

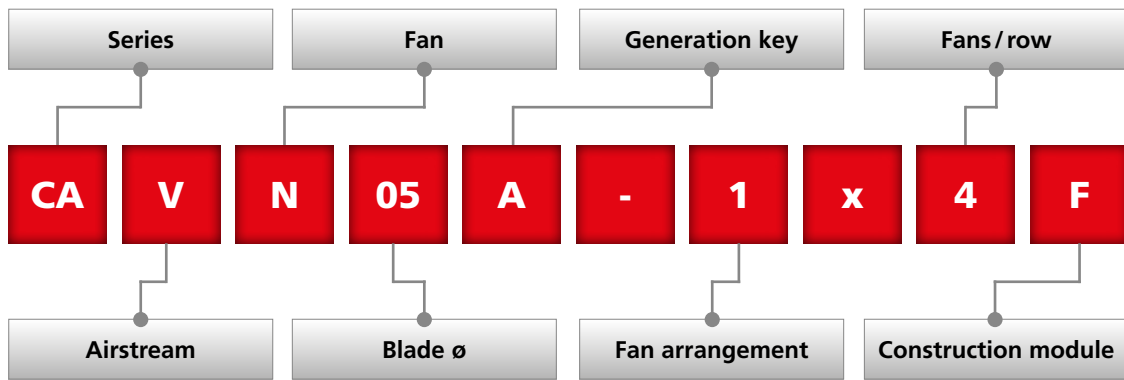


GEA Küba Red Line
Condensers & Dry Coolers

Reliable. Efficient. Silent.

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 $\Delta t=15K$ ($t_{l1} = 25^{\circ}C$, $t_c = 40^{\circ}C$)
- **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 10m 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.

Fans

Standard construction

CA. 05 - 06

- 400V±10% 3, 50 Hz with speed reduction Δ-Y-change-over
- Protection: IP54
- Range of application: -30°C bis +60°C

CA. 08 - 10

- 400V±10% 3, 50 Hz with speed reduction Δ-Y-change-over
- Protection: IP54
- 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.

GEA Küba CAV/H Fans

Selection table 2-range (S)

CAV/H S ..-1x ..							CA. S			
Type	Nominal capacity Q _c		Airflow		Sound pressure L _{PA} =10 m		Number of Circuits	Surface	Tube volume	Weight
	[kW]		[m ³ /h]		[dB(A)]					
CA.	Δ	Y	Δ	Y	Δ	Y	x	[m ²]	[dm ³]	[kg]
S09A-2x1A	98.9	77.6	28,070	20,160	48	41	27	233	39.9	450
S09A-2x1B	112.7	88.9	30,870	22,520	48	41	27	283	48.8	480
S09A-2x1C	121.1	97.9	31,910	24,190	48	41	27	333	56.6	530
S09A-2x1D	129.8	106.5	33,290	25,860	48	41	27	383	64.5	570
S09A-2x2A	200.8	157.1	56,130	40,320	52	45	36	467	76.6	770
S09A-2x2B	227.8	179.6	61,740	45,050	52	45	36	567	93.3	860
S09A-2x2C	242.4	195.8	63,830	48,380	52	45	54	667	109.0	960
S09A-2x2D	259.8	213.0	66,590	51,720	52	45	54	767	124.7	1.044
S09A-2x3A	301.3	235.7	84,200	60,480	54	47	54	700	114.2	1.130
S09A-2x3B	341.8	269.5	92,620	67,570	54	47	54	850	139.9	1.270
S09A-2x3C	365.5	295.6	95,740	72,580	54	47	54	1.000	163.5	1.390
S09A-2x3D	389.9	320.7	99,880	77,580	53	46	54	1.150	187.1	1.512
S09A-2x4A	402.8	315.8	112,260	80,640	55	48	54	933	153.0	1.530
S09A-2x4B	451.1	355.9	123,490	90,100	54	47	108	1.134	184.3	1.750
S09A-2x4C	484.8	391.6	127,660	96,770	54	47	108	1.334	215.8	1.900
S09A-2x4D	519.6	426.1	133,180	103,440	54	47	108	1.534	249.3	2.070
S09A-2x5A	499.3	390.9	140,330	100,800	55	48	108	1.167	189.5	1.850
S09A-2x5B	568.0	447.5	154,360	112,620	55	48	108	1.417	231.0	2.100
S09A-2x5C	609.1	491.8	159,570	120,960	55	48	108	1.667	270.3	2.300
S09A-2x6A	602.9	471.5	168,400	120,960	56	49	108	1.400	228.4	2.220
S09A-2x6B	683.8	539.0	185,230	135,140	56	49	108	1.700	275.5	2.520
S09A-2x7A	705.4	552.0	196,460	141,120	57	50	108	1.634	265.1	2.590
S10A-2x1B	117.6	107.0	32,730	28,760	46	43	27	283	48.8	480
S10A-2x1C	132.1	116.7	35,870	30,390	46	43	27	333	56.6	530
S10A-2x1D	142.4	128.7	37,630	32,930	46	43	27	383	64.5	570
S10A-2x2B	237.6	216.2	65,460	57,520	49	46	36	567	93.3	860
S10A-2x2C	264.3	233.6	71,740	60,780	49	46	54	667	109.0	960
S10A-2x2D	285.0	257.6	75,260	65,860	49	46	54	767	124.7	1.044
S10A-2x3B	356.5	324.4	98,190	86,280	51	48	54	850	139.9	1.270
S10A-2x3C	398.1	352.4	107,610	91,170	51	48	54	1.000	163.5	1.390
S10A-2x3D	424.0	383.4	112,890	98,790	50	47	108	1.150	186.9	1.512
S10A-2x4B	470.6	428.2	130,920	115,040	51	48	108	1.134	184.3	1.850
S10A-2x4C	528.8	467.2	143,480	121,560	51	48	108	1.334	217.9	1.900
S10A-2x4D	570.1	515.3	150,520	131,720	51	48	108	1.534	249.3	2.070
S10A-2x5B	592.7	539.0	163,650	143,800	52	49	108	1.417	231.0	2.100
S10A-2x5C	664.2	587.0	179,350	151,950	52	49	108	1.667	270.3	2.300
S10A-2x6B	713.4	649.1	196,380	172,560	53	50	108	1.700	278.6	2.520

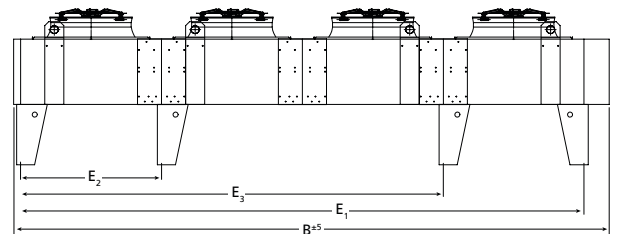
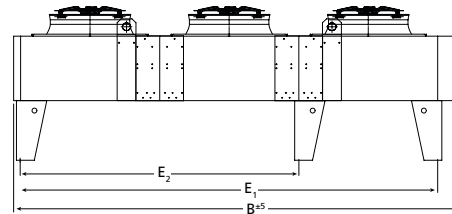
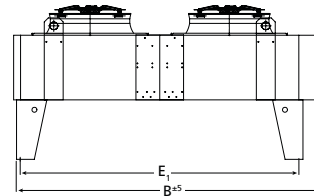
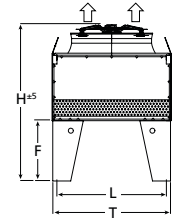
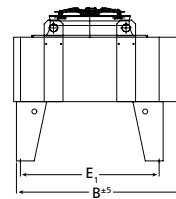
Nominal capacity Q_c: R404A; Δt=15K; t_i= 25°C; t_e=40°C
 Sound pressure: Enveloping surface method, in acc. with DIN EN ISO 13487
 Δ: Valid at high rpm
 Y: Valid at low rpm

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

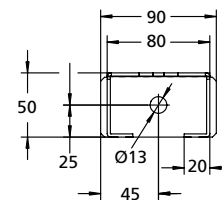
Dimensions 2-range (CAV)

 GEA Küba CAV/H
Dimensions 2-range

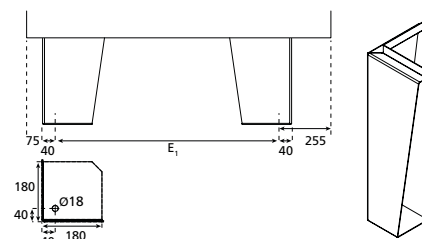
Type	CAV..-2x...: Dimensions [mm]									
	CA.	H	B	E ₁	E ₂	E ₃	E ₄	F	T	L
05A-2x1F	1,000	1,410	960	-	-	-	-	500	1,702	1,652
05A-2x1G	1,000	1,410	960	-	-	-	-	500	1,702	1,652
05A-2x2F	1,000	2,512	2,062	-	-	-	-	500	1,702	1,652
05A-2x2G	1,000	2,512	2,062	-	-	-	-	500	1,702	1,652
05A-2x3F	1,000	3,613	3,163	1,102	-	-	-	500	1,702	1,652
05A-2x3G	1,000	3,613	3,163	1,102	-	-	-	500	1,702	1,652
06A-2x1F	1,030	1,410	960	-	-	-	-	500	2,210	2,160
06A-2x1H	1,030	1,760	1,310	-	-	-	-	500	2,210	2,160
06A-2x1G	1,030	1,410	960	-	-	-	-	500	2,210	2,160
06A-2x1I	1,030	1,760	1,310	-	-	-	-	500	2,210	2,160
06A-2x2F	1,030	2,512	2,062	-	-	-	-	500	2,210	2,160
06A-2x2H	1,030	3,212	2,762	-	-	-	-	500	2,210	2,160
06A-2x2G	1,030	2,512	2,062	-	-	-	-	500	2,210	2,160
06A-2x2I	1,030	3,212	2,762	-	-	-	-	500	2,210	2,160
06A-2x3F	1,030	3,613	3,163	1,102	-	-	-	500	2,210	2,160
06A-2x3H	1,030	4,663	4,213	1,452	-	-	-	500	2,210	2,160
06A-2x3G	1,030	3,613	3,163	1,102	-	-	-	500	2,210	2,160
06A-2x3I	1,030	4,663	4,213	1,452	-	-	-	500	2,210	2,160
08A-2x1A	1,805	1,730	1,403	-	-	-	-	850	2,365	2,273
08A-2x1B	1,805	2,030	1,703	-	-	-	-	850	2,365	2,273
08A-2x1C	1,805	2,330	2,003	-	-	-	-	850	2,365	2,273
08A-2x2A	1,805	3,130	2,805	-	-	-	-	850	2,365	2,273
08A-2x2B	1,805	3,730	3,405	-	-	-	-	850	2,365	2,273
08A-2x2C	1,805	4,335	4,005	-	-	-	-	850	2,365	2,273
08A-2x3A	1,805	4,535	4,206	2,803	-	-	-	850	2,365	2,273
08A-2x3B	1,805	5,435	5,106	3,403	-	-	-	850	2,365	2,273
08A-2x3C	1,805	6,335	6,006	4,002	-	-	-	850	2,365	2,273
08A-2x4A	1,955	5,935	5,608	1,402	4,205	-	-	1,000	2,365	2,273
08A-2x4B	1,955	7,135	6,808	1,702	5,105	-	-	1,000	2,365	2,273
08A-2x4C	1,955	8,335	8,008	2,002	6,005	-	-	1,000	2,365	2,273
08A-2x5A	1,955	7,335	7,009	2,805	4,205	-	-	1,000	2,365	2,273
08A-2x5B	1,955	8,835	8,509	3,403	5,105	-	-	1,000	2,365	2,273
08A-2x5C	1,955	10,335	10,004	4,003	6,005	-	-	1,000	2,365	2,273
08A-2x6A	1,955	8,738	8,411	2,803	5,606	-	-	1,000	2,365	2,273
08A-2x6B	1,955	10,536	10,209	3,403	6,805	-	-	1,000	2,365	2,273
08A-2x7A	1,955	10,139	9,812	2,803	4,205	7,008	-	1,000	2,365	2,273
09A-2x1A	1,820	1,730	1,403	-	-	-	-	850	2,365	2,273
09A-2x1B	1,820	2,030	1,703	-	-	-	-	850	2,365	2,273
09A-2x1C	1,820	2,330	2,003	-	-	-	-	850	2,365	2,273
09A-2x1D	1,820	2,630	2,303	-	-	-	-	850	2,365	2,273
09A-2x2A	1,820	3,130	2,805	-	-	-	-	850	2,365	2,273
09A-2x2B	1,820	3,730	3,405	-	-	-	-	850	2,365	2,273
09A-2x2C	1,820	4,335	4,005	-	-	-	-	850	2,365	2,273
09A-2x2D	1,820	4,930	4,605	-	-	-	-	850	2,365	2,273
09A-2x3A	1,820	4,535	4,206	2,803	-	-	-	850	2,365	2,273
09A-2x3B	1,820	5,435	5,106	3,403	-	-	-	850	2,365	2,273
09A-2x3C	1,820	6,335	6,006	4,002	-	-	-	850	2,365	2,273
09A-2x3D	1,820	7,235	6,906	4,603	-	-	-	850	2,365	2,273
09A-2x4A	1,970	5,935	5,608	1,402	4,205	-	-	1,000	2,365	2,273
09A-2x4B	1,970	7,135	6,808	1,702	5,105	-	-	1,000	2,365	2,273
09A-2x4C	1,970	8,335	8,008	2,002	6,005	-	-	1,000	2,365	2,273
09A-2x4D	1,970	9,535	9,208	2,302	6,905	-	-	1,000	2,365	2,273
09A-2x5A	1,970	7,335	7,009	2,805	4,205	-	-	1,000	2,365	2,273
09A-2x5B	1,970	8,835	8,509	3,403	5,105	-	-	1,000	2,365	2,273
09A-2x5C	1,970	10,335	10,004	4,003	6,005	-	-	1,000	2,365	2,273
09A-2x6A	1,970	8,738	8,411	2,803	5,606	-	-	1,000	2,365	2,273
09A-2x6B	1,970	10,536	10,209	3,403	6,805	-	-	1,000	2,365	2,273
09A-2x7A	1,970	10,139	9,812	2,803	4,205	7,008	-	1,000	2,365	2,273
10A-2x1B	1,830	2,030	1,703	-	-	-	-	850	2,365	2,273
10A-2x1C	1,830	2,330	2,003	-	-	-	-	850	2,365	2,273
10A-2x1D	1,830	2,630	2,303	-	-	-	-	850	2,365	2,273
10A-2x2B	1,830	3,730	3,405	-	-	-	-	850	2,365	2,273
10A-2x2C	1,830	4,330	4,005	-	-	-	-	850	2,365	2,273
10A-2x2D	1,830	4,930	4,605	-	-	-	-	850	2,365	2,273
10A-2x3B	1,830	5,435	5,106	3,403	-	-	-	850	2,365	2,273
10A-2x3C	1,830	6,335	6,006	4,003	-	-	-	850	2,365	2,273
10A-2x3D	1,830	7,235	6,906	4,603	-	-	-	850	2,365	2,273
10A-2x4B	1,980	7,135	6,805	1,702	5,105	-	-	1,000	2,365	2,273
10A-2x4C	1,980	8,335	8,008	2,002	6,005	-	-	1,000	2,365	2,273
10A-2x4D	1,980	9,535	9,109	2,302	6,905	-	-	1,000	2,365	2,273
10A-2x5B	1,980	8,835	8,509	3,402	5,105	-	-	1,000	2,365	2,273
10A-2x5C	1,980	10,335	10,004	4,003	6,005	-	-	1,000	2,365	2,273
10A-2x6B	1,980	10,536	10,209	3,403	6,805	-	-	1,000	2,365	2,273



Feet CAV 05/06



Feet CAV 08/09/10





We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global mechanical 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

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