
ErP ready
EUROVENT CERTIFIED PERFORMANCE
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GEA
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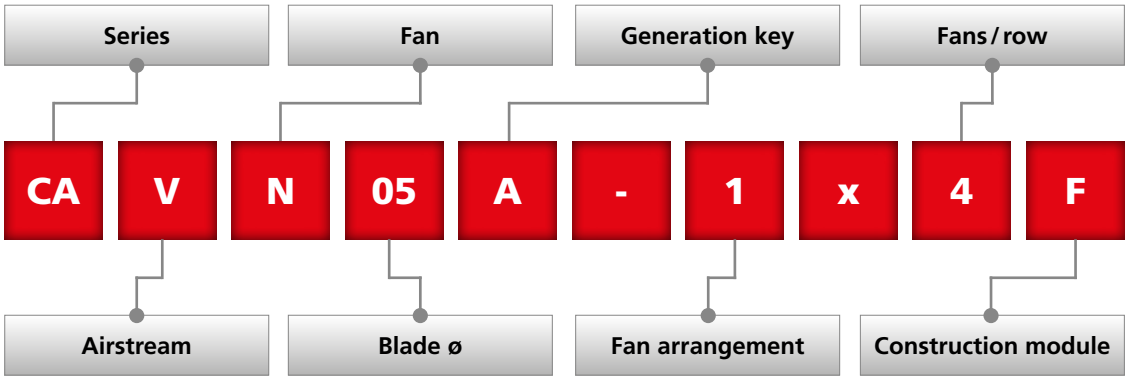
Küba

CAV / H

Construction

Nomenclature



Series:
CA = Frigen
GA = Glykol
NA = NH_3

Airstream:
V = vertical
H = horizontal

Fan:
N = normal
L = quiet
S = very quiet

Blade ø:
05 = 500 mm
06 = 650 mm
08 = 800 mm
09 = 910 mm
10 = 1,000 mm

Generation key:
A, B, C, ...

Fan arrangement:
1 = 1-range
2 = 2-range

Fans/row:
1 = 1 fan/row
2 = 2 fans/row
3 = 3 fans/row
4 = 4 fans/row
5 = 5 fans/row
6 = 6 fans/row
7 = 7 fans/row

Construction module:
F, G = 1,100 mm
H, I = 1,450 mm
A = 1,400 mm
B = 1,700 mm
C = 2,000 mm
D = 2,300 mm

Application

- **Nominal capacity:**
  R404A CA. from 11 to 1,041 kW at Δt=15K (t_{L1} = 25°C, t_c = 40°C)
- **Suitable refrigerants:**
  Frigene (e.g. R134a, R404A, R407C, R507, etc.)
  Calculation see section "Capacity" and in acc. with EDP
  Calculation in acc. with GEA Küba selection software.
- All 828 types are designed for **external installation**.
- **Possible fields of application:**
  - Industrial plants
  - Supermarkets
  - Cold rooms

  The low noise level of the S models allows installation in **noise-sensitive areas** such as:
  - Office complexes
  - Hospitals
  - Residential areas

Sound pressure levels

The sound pressure level L_{PA} indicated is the mean measurement area sound pressure level computed from Sound Power Level L_{WA} upon the parallel piped measuring surface squared around the condenser (reference square) at a distance of 10 m and finishing off upon the reflecting level. The sound pressure levels L_{PA} indicated are for external installations above a reflecting level.
The sound pressure level will increase if reflecting bordering surfaces other than reflecting installation surface exist. Acoustic power is measured using the enveloping surface method in accordance with EN 13487 and/or DIN EN ISO 3741 or DIN EN ISO 3744.
The total acoustic power level is calculated by adding up the total acoustic pressure levels on the sectional measuring surfaces (DIN EN 13487).

Start-up, switching and control noise is ignored. Beat frequencies of up to 3 dB (A) may occur in apparatus with several fans.

Construction

Casing

Self-supporting construction, fan sections individually partitioned.

- Casing and legs from galvanized sheet steel
- Temperature- and UV-radiation resistant powder coating RAL 7032 pebble gray
- Lifting hangers standard

Heat exchanger

Standard tube arrangement lengthwise, staggered, in special copper.

- Material:
  Tubes: Ripple Fin, SF-Cu
  Fins: AL with closed dimpled fins
  Fin spacing: 2.2 mm
- Multi-circuiting possible
- Fluid connections:
  Brazed copper connection vertical
  (can be used with vertical and horizontal airflow)
- maximum allowable pressure PS = 32 bar

Axial fans

Compact unit without external pressure, weather resistent: Motor with fans, Fan guard in accordance with DIN EN ISO 13857 and assembly brackets.

- Fan blades ø 500, 650, 800, 910, 1000 mm, balanced in two levels according to a DIN EN ISO 1940 standard
- Motors, threephase current 400±10%V, 50 Hz, 2 speeds, Δ-Y-connections, Protection:IP 54
- variable speed control by reduction of voltage
- Proof to frequency changes (maximum fan pitch dU/dt=500V/µs; U_{peak}<1000V, f_{max}<60Hz)
- Standard protection of motor by thermocouples
- For outdoor installation and ambient motor temperatures of -30°C up to +60°C
- Please contact Küba for special voltages
- CA. 05 and 06: Fans 230V 1, (no surcharge)
- All fans ErP 2015 compliant

Container type (CCAV/H) and other designs available in our Küba Select selection program!

Power: Δt, R134a, R22, R404A, R407A, R407C, R507

Calculation of Condenser capacity

The condenser capacity is based on a temperature difference Δt = 15 K between the air inlet temperature t_{L1} at the condenser (t_{L1} = 25°C) and the condensing temperature t_C at the condenser inlet (t_C = 40°C) with R404A and is valid only for the standard version.

$$Q_{C(N)} = \frac{Q_C}{F_1 \times F_2 \times F_3}$$

$Q_{C(N)}$ = Nominal capacity condenser (at Δt = 15K, R404A)
Q_C = Condenser capacity
F_1 = Correction factor for refrigerant
F_2 = Correction factor for temperature difference
F_3 = Correction factor for height above sea level

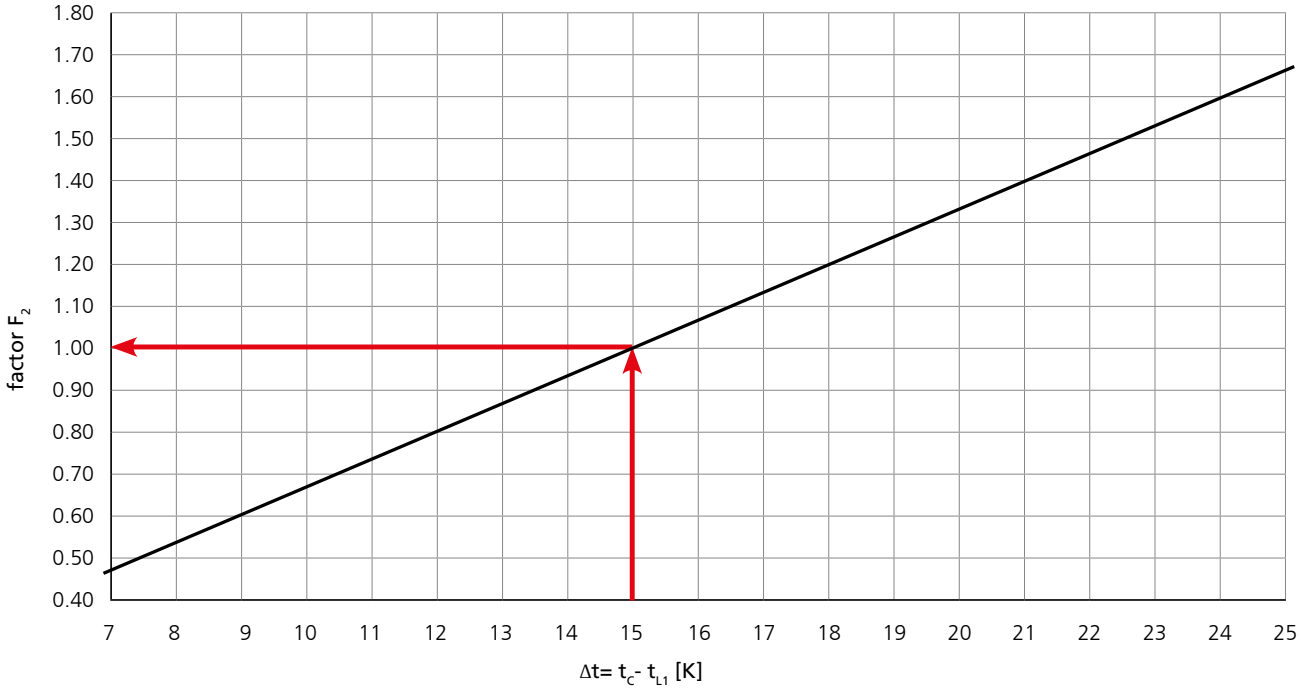
Correction factor for refrigerant (factor F_1)

R 134a	F_1 = 0.93	R 407A	F_1 = 0.83
R 22	F_1 = 0.96	R 407C	F_1 = 0.87
R 404A	F_1 = 1.00	R 507	F_1 = 1.00

Correction factor for height above sea level (factor F_3)

0 ft above sea level F3 = 1.00	4,921 ft above sea level F3 = 0.87
1,640 ft above sea level F3 = 0.96	6,562 ft above sea level F3 = 0.83
3,281 ft above sea level F3 = 0.91	8,202 ft above sea level F3 = 0.80

Correction factor for temperature difference (factor F_2)



t_C = Condensing temperature
t_{L1} = Air inlet temperature

For Δt between 7 K and 25 K:
Capacity at Δt = catalogue capacity * Δt / 15

Fans

Standard construction

CA. 05 - 06
- 400V±10% 3, 50 Hz with speed reduction Δ-Y-change-over
- Protection: IP 54
- Range of application: -30° C bis +60° C

CA. 08 - 10
- 400V±10% 3, 50 Hz with speed reduction Δ-Y-change-over
- Protection: IP 54
- Range of application: -30° C bis +60° C

Module	Fan	Fan blade Ø	N°. Pols	Label data						Operating values per fan					
				n [min^{-1}]		P [W]		I [A]		n [min^{-1}]		P [W]		I [A]	
				Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y
05-	N	500	4	1,330	940	830	550	1.5	1.0	1,360	1,060	680	490	1.3	0.9
	L		4	1,300	1,025	770	490	1.7	0.8	1,320	1,060	660	430	1.6	0.8
	S		6	870	590	290	150	0.7	0.4	900	640	240	140	0.6	0.3
06-	N	650	4	1,380	1,160	2,000	1,450	3.9	2.5	1,400	1,190	1,850	1,390	3.8	2.3
	L		6	950	850	720	530	2.8	1.2	950	870	680	500	2.8	1.1
	S		8	710	630	350	240	1.7	0.6	710	640	340	220	1.6	0.6
08-	N	800	6	890	690	1,800	1,150	3.8	2.2	910	730	1,770	1,210	3.9	2.2
	L		6	900	690	1,400	940	2.7	1.7	890	640	1,380	830	2.8	1.6
	S		12	450	370	270	170	0.8	0.4	450	360	290	180	0.8	0.4
09-	N	900	6	840	660	2,500	1,600	5.0	2.7	850	660	2,850	1,750	5.6	3.0
	L		6	840	630	1,850	1,050	3.8	1.9	860	660	1,650	990	3.6	1.8
	S		8	660	500	900	540	2.1	1.1	670	530	840	530	2.2	1.1
10-	N	1000	6	820	620	2,700	1,600	5.3	2.8	850	650	2,520	1,550	5.1	2.7
	L		8	690	570	1,550	1,150	3.3	2.0	700	590	1,380	1,050	3.2	1.9
	S		10	560	480	940	660	2.9	1.4	570	500	860	600	2.9	1.3

- Fans are rated for continuous operation S1.
  Fan motors have to be operated for at least two hours per month.
- Other motors will change performance and Sound Pressure Levels quoted.
- Operation with frequency converter only possible with sinusoidal filter on all phases.
- According to nameplate, the motors are designed for continuous operation (S1 or S2). This defines the operating conditions and switching frequency pursuant to the DIN EN 60034-1 standard.

Fans

Speed actuator and control operation

Speed control by decrease of the effective voltage

Single-phase and three-phase motors can be speed controlled via voltage reduction. During partial speed, substantial losses occur in the rotor, since slip power is transformed into heat. The voltage decrease can be accomplished by a transformer or by phase control.

When using phase control, the voltage has a greater harmonic content, resulting in additional losses and causing additional heat in the motor.

Depending on installation conditions, the noise level may increase with electronic speed control by voltage reduction through phase angle control. The current may furthermore be higher than given on the nameplate.

Speed control by frequency converters

The standard AC fans are suitable for operation with frequency converters within 30 - 100% of rated motor frequency.
For reduction of peak voltages, speed voltage increase and motor noise (at reduced speed) manufacturers of frequency converters recommend the use of all pole sinus filters.

Axial fans are suited for operation by frequency converters provided the following points are observed:

Sinus filters to ensure sinusoidal supply voltage between phases and between phase and protective earth, as offered by some converter manufacturers, must be fitted between frequency converter and motor.

du/dt filters (also called motor or damping filters) must not be used instead of sinus filters.

When using sinus filters it may be unnecessary to use screened motor supply cables, metal terminal boxes and a second earth wire connection on the motor.

If the operational leakage current of 3.5 mA is exceeded, the earthing requirements as set out in DIN VDE 0160/5.88, Section 6.5.2.1, must be complied with.

Manufacturers instructions must be observed!

Motor Protection

A current-dependent motor protection facility (motor circuitbreaker or bimetal tripping device) is not provided and it must be noted that protection by thermocouples TK should be wired.

Thermocouples are temperature-dependent elements which are insulated such that they are embedded in the windings of the motors. They open an electrical contact as soon as the maximum permissible permanent temperature is exceeded. They should be integrated in the control circuit of contactors in such a way, that in case of failure no automatic reactivation occurs.

Thermocouples fulfil the conditions for protecting devices with electric motor drive (IEC VDE 0730) against overloading.

Sound Data

Sound Power Levels

The A-grade total sound power level L_{WA} has been determined by way of sound measurements in accordance with DIN EN ISO 3744 for one fan.

DIN EN ISO 3744 describes the measuring method with precision class 2 with a standard deviation (acoustic power) of ≤ 2dB.

Sound Pressure Level for several fans at nominal speed rating

Fans per condenser	**2**	**3**	**4**	**5**	**6**	**8**	**10**	**12**	**14**
Increase L_{PA} [dB(A)]	+3	+5	+6	+7	+8	+9	+10	+11	+11

Sound Power Level for one fan at nominal speed rating

Module	Fan	Fan blade Ø	Sound Power Level L_{WA} Δ	Sound Power Level L_{WA} Y	Sound Power Level L_{WA} [dB(A)] at Octave band centre frequnecy f [Hz], A-rated: 63 Hz Δ	63 Hz Y	125 Hz Δ	125 Hz Y	250 Hz Δ	250 Hz Y	500 Hz Δ	500 Hz Y	1 kHz Δ	1 kHz Y	2 kHz Δ	2 kHz Y	4 kHz Δ	4 kHz Y	8 kHz Δ	8 kHz Y	16 kHz Δ	16 kHz Y
05-	N	500	83	77	49	45	71	64	72	66	76	70	79	72	77	72	72	64	62	53	50	39
	L		82	76	49	44	70	63	71	66	75	69	78	72	76	69	71	64	61	53	48	39
	S		72	63	43	48	59	50	63	56	65	58	68	57	65	54	59	46	49	35	36	27
06-	N	650	94	90	54	52	74	69	85	81	86	82	89	85	89	85	86	81	75	69	63	58
	L		84	82	50	48	63	61	75	73	76	74	80	77	79	77	73	70	62	59	52	49
	S		77	74	48	46	64	62	67	64	69	66	72	70	71	68	63	59	53	50	43	40
08-	N	800	85	78	56	60	71	64	75	69	78	72	81	74	77	71	72	65	64	57	53	46
	L		86	78	56	56	70	64	75	65	78	71	81	73	80	73	77	68	68	58	57	47
	S		65	60	44	41	53	48	56	54	60	53	60	54	57	50	49	42	41	35	31	27
09-	N	900	92	85	64	59	74	71	81	74	84	77	87	81	87	80	83	75	75	65	62	53
	L		85	78	56	56	71	65	78	69	79	72	81	73	77	69	72	65	66	58	55	45
	S		79	72	59	50	66	60	71	65	71	65	74	66	70	63	66	59	59	50	46	36
10-	N	1000	87	80	62	54	75	72	80	72	82	74	82	74	79	70	74	65	67	59	55	45
	L		82	77	58	53	73	70	75	72	76	71	76	71	71	66	66	61	60	54	46	40
	S		76	72	55	60	68	64	68	64	70	66	70	66	66	62	60	56	54	48	39	34

Sound pressure correction values L_{PA} for other distances

For other distances, the change in sound pressure measured with the enveloping surface method depends on the dimensions of the equipment.

The sound pressure level L_{PA} can be calculated exactly using the GEA KÜBA Selection Software.

Ø	Number	Distance [in m]	1	2	3	4	5	7	10	15	20	30	50
500	1 to 2 motors	**ΔL_{PA} [in dB (A)]**	+16	+12	+9	+7	+5	+3	0	-3	-6	-9	-14
500	3 to 6 motors	**ΔL_{PA} [in dB (A)]**	+15	+11	+9	+7	+5	+3	0	-3	-6	-9	-13
650	1 to 2 motors	**ΔL_{PA} [in dB (A)]**	+16	+12	+9	+7	+5	+3	0	-3	-6	-9	-13
650	3 to 6 motors	**ΔL_{PA} [in dB (A)]**	+14	+11	+9	+7	+5	+3	0	-3	-6	-9	-13
800	1 to 2 motors	**ΔL_{PA} [in dB (A)]**	+15	+11	+9	+7	+5	+3	0	-3	-6	-9	-13
800	3 to 10 motors	**ΔL_{PA} [in dB (A)]**	+13	+10	+8	+6	+5	+3	0	-3	-5	-9	-13
910	1 to 2 motors	**ΔL_{PA} [in dB (A)]**	+15	+11	+9	+7	+5	+3	0	-3	-6	-9	-13
910	3 to 10 motors	**ΔL_{PA} [in dB (A)]**	+13	+10	+8	+6	+5	+3	0	-3	-5	-9	-13
1,000	1 to 2 motors	**ΔL_{PA} [in dB (A)]**	+14	+11	+8	+7	+5	+3	0	-3	-6	-9	-13
1,000	3 to 10 motors	**ΔL_{PA} [in dB (A)]**	+13	+10	+8	+6	+5	+3	0	-3	-5	-9	-13

The stated correction values ΔL_{PA} are approximate values.

Selection table 1-range (N + L)

CAV / H N ..- 1x ..

Type	Nominal capacity Q_c		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
CA.	Δ	Y	Δ	Y	Δ	Y
N05A-1x1F	19.6	16.4	6,410	4,940	52	45
N05A-1x1G	25.2	20.3	6,020	4,640	52	45
N05A-1x2F	39.5	33.2	12,830	9,880	55	48
N05A-1x2G	50.7	42.2	12,040	9,280	55	48
N05A-1x3F	59.3	49.9	19,240	14,820	57	50
N05A-1x3G	76.3	62.1	18,050	13,920	57	50
N06A-1x1F	36.1	32.7	14,650	12,310	63	59
N06A-1x1G	48.3	42.1	12,700	10,600	63	59
N06A-1x1H	41.4	37.6	15,430	13,170	63	59
N06A-1x1I	54.3	48.8	13,670	11,960	62	58
N06A-1x2F	72.6	65.7	29,300	24,630	66	62
N06A-1x2G	96.7	84.2	25,390	21,190	65	61
N06A-1x2H	84.1	76.2	30,860	26,340	66	62
N06A-1x2I	109.2	98.2	27,340	23,910	65	61
N06A-1x3F	108.7	98.4	43,950	36,940	68	64
N06A-1x3G	145.3	126.6	38,090	31,790	67	63
N06A-1x3H	126.2	114.5	46,290	39,510	68	64
N06A-1x3I	163.8	147.3	41,020	35,870	67	63
N08A-1x1A	64.1	52.9	16,500	12,900	52	46
N08A-1x1B	71.6	57.9	18,100	13,850	52	46
N08A-1x1C	77.0	62.5	18,900	14,630	52	46
N08A-1x2A	128.4	105.8	33,000	25,790	54	49
N08A-1x2B	144.6	116.8	36,200	27,700	54	49
N08A-1x2C	154.1	125.1	37,790	29,250	54	49
N08A-1x3A	192.6	158.8	49,500	38,690	56	51
N08A-1x3B	217.0	175.2	54,290	41,540	56	51
N08A-1x3C	232.6	188.8	56,690	43,880	56	51
N08A-1x4A	257.7	212.7	66,000	51,580	57	52
N08A-1x4B	286.5	231.6	72,390	55,390	57	52
N08A-1x4C	308.3	250.2	75,580	58,510	57	52
N08A-1x5A	319.3	263.4	82,510	64,480	58	53
N08A-1x5B	360.5	291.0	90,490	69,240	57	52
N08A-1x5C	387.3	314.1	94,480	73,140	57	52

CAV / H L ..- 1x ..

Type	Nominal capacity Q_c		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
CA.	Δ	Y	Δ	Y	Δ	Y
L05A-1x1F	19.3	16.6	6,260	5,030	50	44
L05A-1x1G	24.6	20.4	5,840	4,680	50	44
L05A-1x2F	38.9	33.6	12,510	10,050	53	47
L05A-1x2G	49.5	42.2	11,680	9,350	53	47
L05A-1x3F	58.4	50.5	18,770	15,080	55	49
L05A-1x3G	74.4	62.4	17,520	14,030	55	49
L06A-1x1F	28.5	26.8	9,820	8,900	53	51
L06A-1x1G	34.9	32.0	8,360	7,530	53	51
L06A-1x1H	32.0	30.1	10,250	9,350	53	51
L06A-1x1I	40.4	37.1	9,470	8,570	52	50
L06A-1x2F	57.2	53.7	19,630	17,790	56	54
L06A-1x2G	69.7	64.0	16,720	15,050	55	53
L06A-1x2H	64.9	61.0	20,500	18,700	56	54
L06A-1x2I	81.1	74.6	18,940	17,140	55	53
L06A-1x3F	85.8	80.7	29,450	26,690	58	56
L06A-1x3G	104.9	96.2	25,080	22,580	57	55
L06A-1x3H	97.4	91.6	30,750	28,050	58	56
L06A-1x3I	121.7	111.9	28,400	25,700	57	55
L08A-1x1A	61.0	46.1	15,470	10,890	53	46
L08A-1x1B	67.7	51.5	16,840	12,010	53	46
L08A-1x1C	73.7	56.0	17,880	12,830	53	46
L08A-1x2A	122.2	92.2	30,940	21,770	56	49
L08A-1x2B	136.7	103.7	33,690	24,020	56	49
L08A-1x2C	147.5	112.0	35,760	25,660	56	49
L08A-1x3A	183.3	138.3	46,410	32,660	58	51
L08A-1x3B	205.1	155.6	50,530	36,030	58	51
L08A-1x3C	222.5	162.0	53,640	38,480	58	51
L08A-1x4A	245.3	185.3	61,880	43,540	59	52
L08A-1x4B	270.8	205.9	67,380	48,040	59	52
L08A-1x4C	295.0	224.1	71,520	51,310	59	52
L08A-1x5A	303.8	229.6	77,350	54,430	60	53
L08A-1x5B	340.7	258.6	84,220	60,050	59	52
L08A-1x5C	370.4	270.4	89,400	64,140	59	52

CA. N + L

Number of Circuits	Surface	Tube volume	Weight
x	[m²]	[dm³]	[kg]
4	42	6.8	86
8	84	13.5	97
6	84	13.3	116
12	167	26.6	158
8	125	19.9	172
16	251	39.6	228
4	55	9.2	128
8	110	18.3	150
8	73	12.0	142
13	146	23.8	176
8	110	18.4	208
16	221	35.8	255
11	146	23.8	242
21	291	47.0	299
11	166	27.3	300
21	331	53.3	370
16	218	35.5	357
32	437	70.5	418
12	158	25.9	290
18	191	31.5	320
18	225	36.7	340
24	315	51.2	500
24	383	61.7	570
36	450	72.1	620
36	473	76.6	730
36	574	92.4	840
36	675	108.1	920
36	630	102.2	970
72	765	123.0	1,110
72	901	144.0	1,220
72	788	126.5	1,180
72	957	154.3	1,340
72	1,126	180.5	1,480

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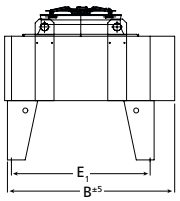
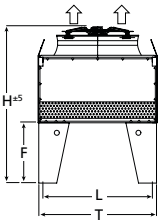
Nominal capacity Q_c: R404A; Δt=15K; t_{L1}= 25°C; t_c=40°C
Sound pressure: Enveloping surface method, in acc. with DIN EN ISO 13487
Δ: Valid at high rpm
Y: Valid at low rpm

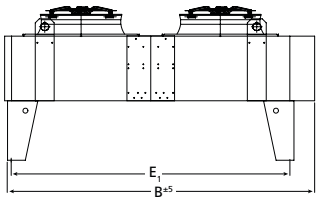
Container type (CCAV/H) and other designs available in our GEA Küba Select selection program!

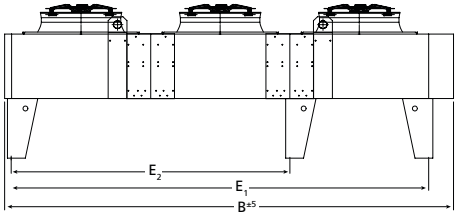
Dimensions 1-range (CAV)

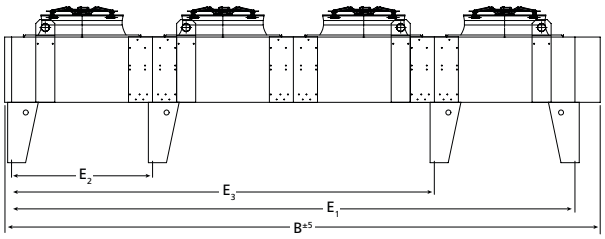
Type	CAV..-1x..: Dimensions [mm]							
CA.	H	B	E_1	E_2	E_3	F	T	L
05A-1x1F	1,000	1,410	960	-	-	500	900	850
05A-1x1G	1,000	1,410	960	-	-	500	900	850
05A-1x2F	1,000	2,512	2,062	-	-	500	900	850
05A-1x2G	1,000	2,512	2,062	-	-	500	900	850
05A-1x3F	1,000	3,613	3,163	1,102	-	500	900	850
05A-1x3G	1,000	3,613	3,163	1,102	-	500	900	850
06A-1x1F	1,030	1,410	960	-	-	500	1,153	1,103
06A-1x1H	1,030	1,760	1,310	-	-	500	1,153	1,103
06A-1x1G	1,030	1,410	960	-	-	500	1,153	1,103
06A-1x1I	1,030	1,760	1,310	-	-	500	1,153	1,103
06A-1x2F	1,030	2,512	2,062	-	-	500	1,153	1,103
06A-1x2H	1,030	3,212	2,762	-	-	500	1,153	1,103
06A-1x2G	1,030	2,512	2,062	-	-	500	1,153	1,103
06A-1x2I	1,030	3,212	2,762	-	-	500	1,153	1,103
06A-1x3F	1,030	3,613	3,163	1,102	-	500	1,153	1,103
06A-1x3H	1,030	4,663	4,213	1,452	-	500	1,153	1,103
06A-1x3G	1,030	3,613	3,163	1,102	-	500	1,153	1,103
06A-1x3I	1,030	4,663	4,213	1,452	-	500	1,153	1,103
08A-1x1A	1,555	1,730	1,403	-	-	600	1,190	1,098
08A-1x1B	1,555	2,030	1,703	-	-	600	1,190	1,098
08A-1x1C	1,555	2,330	2,003	-	-	600	1,190	1,098
08A-1x2A	1,555	3,130	2,805	-	-	600	1,190	1,098
08A-1x2B	1,555	3,730	3,405	-	-	600	1,190	1,098
08A-1x2C	1,555	4,335	4,005	-	-	600	1,190	1,098
08A-1x3A	1,555	4,535	4,206	2,803	-	600	1,190	1,098
08A-1x3B	1,555	5,435	5,106	3,403	-	600	1,190	1,098
08A-1x3C	1,555	6,335	6,006	4,002	-	600	1,190	1,098
08A-1x4A	1,555	5,935	5,608	1,402	4,205	600	1,190	1,098
08A-1x4B	1,555	7,135	6,808	1,702	5,105	600	1,190	1,098
08A-1x4C	1,555	8,335	8,008	2,002	6,005	600	1,190	1,098
08A-1x5A	1,555	7,335	7,009	2,805	4,205	600	1,190	1,098
08A-1x5B	1,555	8,835	8,509	3,403	5,105	600	1,190	1,098
08A-1x5C	1,555	10,335	10,004	4,003	6,005	600	1,190	1,098
09A-1x1A	1,570	1,730	1,403	-	-	600	1,190	1,098
09A-1x1B	1,570	2,030	1,703	-	-	600	1,190	1,098
09A-1x1C	1,570	2,330	2,003	-	-	600	1,190	1,098
09A-1x1D	1,820	2,630	2,303	-	-	600	1,190	1,098
09A-1x2A	1,570	3,130	2,805	-	-	600	1,190	1,098
09A-1x2B	1,570	3,730	3,405	-	-	600	1,190	1,098
09A-1x2C	1,570	4,335	4,005	-	-	600	1,190	1,098
09A-1x2D	1,820	4,930	4,605	-	-	600	1,190	1,098
09A-1x3A	1,570	4,535	4,206	2,803	-	600	1,190	1,098
09A-1x3B	1,570	5,435	5,106	3,403	-	600	1,190	1,098
09A-1x3C	1,570	6,335	6,006	4,002	-	600	1,190	1,098
09A-1x3D	1,820	7,235	6,906	4,603	-	600	1,190	1,098
09A-1x4A	1,570	5,935	5,608	1,402	4,205	600	1,190	1,098
09A-1x4B	1,570	7,135	6,808	1,702	5,105	600	1,190	1,098
09A-1x4C	1,570	8,335	8,008	2,002	6,005	600	1,190	1,098
09A-1x4D	1,820	9,535	9,208	2,302	6,905	600	1,190	1,098
09A-1x5A	1,570	7,335	7,009	2,805	4,205	600	1,190	1,098
09A-1x5B	1,570	8,835	8,509	3,403	5,105	600	1,190	1,098
09A-1x5C	1,570	10,335	10,004	4,003	6,005	600	1,190	1,098
10A-1x1B	1,830	2,030	1,703	-	-	850	1,635	1,543
10A-1x1C	1,830	2,330	2,003	-	-	850	1,635	1,543
10A-1x1D	1,830	2,630	2,303	-	-	850	1,635	1,543
10A-1x2B	1,830	3,730	3,405	-	-	850	1,635	1,543
10A-1x2C	1,830	4,330	4,005	-	-	850	1,635	1,543
10A-1x2D	1,830	4,930	4,605	-	-	850	1,635	1,543
10A-1x3B	1,830	5,435	5,106	3,403	-	850	1,635	1,543
10A-1x3C	1,830	6,335	6,006	4,003	-	850	1,635	1,543
10A-1x3D	1,830	7,235	6,906	4,603	-	850	1,635	1,543
10A-1x4B	1,830	7,135	6,805	1,702	5,105	850	1,635	1,543
10A-1x4C	1,830	8,335	8,008	2,002	6,005	850	1,635	1,543
10A-1x4D	1,830	9,535	9,109	2,302	6,905	850	1,635	1,543
10A-1x5B	1,830	8,835	8,509	3,402	5,105	850	1,635	1,543
10A-1x5C	1,830	10,335	10,004	4,003	6,005	850	1,635	1,543



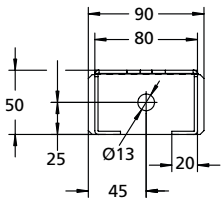








Feet CAV 05/06



Feet CAV 08/09/10