48	19.6	22x1.0**	42x1.5	85	450	230 V-1	1,360	275	1.25
SGL 45-F62	15.3	10.9	59.5	12,140	59	23.4	22x1.0**	42x1.5	85	450	230 V-1	1,370	500	2.65
SGL 23-F23	1.9	1.3	7.5	3,240	22	3.0	12x1.0*	22x1.0	73	230	230 V-1	1,580	30	0.25
SGL 23-F33	2.5	1.8	11.2	2,940	21	4.4	12x1.0*	22x1.0	73	230	230 V-1	1,580	30	0.25
SGL 30-F23	3.0	2.1	13.2	4,770	26	5.2	12x1.0**	28x1.5	71	300	230 V-1	1,360	65	0.30
SGL 30-F33	4.2	3.0	19.6	4,710	26	7.6	12x1.0**	28x1.5	71	300	230 V-1	1,360	65	0.30
SGL 35-F23	5.3	3.5	19.5	9,360	41	7.7	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGL 35-F33	7.4	5.1	29.1	9,210	40	11.4	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGL 35-F43	9.1	6.6	38.7	9,090	40	15.0	15x1.0**	35x1.5	78	350	230 V-1	1,430	150	0.70
SGL 35-F63	12.1	9.0	57.9	8,880	39	22.5	15x1.0**	42x1.5	78	350	230 V-1	1,430	150	0.70
SGL 45-F33	12.2	8.2	44.9	15,660	53	17.6	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGL 45-F43	15.3	10.5	59.7	15,480	52	23.1	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGL 45-F53	17.8	12.9	74.5	15,330	52	28.7	22x1.0**	42x1.5	87	450	230 V-1	1,360	275	1.25
SGL 45-F63	22.0	16.1	89.3	18,210	62	34.9	22x1.0**	54x2.0	87	450	230 V-1	1,370	500	2.65
SGL 23-F24	2.5	1.7	10.1	4,320	24	3.9	12x1.0**	22x1.0	74	230	230 V-1	1,580	30	0.25
SGL 23-F34	3.4	2.3	15.0	3,920	23	5.8	12x1.0**	28x1.5	74	230	230 V-1	1,580	30	0.25
SGL 30-F24	4.0	2.7	17.6	6,360	29	6.8	12x1.0**	28x1.5	72	300	230 V-1	1,360	65	0.30
SGL 30-F34	5.7	3.9	26.2	6,280	28	10.2	15x1.0**	35x1.5	72	300	230 V-1	1,360	65	0.30
SGL 35-F24	7.0	4.8	26.1	12,480	43	10.1	15x1.0**	35x1.5	79	350	230 V-1	1,430	150	0.70
SGL 35-F34	9.7	7.0	38.8	12,280	43	14.9	15x1.0**	35x1.5	79	350	230 V-1	1,430	150	0.70
SGL 35-F44	12.5	8.6	51.6	12,120	42	20.0	22x1.0**	42x1.5	79	350	230 V-1	1,430	150	0.70
SGL 35-F64	16.5	12.1	77.2	11,840	42	29.6	22x1.0**	42x1.5	79	350	230 V-1	1,430	150	0.70
SGL 45-F34	16.0	11.2	59.9	20,880	55	23.0	22x1.0**	42x1.5	88	450	230 V-1	1,360	275	1.25
SGL 45-F44	20.2	14.3	79.6	20,640	55	31.0	22x1.0**	54x2.0	88	450	230 V-1	1,360	275	1.25
SGL 45-F54	24.0	17.1	99.3	20,440	54	38.4	22x1.0**	54x2.0	88	450	230 V-1	1,360	275	1.25
SGL 23-F25	3.2	2.1	12.6	5,400	26	4.8	12x1.0**	28x1.5	75	230	230 V-1	1,580	30	0.25
SGL 23-F35	4.2	3.0	18.7	4,900	25	7.2	12x1.0**	28x1.5	75	230	230 V-1	1,580	30	0.25
SGL 30-F25	5.0	3.5	22.0	7,950	30	8.5	12x1.0**	35x1.5	73	300	230 V-1	1,360	65	0.30
SGL 30-F35	7.0	4.9	32.7	7,850	30	12.5	15x1.0**	35x1.5	73	300	230 V-1	1,360	65	0.30
SGL 35-F25	8.9	5.7	32.6	15,600	45	12.4	22x1.0**	35x1.5	80	350	230 V-1	1,430	150	0.70
SGL 35-F35	12.5	8.1	48.5	15,350	44	18.6	22x1.0**	42x1.5	80	350	230 V-1	1,430	150	0.70
SGL 35-F45	15.4	11.0	64.5	15,150	44	24.7	22x1.0**	42x1.5	80	350	230 V-1	1,430	150	0.70
SGL 35-F65	20.8	15.0	96.4	14,800	43	37.1	22x1.0**	54x2.0	80	350	230 V-1	1,430	150	0.70
SGL 45-F35	20.4	13.4	74.9	26,100	57	29.0	22x1.0**	54x2.0	89	450	230 V-1	1,360	275	1.25
SGL 45-F45	25.7	17.1	99.5	25,800	56	38.2	28x1.5**	54x2.0	89	450	230 V-1	1,360	275	1.25

Subject to modification.

Standard condition	t_{L1}	t_0	DT1
NB2/SC2	0	-8	8
NB3/SC3	-18	-25	7

Correction factors for other refrigerants

Refrigerant	NB2/SC2	NB3/SC3
R134a	1.00	0.91
R507	0.97	0.97
R22	0.95	0.95

* Single injection

** Multiple injection through Küba CAL® distributor

*** Throw limit at 0.5 m/s

Küba SG *commercial*

Weights, electric defrost

Type	Electrical defrost 230 V-1 / 400 V-3-Y				Weights (net)						Weights (gross)					
	Coil	Tray	Total	Circuits	SGA	SGA E	SGB	SGB E	SGL	SGL E	SGA	SGA E	SGB	SGB E	SGL	SGL E
	kW	kW	kW		kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg
SG 23-21	0.5	0.4	0.9	1	13	15	13	14	12	14	18	19	17	18	16	18
SG 23-31	0.5	0.4	0.9	1	15	17	14	16	13	15	19	21	18	20	18	19
SG 30-21	0.6	0.6	1.2	1	25	27	23	25	22	24	30	31	28	30	27	29
SG 30-31	1.2	0.6	1.8	1	28	30	26	28	25	27	33	35	31	33	30	32
SG 35-21	0.7	0.8	1.5	1	37	39	35	37	34	36	44	46	42	44	41	43
SG 35-31	1.3	0.8	2.1	1	42	45	39	41	37	39	49	51	46	48	44	46
SG 35-41	2.0	0.8	2.8	1	48	51	44	47	41	44	55	58	51	54	48	51
SG 35-61	2.7	0.8	3.5	1	58	61	51	55	47	51	65	68	58	61	54	58
SG 45-31	2.6	0.9	3.5	1	54	57	49	52	46	49	90	93	85	88	82	85
SG 45-41	2.6	0.9	3.5	1	61	65	54	58	51	54	97	100	90	94	86	90
SG 45-51	3.5	0.9	4.4	1	69	73	60	64	57	61	105	108	96	100	93	97
SG 45-61	4.4	0.9	5.3	1	79	84	69	74	67	71	115	119	105	109	103	107
SG 23-22	0.8	0.8	1.6	1	21	23	20	22	19	21	26	28	25	27	24	26
SG 23-32	0.8	0.8	1.6	1	25	27	23	25	21	23	30	32	27	29	26	28
SG 30-22	1.1	1.0	2.1	1	39	41	36	38	34	37	66	68	63	65	61	63
SG 30-32	2.1	1.0	3.1	1	45	48	41	44	38	41	72	75	68	71	65	68
SG 35-22	1.3	1.3	2.6	1	59	62	55	58	52	55	96	98	91	94	89	91
SG 35-32	2.6	1.3	3.9	1	69	72	62	66	58	62	105	109	99	102	95	98
SG 35-42	3.6	1.3	4.9	1	79	84	70	75	65	70	116	120	107	111	102	106
SG 35-62	4.8	1.3	6.1	1	98	103	85	90	78	82	135	140	122	127	114	119
SG 45-32	4.5	1.6	6.1	1	95	100	85	90	79	84	170	175	160	165	154	159
SG 45-42	4.5	1.6	6.1	1	109	114	96	101	88	93	184	189	171	176	163	168
SG 45-52	6.0	1.6	7.6	1	124	130	107	113	101	107	199	205	182	188	176	182
SG 45-62	7.9	1.6	9.5	1	146	152	125	132	120	127	221	227	200	207	195	202
SG 23-23	1.2	1.1	2.3	1	28	30	25	28	24	26	62	64	59	62	58	60
SG 23-33	1.2	1.1	2.3	1	33	36	29	32	27	30	67	70	63	66	61	64
SG 30-23	1.5	1.5	3.0	1	55	58	50	53	48	51	90	93	86	89	83	86
SG 30-33	3.0	1.5	4.5	1	64	68	58	62	54	58	100	104	93	97	89	93
SG 35-23	1.8	1.8	3.6	1	84	87	77	80	74	76	182	184	175	178	171	174
SG 35-33	3.6	1.8	5.4	1	98	102	88	92	82	86	195	199	186	189	180	184
SG 35-43	5.2	1.8	7.0	1	112	117	99	104	91	96	209	215	196	202	188	194
SG 35-63	7.2	1.8	9.0	1	141	146	121	127	109	115	238	244	219	224	207	213
SG 45-33	6.5	2.2	8.7	1	139	144	124	129	115	120	267	272	251	256	243	248
SG 45-43	6.5	2.2	8.7	1	159	165	138	145	127	134	286	293	266	272	255	261
SG 45-53	8.6	2.2	10.8	1	180	188	154	162	145	153	307	315	282	290	273	280
SG 45-63	10.9	2.2	13.1	1	210	219	179	188	172	181	337	346	307	316	299	308
SG 23-24	1.5	1.5	3.0	1	35	38	32	35	30	33	110	113	107	110	105	108
SG 23-34	1.5	1.5	3.0	1	43	46	38	41	35	38	118	121	113	116	110	113
SG 30-24	1.9	2.0	3.9	1	71	75	66	69	62	66	161	165	156	159	152	156
SG 30-34	3.9	2.0	5.9	1	84	89	76	81	71	75	174	179	166	171	161	165
SG 35-24	2.2	2.3	4.5	1	109	112	100	103	95	98	222	224	213	216	208	211
SG 35-34	4.5	2.3	6.8	1	128	131	114	118	107	111	240	244	227	231	219	223
SG 35-44	6.5	2.3	8.8	1	148	153	131	136	121	125	261	266	243	248	233	238
SG 35-64	9.0	2.3	11.3	1	185	191	159	164	143	149	297	303	271	277	256	261
SG 45-34	7.2	0.7	7.9	1	180	187	159	167	148	156	375	382	354	362	343	351
SG 45-44	10.1	0.7	10.8	1	209	220	182	193	167	178	404	415	377	388	362	373
SG 45-54	11.5	0.7	12.2	1	238	250	205	216	192	204	433	445	400	411	387	399
SG 23-25	1.9	1.8	3.7	1	45	48	40	44	38	41	127	130	123	126	121	124
SG 23-35	1.9	1.8	3.7	1	54	57	47	50	44	47	136	139	130	133	126	129
SG 30-25	2.3	1.2	3.5	1	88	91	80	84	76	79	193	196	185	189	181	184
SG 30-35	4.6	1.2	5.8	1	104	109	93	98	86	91	209	214	198	203	191	196
SG 35-25	4.3	0.7	5.0	1	136	142	125	131	118	124	271	277	260	266	253	259
SG 35-35	5.8	0.7	6.5	1	160	167	144	151	134	141	295	302	279	286	269	276
SG 35-45	8.6	0.7	9.3	1	182	190	160	168	147	156	317	325	295	303	282	291
SG 35-65	11.5	0.7	12.2	1	230	241	197	208	178	189	365	376	332	343	313	324
SG 45-35	9.0	0.9	9.9	1	224	231	198	206	184	192	501	509	476	483	462	469
SG 45-45	12.6	0.9	13.5	1	258	268	227	237	205	215	535	546	504	515	482	493

Subject to modification.

Küba SG *commercial*

Dimensions, drain

Type	Dimensions																		Drain
	H	B	T	L	E_1	E_2	E_3	F	A	W_{min}	W_{Houba}	Ø G	GA	GE_1	GE_2	GE_3	GE_4	GE_5	D
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	inch
SG 23-21	347	760	455	335	480	-	-	140	129	200	290	253	155	380	-	-	-	-	G ¾
SG 23-31	347	760	455	335	480	-	-	140	129	200	290	253	155	380	-	-	-	-	G ¾
SG 30-21	449	960	453	360	620	-	-	170	103	200	340	353	204	480	-	-	-	-	G ¾
SG 30-31	449	960	453	360	620	-	-	170	103	200	340	353	204	480	-	-	-	-	G ¾
SG 35-21	554	1,130	624	515	730	-	-	200	118	300	430	421	253	565	-	-	-	-	G ¾
SG 35-31	554	1,130	624	515	730	-	-	200	118	300	430	421	253	565	-	-	-	-	G ¾
SG 35-41	554	1,130	624	515	730	-	-	200	118	300	430	421	253	565	-	-	-	-	G ¾
SG 35-61	554	1,130	624	515	730	-	-	200	118	300	430	421	253	565	-	-	-	-	G ¾
SG 45-31	652	1,330	662	510	930	-	-	200	162	400	500	550	306	665	-	-	-	-	G ¾
SG 45-41	652	1,330	662	510	930	-	-	200	162	400	500	550	306	665	-	-	-	-	G ¾
SG 45-51	652	1,330	662	510	930	-	-	200	162	400	500	550	306	665	-	-	-	-	G ¾
SG 45-61	652	1,330	662	510	930	-	-	200	162	400	500	550	306	665	-	-	-	-	G ¾
SG 23-22	347	1,210	455	335	930	-	-	140	129	200	290	253	155	830	380	-	-	-	G ¾
SG 23-32	347	1,210	455	335	930	-	-	140	129	200	290	253	155	830	380	-	-	-	G ¾
SG 30-22	449	1,550	453	360	1,210	-	-	170	103	200	340	353	204	1,070	480	-	-	-	G ¾
SG 30-32	449	1,550	453	360	1,210	-	-	170	103	200	340	353	204	1,070	480	-	-	-	G ¾
SG 35-22	554	1,830	624	515	1,430	-	-	200	118	300	430	421	253	1,265	565	-	-	-	G 1¼
SG 35-32	554	1,830	624	515	1,430	-	-	200	118	300	430	421	253	1,265	565	-	-	-	G 1¼
SG 35-42	554	1,830	624	515	1,430	-	-	200	118	300	430	421	253	1,265	565	-	-	-	G 1¼
SG 35-62	554	1,830	624	515	1,430	-	-	200	118	300	430	421	253	1,265	565	-	-	-	G 1¼
SG 45-32	652	2,230	662	510	1,830	-	-	200	162	400	500	550	306	1,565	665	-	-	-	G 1¼
SG 45-42	652	2,230	662	510	1,830	-	-	200	162	400	500	550	306	1,565	665	-	-	-	G 1¼
SG 45-52	652	2,230	662	510	1,830	-	-	200	162	400	500	550	306	1,565	665	-	-	-	G 1¼
SG 45-62	652	2,230	662	510	1,830	-	-	200	162	400	500	550	306	1,565	665	-	-	-	G 1¼
SG 23-23	347	1,660	455	335	1,380	450	-	140	129	200	290	253	155	1,280	380	830	-	-	G ¾
SG 23-33	347	1,660	455	335	1,380	450	-	140	129	200	290	253	155	1,280	380	830	-	-	G ¾
SG 30-23	449	2,140	453	360	1,800	590	-	170	103	200	340	353	204	1,660	480	1,070	-	-	G ¾
SG 30-33	449	2,140	453	360	1,800	590	-	170	103	200	340	353	204	1,660	480	1,070	-	-	G ¾
SG 35-23	554	2,530	624	515	2,130	700	-	200	118	300	430	421	253	1,965	565	1,265	-	-	G 1¼
SG 35-33	554	2,530	624	515	2,130	700	-	200	118	300	430	421	253	1,965	565	1,265	-	-	G 1¼
SG 35-43	554	2,530	624	515	2,130	700	-	200	118	300	430	421	253	1,965	565	1,265	-	-	G 1¼
SG 35-63	554	2,530	624	515	2,130	700	-	200	118	300	430	421	253	1,965	565	1,265	-	-	G 1¼
SG 45-33	652	3,130	662	510	2,730	900	-	200	162	400	500	550	306	2,465	665	1,565	-	-	G 1¼
SG 45-43	652	3,130	662	510	2,730	900	-	200	162	400	500	550	306	2,465	665	1,565	-	-	G 1¼
SG 45-53	652	3,130	662	510	2,730	900	-	200	162	400	500	550	306	2,465	665	1,565	-	-	G 1¼
SG 45-63	652	3,130	662	510	2,730	900	-	200	162	400	500	550	306	2,465	665	1,565	-	-	G 1¼
SG 23-24	347	2,110	455	335	1,830	900	-	140	129	200	290	253	155	1,730	380	830	1,280	-	G ¾
SG 23-34	347	2,110	455	335	1,830	900	-	140	129	200	290	253	155	1,730	380	830	1,280	-	G ¾
SG 30-24	449	2,730	453	360	2,390	1,180	-	170	103	200	340	353	204	2,250	480	1,070	1,660	-	G 1¼
SG 30-34	449	2,730	453	360	2,390	1,180	-	170	103	200	340	353	204	2,250	480	1,070	1,660	-	G 1¼
SG 35-24	554	3,230	624	515	2,830	1,400	-	200	118	300	430	421	253	2,665	565	1,265	1,965	-	G 1¼
SG 35-34	554	3,230	624	515	2,830	1,400	-	200	118	300	430	421	253	2,665	565	1,265	1,965	-	G 1¼
SG 35-44	554	3,230	624	515	2,830	1,400	-	200	118	300	430	421	253	2,665	565	1,265	1,965	-	G 1¼
SG 35-64	554	3,230	624	515	2,830	1,400	-	200	118	300	430	421	253	2,665	565	1,265	1,965	-	G 1¼
SG 45-34	652	4,030	662	510	3,630	1,800	-	200	162	400	500	550	306	3,365	665	1,565	2,465	-	G 1¼
SG 45-44	652	4,030	662	510	3,630	1,800	-	200	162	400	500	550	306	3,365	665	1,565	2,465	-	G 1¼
SG 45-54	652	4,030	662	510	3,630	1,800	-	200	162	400	500	550	306	3,365	665	1,565	2,465	-	G 1¼
SG 23-25	347	2,560	455	335	2,280	900	1,350	140	129	200	290	253	155	2,180	380	830	1,280	1,730	G 1¼
SG 23-35	347	2,560	455	335	2,280	900	1,350	140	129	200	290	253	155	2,180	380	830	1,280	1,730	G 1¼
SG 30-25	449	3,320	453	360	2,980	1,180	1,770	170	103	200	340	353	204	2,840	480	1,070	1,660	2,250	G 1¼
SG 30-35	449	3,320	453	360	2,980	1,180	1,770	170	103	200	340	353	204	2,840	480	1,070	1,660	2,250	G 1¼
SG 35-25	554	3,930	624	515	3,530	1,400	2,100	200	118	300	430	421	253	3,365	565	1,265	1,965	2,665	G 1¼
SG 35-35	554	3,930	624	515	3,530	1,400	2,100	200	118	300	430	421	253	3,365	565	1,265	1,965	2,665	G 1¼
SG 35-45	554	3,930	624	515	3,530	1,400	2,100	200	118	300	430	421	253	3,365	565	1,265	1,965	2,665	G 1¼
SG 35-65	554	3,930	624	515	3,530	1,400	2,100	200	118	300	430	421	253	3,365	565	1,265	1,965	2,665	G 1¼
SG 45-35	652	4,930	662	510	4,530	1,800	2,700	200	162	400	500	550	306	4,265	665	1,565	2,465	3,365	G 1¼
SG 45-45	652	4,930	662	510	4,530	1,800	2,700	200	162	400	500	550	306	4,265	665	1,565	2,465	3,365	G 1¼

Subject to modification.

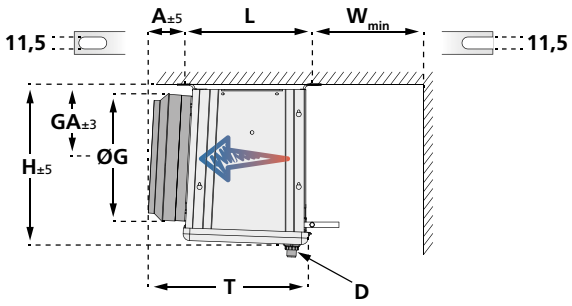
The dimensions are only valid for the standard model design!
Note the differences in dimension among versions and accessories.

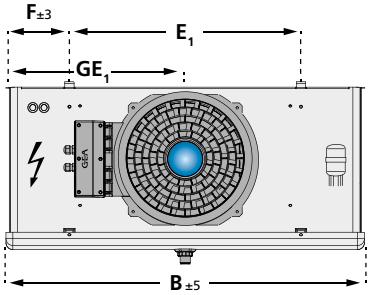
Küba SG *commercial*

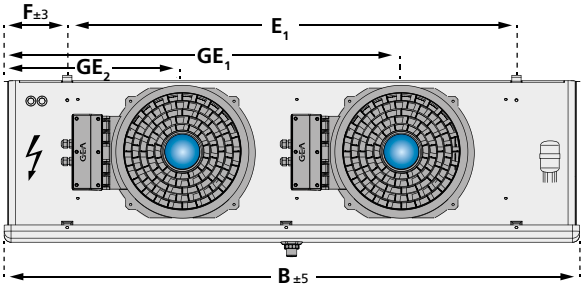
Dimensional drawings

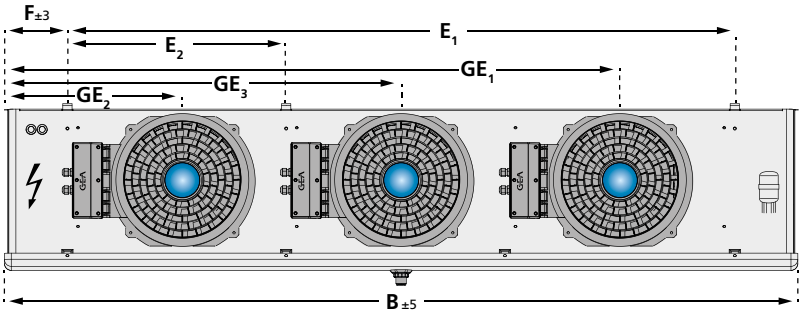
Dimensional drawings for Küba SG *commercial* (1-5 motors)

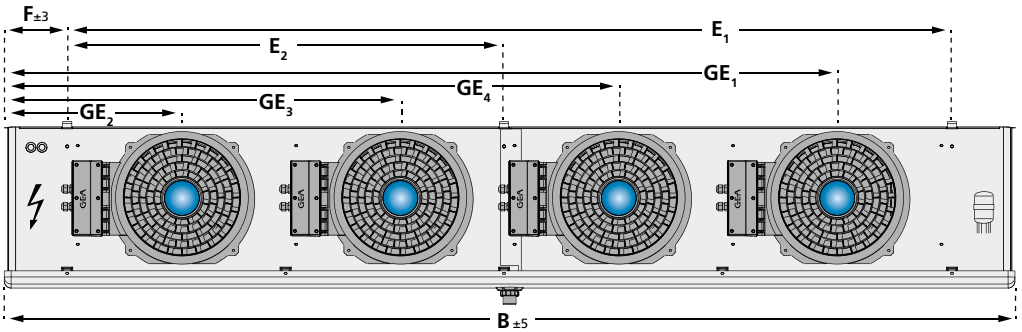
The drawing shows the Küba SG *commercial* with 300 mm fan-blade diameter.

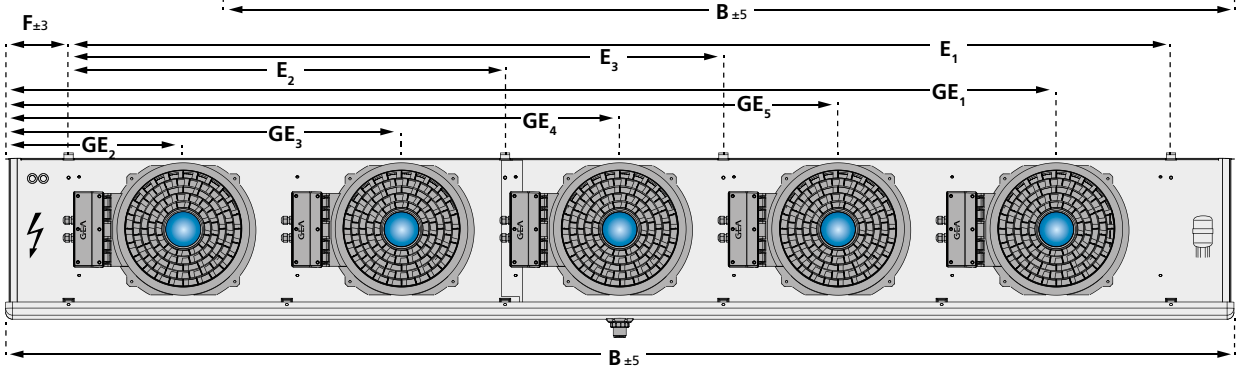












Küba SG *commercial*

Variants

Motor-Variants

V 1.07 Fan guard
Fans with contact safety guard

V 1.50 EC fans with fixed speeds
SP 23: ESM motor with 2 speeds (standard)
from SP 30: EC motor with fixed speed

V 1.52 EC fan with controllable speed
Controllable fan, 0 ... 10 V, for Ø 300, 350, and 450

Protection against corrosion

V 3.12 Stainless steel casing
Special protection from salts (no chlorine) and organic acids in the cold room air

V 6.01 Corrosion protection 1
Tubing: Copper (NH_3 units = stainless steel)
Fins: Aluminum, epoxy-resin-coated
End plates: Aluminum protective coating
Casing: Aluminum/zinc coated steel, protective coating on both sides

V 6.02 Corrosion protection 2
Tubing: Stainless steel (V2A)
Fins: Aluminum, epoxy-resin-coated
End plates: Stainless steel
Casing: Aluminum/zinc coated steel, protective coating on both sides
Stainless steel CAL® distributor upon request

V 6.03 Corrosion protection 3
Tubing: Stainless steel (V2A)
Fins: Aluminum
End plates: Aluminum
Casing: Aluminum/zinc coated steel, protective coating on on one side
Stainless steel CAL® distributor upon request

V 6.04 Corrosion protection 4
Tubing: Copper (NH_3 units = stainless steel)
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.

CO_2-Variants

V 7.10 CO_2-Pump
up to 60 bar operating pressure

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

Defrost-Variants

V 4.01 Hot-gas coil in the drip tray (Cu)
Hot-gas connection on both sides; copper

V 4.02 Hot-gas coil in the drip tray (VA)
Hot-gas connection on both sides; stainless steel

V 4.06 Drip tray with electric heating

V 6.05 Hot gas in heat exchanger and drip tray
Hot-gas circuitry for coolers, without non-return valve

V 6.07 Hot gas in heat exchanger and drip tray
Hot-gas connection in coils; hot-gas coil in the drip tray, with non-return valve

V 6.08 Cold gas in coil and drip tray, copper
Cold-gas connection in coils;
Cold-gas coil in the drip tray, without non-return valve

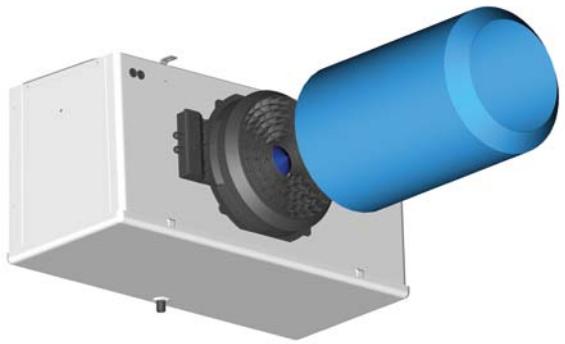
Brine defrost with a separate circuit
Upon request

Recommended for frozen storage:

- Shut-Up®
- Defrost hood
- Wall ring heating
- Double insulated drip tray
- Insulate the top panel on site

Küba Shut-Up®

The Shut-Up® optimises the defrosting procedure, especially in deep-freeze applications. Shut-Up® is suspended over the fan unit, closing the Air Cooler. Hot air cannot escape.

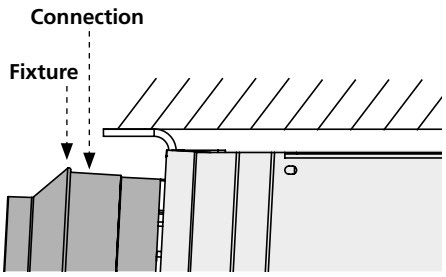


Features and material:

High-tech microfiber, damp-resistant, vapour resistant, tearproof, ultraflexible, UV-resistant, form- and temperature resistant, double stitched, rot-proof, food-safe, polyester/polyamide, washable at 30°C, chemical purification P

Selection table & Dimensions:

	Küba SG *commercial*			Shut-Up®	
Type	Fan blade	Connections	Fixture	Air outlet	Length
	Ø	Ø	Ø	Ø	
	mm	mm	mm	mm	mm
SG 23	230	253	259	149	390
SG 30	300	353	359	254	490
SG 35	350	421	427	344	610
SG 45	450	550	556	430	684



NOTE:

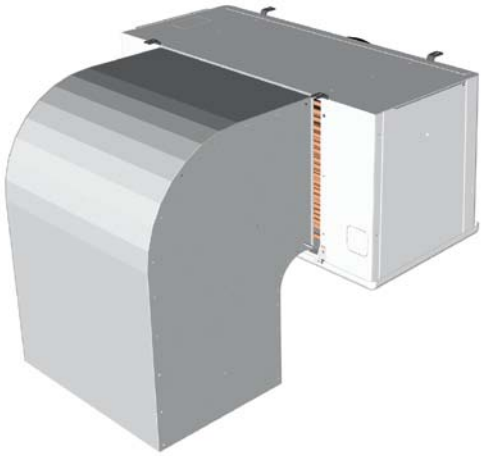
With introducing the new SG commercial, you don't need an additional adapter to install a Shut-Up®.

Due to the additional external pressure, the air quantity and Air Cooler capacity change:
With using Shut-Up®: Air volume reduces by 10% ≙ -5% cooling capacity
With using von Shut-Up® & Defrost hood: Air volume reduces by 20% ≙ -10% cooling capacity
1 Shut-Up® per fan unit required. Delivery not mounted.

Küba Defrost hood

Applications: Frozen storage starting at -18 °C.
Alternating defrosting of the Air Coolers in one room.

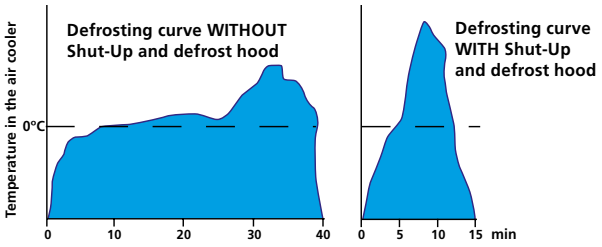
- The casing is made of aluminum, coated (RAL 9018)
- The double wall drip tray has 16 mm of insulation
- The construction is modular, i.e. 1 module per fan
- Delivery not mounted



Advantages (in connection with Shut-Up®):

With the defrost hood and Shut-Up®, a positive accumulation of heat occurs in the Air Cooler during the defrost process. The heat remains in the cooler, which means:

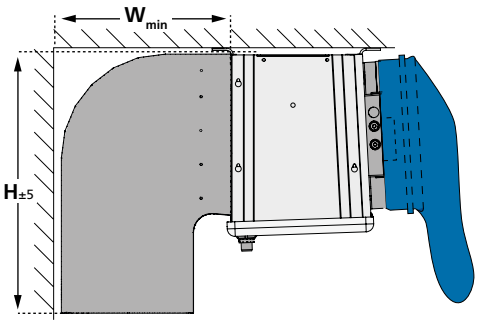
- Defrost times are reduced by more than 50%
- Significant amounts of energy are saved
- No frost build up on the ceiling of the storage room or on the goods due to minimal vapour build-up



Selection table & Dimensions:

Type	Dimensions			Weight
	H	B	W_{Haube}	
	mm	mm	mm	kg
SG 23	665	450	460	9
SG 30	815	590	560	13
SG 35	915	700	660	17
SG 45	1,010	900	810	24

Dimensions per module (1 module per fan)



NOTE:

Due to the additional external pressure, the air quantity and Air Cooler capacity change:
With using Shut-Up®: Air volume reduces by 10% ≙ -5% cooling capacity
With using von Shut-Up® & Defrost hood: Air volume reduces by 20% ≙ -10% cooling capacity
1 Shut-Up® per fan unit required. Delivery not mounted.

Küba wall ring heating WH®

WH® Küba wall ring heating prevents formation of ice between fan blade and the wall ring.

Advantages:

- Maximum energy efficiency, optimal control behavior, and reduced power consumption (up to 87 % less).
- Heat retention in the wall ring, no vapor formation, no overheating.
- Protection from human contact by complete integration of the heating element.

Selection table:

For type	Description	Current	Capacity
		A	W
SG 23	not available		
SG 30	WH 30	0.5	118
SG 35	WH 35	0.9	209
SG 45	WH 45	1.2	266

Delivery:

- Mounted and wired to terminal box
- or unassembled

NOTE:

Küba wall ring heating WH® is only available for SP 30, SP 35, SP 45
1 wall ring heating WH® per fan unit required.

Finned-tube heaters SGHR / SGHRZ

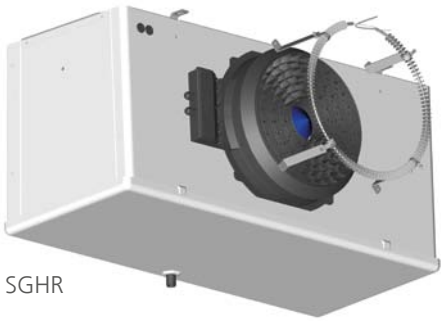
For air coolers with draw-through fans.
For conditioning of room air.

SGHR = Standard design
SGHRZ = Additional heater
SGHR + SGHRZ = Greater heating capacity

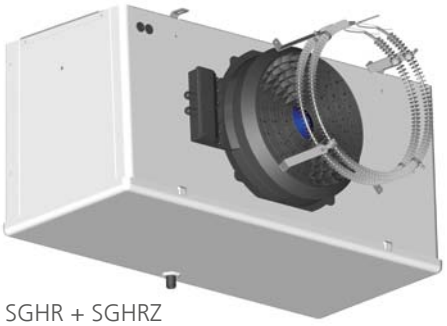
Technical data & Dimensions:

For type	Description	Current [A]				Capacity [kW]			
		L1	L2	L3	Tot.	L1	L2	L3	Tot.
SG 23	SGHR 23	4.3	-	-	**4.3**	1.0	-	-	**1.0**
SG 30	SGHR 30	5.9	-	-	**5.9**	1.3	-	-	**1.3**
SG 35	SGHR 35	7.6	-	-	**7.6**	1.7	-	-	**1.7**
SG 45	SGHR 45	10.7	-	-	**10.7**	2.5	-	-	**2.5**
SG 23	SGHR + SGHR 23 Z	4.3	4.3	-	**8.6**	1.0	1.0	-	**2.0**
SG 30	SGHR + SGHR 30 Z	5.9	5.9	-	**11.8**	1.3	1.3	-	**2.6**
SG 35	SGHR + SGHR 35 Z	7.6	7.6	-	**15.2**	1.7	1.7	-	**3.4**
SG 45	SGHR + SGHR 45 Z	10.7	10.7	-	**21.4**	2.5	2.5	-	**5.0**

Example assembly

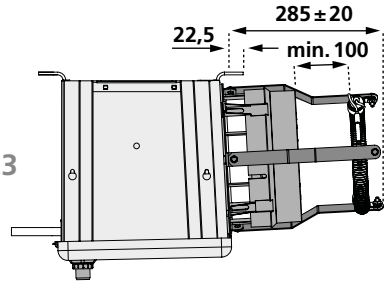


SGHR

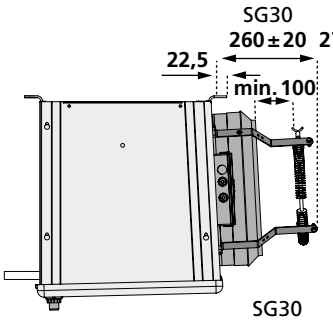


SGHR + SGHRZ

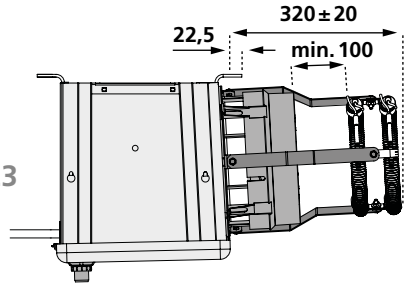
SGHR for SG 23



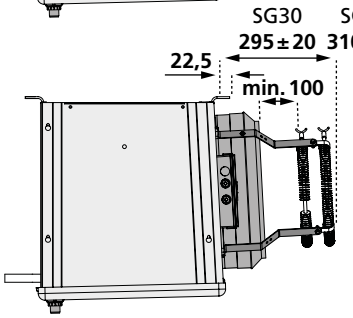
SGHR for SG 30, 35, 45



SGHRZ for SG 23



SGHRZ for SG 30, 35, 45



NOTE:

This unit is operated only when the air-cooler fans are in use, to prevent overheating of the ceiling of the cold room. Be sure to observe the relevant safety instructions. 1 SGHR/Z per fan unit required.

Air Hoses (on site procurement, not available from Küba)

Ventilation can be optimised with textile / PVC air hoses.

- Applications in work rooms and production areas
- Cooled goods that are sensitive to draft (i.e. flowers, ripening cheeses)

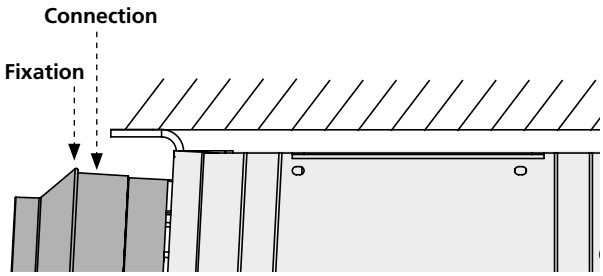
Advantages:

The air hoses make uniform air distribution possible at very low air speeds.

- Working in a draft-free environment yields low illnes rates
- Maximum protection for sensitive cooled goods
- No condensation water: temperatures do not fall below the dew point because air can penetrate the woven material

Dimensions (Connection):

Type	Küba SG *commercial*		
	Fan blade	Connection	Fixation
	Ø	Ø	Ø
	mm	mm	mm
SG 23	230	253	259
SG 30	300	353	359
SG 35	350	421	427
SG 45	450	550	556



NOTE:

With introducing the newest generation of the Küba SG *commercial*, you don't need an adapter to connect a Shut Up or an air hose system. Please take the respective pressure drop for the cooler design into consideration.

We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 index.

GEA Heat Exchangers

GEA Küba GmbH

Kühler Weg 1 · 82065 Baierbrunn · Germany
Tel.: ++49(0)89/744 73-0 · Fax: ++49(0)89/744 73-107
kueba@gea.com · www.kueba.com