GEA Küba Red Line

Condensers & Dry Coolers

Reliable. Efficient. Silent.

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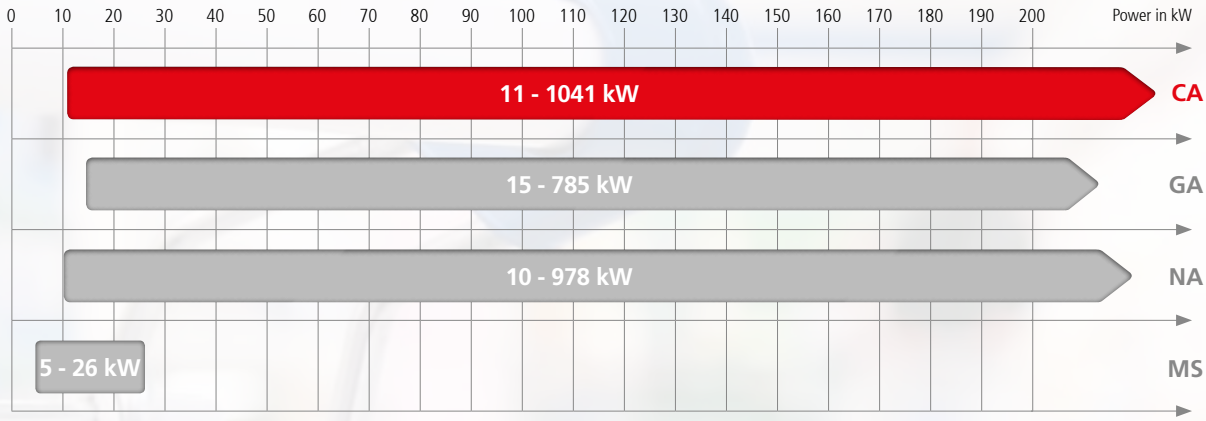
GEA Küba

NAV MS

Red Line

GEA Küba **Red Line** CAV/H

Power range



Application areas

The GEA Küba CAV/H is used among other as a component of the refrigeration system in areas such as:

Industrial plants

Cold rooms

Hospitals

Note

Ensure when installing the equipment that there is neither external air resistance nor air backflow.
Technical changes reserved!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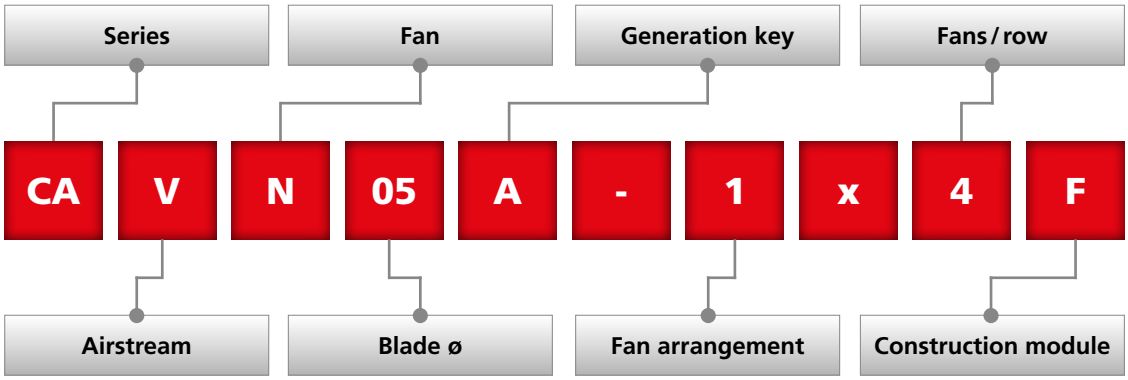
CAV / H

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

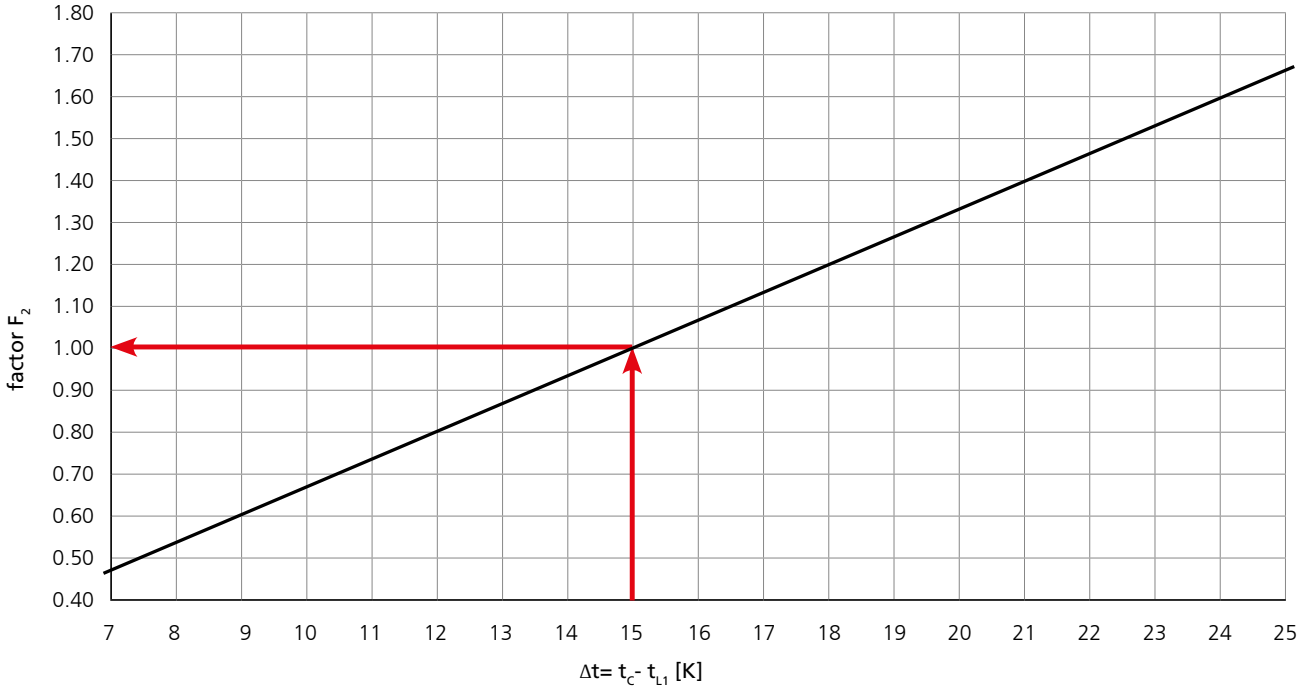
Correction factor for refrigerant (factor F_1)

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}		Sound Power Level L_{WA} [dB(A)] at Octave band centre frequnecy f [Hz], A-rated																	
					63 Hz		125 Hz		250 Hz		500 Hz		1 kHz		2 kHz		4 kHz		8 kHz		16 kHz	
			Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	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

Continued on next page

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!

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
N09A-1x1A	74.4	59.5	20,140	14,970	60	53
N09A-1x1B	83.5	67.9	22,170	16,910	60	53
N09A-1x1C	92.3	74.8	23,820	18,200	60	53
N09A-1x1D	99.6	81.3	25,130	19,460	60	53
N09A-1x2A	149.1	119.1	40,290	29,930	62	55
N09A-1x2B	168.7	137.1	44,330	33,810	62	55
N09A-1x2C	184.7	149.6	47,650	36,400	62	55
N09A-1x2D	199.4	162.7	50,260	38,930	62	55
N09A-1x3A	223.7	178.6	60,430	44,900	64	57
N09A-1x3B	253.2	205.7	66,500	50,720	64	57
N09A-1x3C	278.0	225.7	71,470	54,600	64	57
N09A-1x3D	298.4	244.7	75,390	58,390	64	57
N09A-1x4A	298.5	239.1	80,580	59,860	65	58
N09A-1x4B	334.4	271.6	88,660	67,620	65	58
N09A-1x4C	369.5	299.2	95,290	72,800	65	58
N09A-1x4D	398.9	325.5	100,520	77,860	64	57
N09A-1x5A	370.8	296.1	100,720	74,830	66	59
N09A-1x5B	421.1	341.7	110,830	84,530	65	58
N09A-1x5C	464.0	375.8	119,120	91,000	65	58
N10A-1x1B	104.5	83.8	26,700	20,160	55	47
N10A-1x1C	112.8	92.8	28,130	22,080	55	47
N10A-1x1D	121.1	102.2	29,570	24,000	55	47
N10A-1x2B	207.8	166.6	53,390	40,320	58	50
N10A-1x2C	225.6	185.7	56,270	44,160	58	50
N10A-1x2D	242.4	204.5	59,140	48,000	58	50
N10A-1x3B	314.8	252.3	80,090	60,480	60	52
N10A-1x3C	340.3	280.4	84,400	66,240	60	52
N10A-1x3D	360.9	304.8	88,710	72,000	60	52
N10A-1x4B	415.6	333.3	106,780	80,640	61	53
N10A-1x4C	451.2	371.5	112,530	88,320	60	52
N10A-1x4D	484.9	409.0	118,280	96,000	60	52
N10A-1x5B	523.2	419.0	133,480	100,800	61	53
N10A-1x5C	566.9	466.5	140,670	110,400	61	53

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
L09A-1x1A	66.4	52.5	17,270	12,780	53	45
L09A-1x1B	76.6	59.7	19,770	14,380	53	45
L09A-1x1C	85.3	65.7	21,500	15,530	53	45
L09A-1x1D	91.7	71.0	22,610	16,510	53	45
L09A-1x2A	132.9	105.1	34,550	25,560	55	47
L09A-1x2B	154.8	120.4	39,540	28,750	55	47
L09A-1x2C	170.6	131.5	42,990	31,060	55	47
L09A-1x2D	183.5	142.0	45,220	33,020	55	47
L09A-1x3A	199.5	157.6	51,820	38,340	57	49
L09A-1x3B	232.3	180.6	59,310	43,130	57	49
L09A-1x3C	257.2	198.4	64,490	46,590	57	49
L09A-1x3D	275.3	213.8	67,820	49,530	57	49
L09A-1x4A	266.7	211.2	69,100	51,120	58	50
L09A-1x4B	306.7	238.7	79,080	57,500	58	50
L09A-1x4C	341.3	263.0	85,990	62,120	58	50
L09A-1x4D	367.1	284.1	90,430	66,040	57	49
L09A-1x5A	330.6	261.5	86,370	63,900	59	51
L09A-1x5B	386.0	300.0	98,850	71,880	58	50
L09A-1x5C	428.7	330.2	107,490	77,650	58	50
L10A-1x1B	88.2	76.4	21,500	18,030	49	45
L10A-1x1C	95.0	81.6	22,700	18,910	49	45
L10A-1x1D	101.8	88.9	23,890	20,230	49	45
L10A-1x2B	175.5	152.1	43,010	36,050	52	48
L10A-1x2C	190.0	163.3	45,400	37,810	52	48
L10A-1x2D	203.7	178.0	47,790	40,450	52	48
L10A-1x3B	265.7	230.2	64,510	54,080	54	50
L10A-1x3C	286.8	246.4	68,100	56,720	54	50
L10A-1x3D	303.7	264.3	71,680	60,680	54	50
L10A-1x4B	351.0	304.3	86,020	72,110	55	51
L10A-1x4C	380.0	326.6	90,800	75,630	54	50
L10A-1x4D	407.5	356.1	95,570	80,900	54	50
L10A-1x5B	441.4	382.4	107,520	90,140	55	51
L10A-1x5C	477.2	409.9	113,500	94,540	55	51

CA. N + L

Number of Circuits	Surface	Tube volume	Weight
x	[m²]	[dm³]	[kg]
12	158	26.3	290
18	191	31.5	320
18	225	36.7	340
18	259	42.0	384
24	315	51.2	500
24	383	62.7	570
36	450	73.2	620
36	518	83.6	701
36	473	76.6	730
36	574	92.4	840
36	675	109.2	920
36	777	124.9	1,040
36	630	102.2	970
72	765	123.0	1,110
72	901	145.5	1,220
72	1,036	166.5	1,379
72	788	128.0	1,180
72	957	154.3	1,340
72	1,126	180.5	1,480
20	264	43.8	380
25	310	51.0	420
25	357	58.3	460
50	528	87.0	690
50	621	101.6	760
50	714	116.2	850
50	792	126.9	1,020
50	931	148.7	1,120
100	1,071	170.4	1,240
100	1,056	169.4	1,350
100	1,242	198.6	1,480
100	1,428	227.7	1,650
100	1,319	210.7	1,610
100	1,552	247.1	1,850

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!

Selection table 1-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]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
CA.	Δ	Y	Δ	Y	Δ	Y				
S05A-1x1F	14.6	11.1	4,160	2,880	40	30	4	42	6.8	86
S05A-1x1G	16.8	12.8	3,890	2,740	40	30	8	84	13.4	97
S05A-1x2F	29.4	22.4	8,330	5,750	43	34	6	84	13.3	116
S05A-1x2G	33.9	25.7	7,780	5,470	43	34	12	167	26.4	158
S05A-1x3F	44.3	33.7	12,490	8,630	45	36	8	125	19.9	172
S05A-1x3G	51.5	38.5	11,670	8,210	45	36	16	251	39.4	228
S06A-1x1F	23.4	21.5	7,230	6,390	45	43	4	55	9.1	128
S06A-1x1G	27.2	24.9	6,120	5,470	45	43	8	110	18.0	150
S06A-1x1H	26.2	23.8	7,650	6,650	45	43	8	73	11.8	142
S06A-1x1I	33.0	27.9	7,170	6,300	44	42	13	146	23.4	176
S06A-1x2F	46.9	43.1	14,460	12,770	49	46	8	110	18.0	208
S06A-1x2G	55.8	49.2	12,250	10,940	48	45	16	221	35.4	255
S06A-1x2H	53.1	48.1	15,300	13,300	49	46	11	146	23.4	242
S06A-1x2I	66.2	56.7	14,340	12,590	48	45	21	291	46.3	299
S06A-1x3F	70.4	64.8	21,680	19,160	51	48	11	166	26.6	300
S06A-1x3G	83.2	72.5	18,370	16,410	50	47	21	331	52.8	370
S06A-1x3H	79.8	72.2	22,950	19,950	51	48	16	218	34.7	357
S06A-1x3I	98.0	83.2	21,510	18,890	50	47	32	437	69.1	418
S08A-1x1A	34.4	28.0	8,460	6,570	33	27	9	118	19.3	270
S08A-1x1B	37.9	30.7	9,050	6,930	33	27	9	144	23.2	290
S08A-1x1C	40.5	32.6	9,450	7,270	33	27	9	169	27.2	320
S08A-1x2A	68.8	56.1	16,910	13,140	36	30	18	236	38.3	460
S08A-1x2B	75.8	61.5	18,110	13,860	36	30	18	287	46.2	520
S08A-1x2C	81.0	63.4	18,910	14,550	36	30	18	338	54.0	570
S08A-1x3A	103.3	84.1	25,370	19,710	38	32	27	355	56.6	680
S08A-1x3B	113.7	92.3	27,160	20,790	38	32	27	431	68.9	770
S08A-1x3C	121.5	95.4	28,360	21,820	38	32	27	507	80.7	840
S08A-1x4A	138.3	112.6	33,820	26,280	39	33	27	473	75.5	890
S08A-1x4B	150.4	120.7	36,210	27,720	39	33	54	574	91.1	1,020
S08A-1x4C	161.1	128.7	37,820	29,100	39	33	54	675	107.9	1,120
S08A-1x5A	171.3	139.8	42,280	32,860	40	34	54	591	94.8	1,090
S08A-1x5B	188.9	151.4	45,270	34,660	39	33	54	718	114.4	1,240
S08A-1x5C	202.1	167.7	47,270	36,370	39	33	54	844	134.1	1,360

Continued on next page

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!

Selection table 1-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]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
CA.	Δ	Y	Δ	Y	Δ	Y				
S09A-1x1A	50.5	39.5	14,030	10,080	46	39	9	118	19.6	270
S09A-1x1B	57.2	45.1	15,440	11,260	46	39	9	144	23.5	290
S09A-1x1C	60.3	48.8	15,960	12,100	46	39	18	169	27.4	320
S09A-1x1D	64.8	53.2	16,650	12,930	46	39	18	194	31.4	362
S09A-1x2A	101.0	79.0	28,070	20,160	48	41	18	236	38.3	460
S09A-1x2B	114.5	90.2	30,870	22,520	48	41	18	287	46.6	520
S09A-1x2C	121.9	98.3	31,910	24,190	48	41	27	338	54.5	570
S09A-1x2D	130.6	107.0	33,290	25,860	48	41	27	388	62.3	644
S09A-1x3A	151.6	118.5	42,100	30,240	50	43	27	355	57.1	680
S09A-1x3B	171.9	135.4	46,310	33,790	50	43	27	431	69.9	770
S09A-1x3C	183.7	148.4	47,870	36,290	50	43	27	507	81.7	840
S09A-1x3D	195.9	161.0	49,940	38,790	50	43	27	583	93.5	949
S09A-1x4A	202.6	158.7	56,130	40,320	51	44	27	473	76.5	890
S09A-1x4B	226.9	178.8	61,740	45,050	51	44	54	574	92.1	1.020
S09A-1x4C	243.8	196.7	63,830	48,380	51	44	54	675	107.9	1.120
S09A-1x4D	261.2	214.0	66,590	51,720	50	43	54	777	124.7	1.266
S09A-1x5A	251.3	196.5	70,170	50,400	52	45	54	591	94.8	1.090
S09A-1x5B	285.7	224.9	77,180	56,310	51	44	54	718	115.5	1.240
S09A-1x5C	306.2	247.0	79,790	60,480	51	44	54	844	135.1	1.360
S10A-1x1B	70.4	63.5	18,350	16,050	43	40	15	198	33.2	350
S10A-1x1C	77.5	67.9	19,700	16,650	43	40	15	233	38.7	380
S10A-1x1D	81.4	73.3	20,390	17,840	43	40	25	268	44.1	410
S10A-1x2B	141.3	127.5	36,700	32,110	46	43	25	396	64.8	610
S10A-1x2C	154.3	135.3	39,400	33,300	46	43	37	466	75.7	680
S10A-1x2D	164.0	147.5	40,780	35,670	46	43	37	536	88.0	750
S10A-1x3B	212.0	191.4	55,050	48,160	48	45	37	594	97.1	910
S10A-1x3C	232.8	204.2	59,110	49,950	48	45	37	699	113.5	995
S10A-1x3D	244.3	219.8	61,170	53,510	48	45	75	803	129.8	1,100
S10A-1x4B	279.8	252.7	73,400	64,220	49	46	75	792	126.6	1,210
S10A-1x4C	308.6	270.6	78,810	66,600	48	45	75	931	149.8	1,340
S10A-1x4D	328.0	294.9	81,560	71,350	48	45	75	1.071	171.7	1,450
S10A-1x5B	352.2	317.8	91,750	80,270	49	46	75	990	158.9	1,460
S10A-1x5C	387.7	339.7	98,510	83,250	49	46	75	1.164	186.2	1,610

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!

Selection table 2-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-2x1F	38.7	32.5	12,830	9,880	55	48
N05A-2x1G	50.1	40.4	12,040	9,280	55	48
N05A-2x2F	78.1	65.7	25,660	19,760	57	50
N05A-2x2G	100.9	81.4	24,070	18,560	57	50
N05A-2x3F	117.3	98.8	38,480	29,650	58	51
N05A-2x3G	151.6	117.4	36,110	27,840	58	51
N06A-2x1F	71.5	64.8	29,300	24,630	66	62
N06A-2x1G	95.9	83.6	25,390	21,190	65	61
N06A-2x1H	82.1	74.4	30,860	26,340	66	62
N06A-2x1I	107.9	97.2	27,340	23,910	65	61
N06A-2x2F	143.8	130.1	58,600	49,260	68	64
N06A-2x2G	192.2	167.5	50,790	42,380	67	63
N06A-2x2H	166.5	151.2	61,720	52,680	68	64
N06A-2x2I	217.1	195.3	54,690	47,830	67	63
N06A-2x3F	214.5	194.5	87,890	73,880	69	65
N06A-2x3G	288.8	251.8	76,180	63,570	68	64
N06A-2x3H	250.0	226.9	92,570	79,020	69	65
N06A-2x3I	325.8	293.1	82,030	71,740	68	64
N08A-2x1A	127.6	105.3	33,000	25,790	54	49
N08A-2x1B	142.5	115.3	36,200	27,700	54	49
N08A-2x1C	153.4	124.6	37,790	29,250	54	49
N08A-2x2A	255.4	210.7	66,000	51,580	56	51
N08A-2x2B	287.8	232.6	72,390	55,390	56	51
N08A-2x2C	306.9	249.3	75,580	58,510	56	51
N08A-2x3A	383.2	316.2	99,010	77,380	59	54
N08A-2x3B	431.9	348.9	108,590	83,090	59	54
N08A-2x3C	463.1	376.3	113,380	87,760	59	54
N08A-2x4A	512.8	423.6	132,010	103,170	60	56
N08A-2x4B	570.0	461.2	144,780	110,780	59	55
N08A-2x4C	613.8	498.6	151,170	117,020	59	55
N08A-2x5A	635.1	524.4	165,010	128,960	60	56
N08A-2x5B	717.5	579.7	180,980	138,480	60	56
N08A-2x5C	771.1	625.9	188,960	146,270	60	56
N08A-2x6A	766.6	632.4	198,010	154,750	61	57
N08A-2x6B	864.0	698.0	217,180	166,180	61	57
N08A-2x7A	993.1	817.7	264,540	204,780	62	58

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-2x1F	38.1	32.9	12,510	10,050	53	47
L05A-2x1G	48.9	40.7	11,680	9,350	53	47
L05A-2x2F	76.9	66.5	25,020	20,100	55	49
L05A-2x2G	98.4	81.8	23,360	18,710	55	49
L05A-2x3F	115.4	99.9	37,540	30,160	56	50
L05A-2x3G	148.0	124.1	35,040	28,060	56	50
L06A-2x1F	56.5	53.1	19,630	17,790	56	54
L06A-2x1G	69.4	63.7	16,720	15,050	55	53
L06A-2x1H	63.4	59.6	20,500	18,700	56	54
L06A-2x1I	80.4	74.0	18,940	17,140	55	53
L06A-2x2F	113.3	106.5	39,270	35,590	58	56
L06A-2x2G	138.8	127.4	33,440	30,100	57	55
L06A-2x2H	128.8	121.1	41,000	37,400	58	56
L06A-2x2I	161.5	148.6	37,870	34,270	57	55
L06A-2x3F	170.0	159.9	58,900	53,380	59	57
L06A-2x3G	208.7	191.5	50,160	45,160	58	56
L06A-2x3H	193.2	181.7	61,500	56,100	59	57
L06A-2x3I	242.4	222.9	56,810	51,410	58	56
L08A-2x1A	121.4	91.8	30,940	21,770	56	49
L08A-2x1B	134.7	102.6	33,690	24,020	56	49
L08A-2x1C	146.8	111.6	35,760	25,660	56	49
L08A-2x2A	243.1	183.7	61,880	43,540	58	51
L08A-2x2B	272.1	206.7	67,380	48,040	58	51
L08A-2x2C	293.6	223.3	71,520	51,310	58	51
L08A-2x3A	364.7	275.6	92,810	65,320	61	54
L08A-2x3B	408.3	310.1	101,060	72,050	61	54
L08A-2x3C	443.2	324.3	107,280	76,970	61	54
L08A-2x4A	488.2	369.2	123,750	87,090	62	56
L08A-2x4B	539.0	410.3	134,750	96,070	61	55
L08A-2x4C	587.3	446.6	143,040	102,620	61	55
L08A-2x5A	604.5	457.4	154,690	108,860	62	56
L08A-2x5B	678.3	515.3	168,440	120,090	62	56
L08A-2x5C	737.7	560.8	178,800	128,280	62	56
L08A-2x6A	729.6	551.3	185,630	130,630	63	57
L08A-2x6B	816.9	620.4	202,130	144,110	63	57
L08A-2x7A	953.2	737.1	250,320	179,590	64	58

CA. N + L

Number of Circuits	Surface	Tube volume	Weight
x	[m²]	[dm³]	[kg]
8	82	13.9	154
16	164	27.5	176
12	164	27.6	283
24	328	53.6	327
16	246	41.0	412
32	492	79.9	478
8	109	19.7	199
16	218	37.4	247
16	143	25.1	238
26	287	49.1	300
16	218	37.6	365
32	435	74.2	456
21	287	50.3	443
43	574	95.9	561
21	327	56.5	537
43	653	106.5	677
32	430	72.8	648
64	861	140.9	832
24	311	53.5	480
36	378	64.0	530
36	445	74.4	580
48	622	102.4	860
48	756	123.4	960
72	889	144.3	1,060
72	933	153.3	1,240
72	1,134	184.8	1,400
72	1,334	216.2	1,590
72	1,245	204.4	1,680
144	1,511	246.1	1,800
144	1,778	288.0	2,100
144	1,556	253.1	2,050
144	1,889	305.5	2,300
144	2,223	361.0	2,490
144	1,867	305.0	2,460
144	2,267	367.9	2,760
144	2,178	354.0	2,870

Continued on next page

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!

Selection table 2-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
N09A-2x1A	148.0	118.4	40,290	29,930	62	55
N09A-2x1B	166.1	135.1	44,330	33,810	62	55
N09A-2x1C	183.6	148.9	47,650	36,400	62	55
N09A-2x1D	198.3	162.0	50,260	38,930	62	55
N09A-2x2A	296.4	236.9	80,580	59,860	66	59
N09A-2x2B	335.6	272.9	88,660	67,620	66	59
N09A-2x2C	367.4	297.8	95,290	72,800	66	59
N09A-2x2D	396.8	324.1	100,520	77,860	66	59
N09A-2x3A	444.8	355.5	120,860	89,800	68	61
N09A-2x3B	503.6	409.5	133,000	101,440	68	61
N09A-2x3C	553.2	449.5	142,940	109,190	68	61
N09A-2x3D	590.4	482.8	150,780	116,780	67	60
N09A-2x4A	593.6	476.0	161,150	119,730	69	62
N09A-2x4B	664.9	540.6	177,330	135,250	68	61
N09A-2x4C	735.0	595.7	190,580	145,590	68	61
N09A-2x4D	793.9	648.3	201,040	155,710	68	61
N09A-2x5A	737.0	589.3	201,440	149,660	69	62
N09A-2x5B	837.5	680.2	221,660	169,060	69	62
N09A-2x5C	923.1	748.3	238,230	181,990	69	62
N09A-2x6A	889.9	711.1	241,730	179,590	70	63
N09A-2x6B	1.007.8	819.2	265,990	202,870	70	63
N09A-2x7A	1.040.7	832.4	282,020	209,520	71	64
N10A-2x1B	175.7	142.0	47,820	36,050	58	50
N10A-2x1C	194.4	161.3	51,390	40,270	58	50
N10A-2x1D	211.6	179.7	54,700	44,310	58	50
N10A-2x2B	351.5	284.1	95,630	72,100	61	53
N10A-2x2C	389.0	322.6	102,780	80,540	61	53
N10A-2x2D	423.4	359.6	109,400	88,620	61	53
N10A-2x3B	532.4	430.5	143,450	108,150	63	55
N10A-2x3C	585.0	486.7	154,170	120,810	63	55
N10A-2x3D	629.9	535.2	164,100	132,930	62	54
N10A-2x4B	703.2	568.3	191,260	144,200	63	55
N10A-2x4C	778.2	645.4	205,560	161,080	63	55
N10A-2x4D	847.1	719.2	218,800	177,240	63	55
N10A-2x5B	885.8	715.2	239,080	180,250	64	56
N10A-2x5C	977.1	810.7	256,950	201,350	64	56
N10A-2x6B	1.065.4	861.3	286,890	216,300	65	57

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
L09A-2x1A	132.1	104.6	34,550	25,560	55	47
L09A-2x1B	152.4	118.8	39,540	28,750	55	47
L09A-2x1C	169.7	130.9	42,990	31,060	55	47
L09A-2x1D	182.6	141.5	45,220	33,020	55	47
L09A-2x2A	264.4	209.2	69,100	51,120	59	51
L09A-2x2B	308.0	239.8	79,080	57,500	59	51
L09A-2x2C	339.5	261.9	85,990	62,120	59	51
L09A-2x2D	365.4	283.0	90,430	66,040	59	51
L09A-2x3A	396.7	313.9	103,640	76,670	61	53
L09A-2x3B	462.2	359.8	118,610	86,260	61	53
L09A-2x3C	511.9	395.4	128,980	93,180	61	53
L09A-2x3D	543.8	422.1	135,650	99,070	60	52
L09A-2x4A	530.6	420.5	138,190	102,230	62	54
L09A-2x4B	610.0	475.3	158,150	115,010	61	53
L09A-2x4C	679.2	523.8	171,980	124,240	61	53
L09A-2x4D	730.9	566.1	180,860	132,090	61	53
L09A-2x5A	657.5	520.6	172,740	127,790	62	54
L09A-2x5B	768.1	597.6	197,690	143,760	62	54
L09A-2x5C	853.2	657.7	214,970	155,300	62	54
L09A-2x6A	793.7	627.8	207,290	153,350	63	55
L09A-2x6B	924.7	719.6	237,230	172,510	63	55
L09A-2x7A	928.9	734.9	241,840	178,910	64	56
L10A-2x1B	149.7	130.7	38,630	32,420	52	48
L10A-2x1C	165.1	143.0	41,510	34,620	52	48
L10A-2x1D	179.7	157.0	44,320	37,460	52	48
L10A-2x2B	299.6	261.5	77,260	64,840	55	51
L10A-2x2C	330.4	286.1	83,020	69,240	55	51
L10A-2x2D	359.6	314.1	88,640	74,920	55	51
L10A-2x3B	454.1	396.1	115,890	97,260	57	53
L10A-2x3C	498.3	431.9	124,530	103,860	57	53
L10A-2x3D	535.3	468.0	132,960	112,380	56	52
L10A-2x4B	599.3	523.0	154,520	129,680	57	53
L10A-2x4C	660.9	572.2	166,040	138,480	57	53
L10A-2x4D	719.4	628.3	177,280	149,840	57	53
L10A-2x5B	754.5	658.0	193,150	162,100	58	54
L10A-2x5C	830.2	718.7	207,550	173,100	58	54
L10A-2x6B	908.5	792.5	231,780	194,520	59	55

CA. N + L				
Number of Circuits	**Surface**	**Tube volume**	**Weight**
x	[m²]	[dm³]	[kg]
24	311	53.5	480
36	378	63.0	530
36	445	73.5	580
36	511	84.0	630
48	622	102.4	860
48	756	125.4	960
72	889	146.3	1,060
72	1,022	167.3	1,160
72	933	153.3	1,240
72	1,134	184.8	1,400
72	1,334	218.3	1,590
144	1,534	249.6	1,680
72	1,245	204.4	1,680
144	1,511	246.1	1,800
144	1,778	291.1	2,100
144	2,045	333.0	2,300
144	1,556	256.1	2,050
144	1,889	308.5	2,300
144	2,223	361.0	2,490
144	1,867	305.0	2,460
144	2,267	367.9	2,760
144	2,178	355.1	2,870
36	378	63.0	530
36	445	73.5	580
36	511	84.0	630
72	756	125.4	960
72	889	146.3	1,060
72	1,022	167.3	1,160
72	1,134	184.8	1,510
72	1,334	218.3	1,550
144	1,534	249.6	1,680
144	1,511	246.1	1,850
144	1,778	288.0	2,060
144	2,045	333.0	2,300
144	1,889	308.5	2,310
144	2,223	361.0	2,550
144	2,267	367.9	2,772

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!

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]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
CA.	Δ	Y	Δ	Y	Δ	Y				
S05A-2x1F	28.9	22.1	8,330	5,750	43	34	8	82	13.9	154
S05A-2x1G	34.4	25.7	7,780	5,470	43	34	16	164	27.1	176
S05A-2x2F	58.3	44.5	16,660	11,500	45	36	12	164	27.0	283
S05A-2x2G	70.9	51.3	15,560	10,940	45	36	24	328	53.6	327
S05A-2x3F	87.7	66.8	24,980	17,250	46	37	16	246	40.4	412
S05A-2x3G	108.4	77.0	23,340	16,420	46	37	32	492	79.9	478
S06A-2x1F	46.4	42.7	14,460	12,770	49	46	8	109	19.0	199
S06A-2x1G	53.7	47.0	12,250	10,940	48	45	16	218	36.7	247
S06A-2x1H	52.0	47.2	15,300	13,300	49	46	16	143	24.4	238
S06A-2x1I	65.9	54.9	14,340	12,590	48	45	26	287	47.5	300
S06A-2x2F	93.0	85.5	28,910	25,550	51	48	16	218	36.7	365
S06A-2x2G	107.5	96.1	24,500	21,880	50	47	32	435	71.5	456
S06A-2x2H	105.6	95.6	30,600	26,600	51	48	21	287	47.6	443
S06A-2x2I	129.6	111.0	28,680	25,180	50	47	43	574	94.1	561
S06A-2x3F	139.8	128.6	43,370	38,320	52	49	21	327	54.7	537
S06A-2x3G	158.3	143.3	45,900	39,900	52	49	43	653	106.5	677
S06A-2x3H	145.4	131.1	40,700	35,320	52	49	32	430	70.9	648
S06A-2x3I	197.1	168.4	43,020	37,770	51	48	64	861	140.9	832
S08A-2x1A	67.8	55.5	16,910	13,140	36	30	27	233	39.1	450
S08A-2x1B	74.9	60.1	18,110	13,860	36	30	27	283	47.8	480
S08A-2x1C	80.2	63.8	18,910	14,550	36	30	27	333	55.7	530
S08A-2x2A	137.7	112.2	33,820	26,280	38	32	27	467	77.6	770
S08A-2x2B	151.0	121.0	36,210	27,720	38	32	36	567	93.3	860
S08A-2x2C	161.4	131.1	37,820	29,100	38	32	36	667	108.1	960
S08A-2x3A	206.6	168.5	50,730	39,430	41	35	36	700	113.3	1.130
S08A-2x3B	226.5	181.5	54,320	41,590	41	35	54	850	137.8	1.270
S08A-2x3C	242.1	201.7	56,720	43,640	41	35	54	1.000	161.4	1.390
S08A-2x4A	275.4	224.5	67,640	52,570	43	37	54	933	150.9	1.530
S08A-2x4B	299.6	240.5	72,420	55,450	42	36	108	1.134	182.2	1.750
S08A-2x4C	320.9	260.2	75,630	58,190	42	36	108	1.334	215.8	1.900
S08A-2x5A	341.1	278.4	84,550	65,710	43	37	108	1.167	189.5	1.850
S08A-2x5B	376.3	301.6	90,530	69,310	43	37	108	1.417	228.9	2.100
S08A-2x5C	402.7	331.5	94,540	72,740	43	37	108	1.667	268.2	2.300
S08A-2x6A	411.2	335.3	101,460	78,850	44	38	108	1.400	226.2	2.220
S08A-2x6B	453.0	362.9	108,640	83,170	44	38	108	1.700	273.4	2.520
S08A-2x7A	525.3	426.4	132,360	101,840	45	39	108	1.634	265.1	2.590

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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!

Selection table 2-range (S)

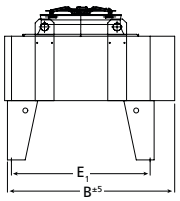
CAV / H S ..-1x ..							CA. S			
Type	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
CA.	Δ	Y	Δ	Y	Δ	Y				
S09A-2x1A	98.9	77.6	28,070	20,160	48	41	27	233	39.9	450
S09A-2x1B	112.7	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

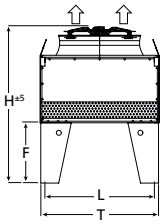
Nominal capacity Q_c: R404A; Δt=15K; t_{L1}= 25°C; t_c=40°C
Sound pressure: Enveloping surface method, in acc. with DIN EN ISO 13487
Δ: Valid at high rpm
Y: Valid at low rpm

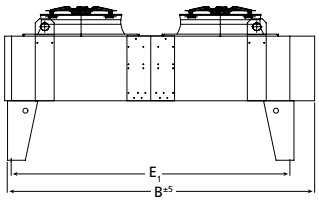
Container type (CCAV/H) and other designs available in our GEA Küba Select selection program!

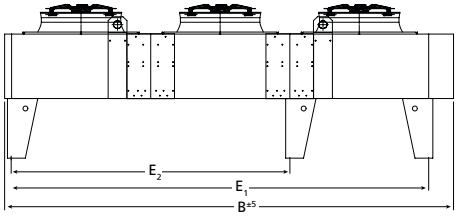
Dimensions 1-range (CAV)

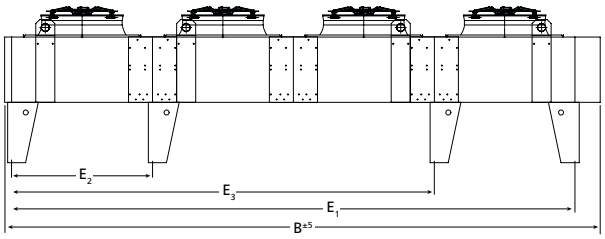
Type	CAV..-1x..: Dimensions [mm]							
CA.	H	B	E_1	E_2	E_3	F	T	L
05A-1x1F	1,000	1,410	960	-	-	500	900	850
05A-1x1G	1,000	1,410	960	-	-	500	900	850
05A-1x2F	1,000	2,512	2,062	-	-	500	900	850
05A-1x2G	1,000	2,512	2,062	-	-	500	900	850
05A-1x3F	1,000	3,613	3,163	1,102	-	500	900	850
05A-1x3G	1,000	3,613	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



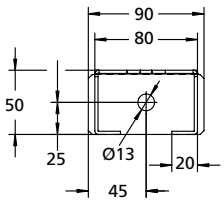




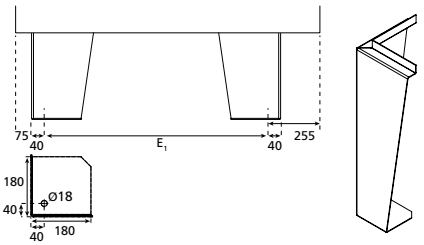




Feet CAV 05/06

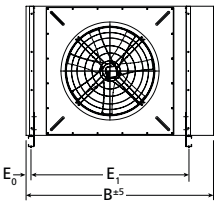


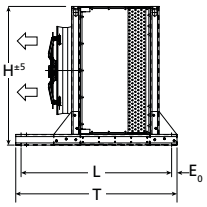
Feet CAV 08/09/10

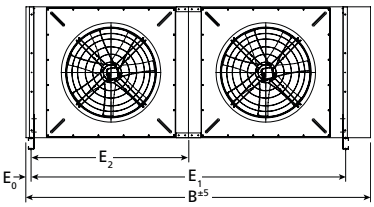


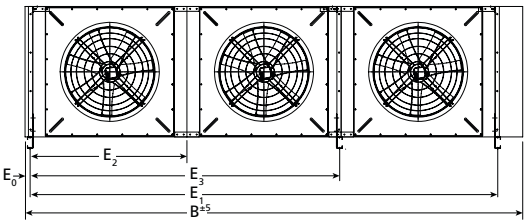
Dimensions 1-range (CAH)

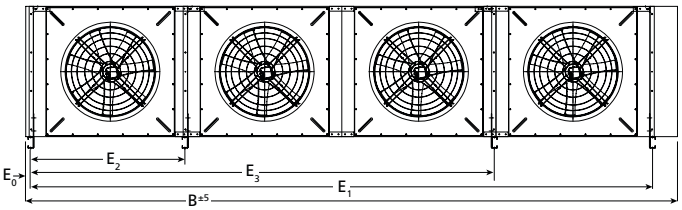
Type	CAH..-1x..: Dimensions [mm]						
CA.	H	B	E_1	E_2	E_3	T	L
05A-1x1F	851	1,410	960	-	-	925	745
05A-1x1G	851	1,410	960	-	-	925	745
05A-1x2F	851	2,512	2,062	960	-	925	745
05A-1x2G	851	2,512	2,062	960	-	925	745
05A-1x3F	851	3,613	3,163	1,102	2,062	925	745
05A-1x3G	851	3,613	3,163	1,102	2,062	925	745
06A-1x1F	1,106	1,410	960	-	-	925	745
06A-1x1H	1,106	1,760	1,310	-	-	925	745
06A-1x1G	1,106	1,410	960	-	-	925	745
06A-1x1I	1,106	1,760	1,310	-	-	925	745
06A-1x2F	1,106	2,512	2,062	960	-	925	745
06A-1x2H	1,106	3,212	2,762	1,310	-	925	745
06A-1x2G	1,106	2,512	2,062	960	-	925	745
06A-1x2I	1,106	3,212	2,762	1,310	-	925	745
06A-1x3F	1,106	3,613	3,163	1,102	2,062	925	745
06A-1x3H	1,106	4,663	4,213	1,452	2,762	925	745
06A-1x3G	1,106	3,613	3,163	1,102	2,062	925	745
06A-1x3I	1,106	4,663	4,213	1,452	2,762	925	745
08A-1x1A	1,290	1,730	1,448	-	-	1,500	1,400
08A-1x1B	1,290	2,030	1,748	-	-	1,500	1,400
08A-1x1C	1,290	2,330	2,048	-	-	1,500	1400
08A-1x2A	1,290	3,130	2,850	-	-	1,500	1,400
08A-1x2B	1,290	3,730	3,450	-	-	1,500	1,400
08A-1x2C	1,290	4,335	4,050	-	-	1,500	1,400
08A-1x3A	1,290	4,535	4,250	2,813	-	1,500	1,400
08A-1x3B	1,290	5,435	5,151	3,413	-	1,500	1,400
08A-1x3C	1,290	6,335	6,051	4,013	-	1,500	1,400
08A-1x4A	1,290	5,935	5,653	1,402	4,215	1,500	1,400
08A-1x4B	1,290	7,135	6,853	1,701	5,115	1,500	1,400
08A-1x4C	1,290	8,335	8,053	2,002	6,015	1,500	1,400
08A-1x5A	1,290	7,335	7,054	2,803	4,215	1,500	1,400
08A-1x5B	1,290	8,835	8,550	3,403	5,115	1,500	1,400
08A-1x5C	1,290	10,335	10,054	4,003	6,015	1,500	1,400
09A-1x1A	1,290	1,730	1,448	-	-	1,500	1,400
09A-1x1B	1,290	2,030	1,748	-	-	1,500	1,400
09A-1x1C	1,290	2,330	2,048	-	-	1,500	1,400
09A-1x1D	1,290	2,630	2,348	-	-	1,500	1,400
09A-1x2A	1,290	3,130	2,850	-	-	1,500	1,400
09A-1x2B	1,290	3,730	3,450	-	-	1,500	1,400
09A-1x2C	1,290	4,335	4,050	-	-	1,500	1,400
09A-1x2D	1,290	4,930	4,650	-	-	1,500	1,400
09A-1x3A	1,290	4,535	4,250	2,813	-	1,500	1,400
09A-1x3B	1,290	5,435	5,151	3,413	-	1,500	1,400
09A-1x3C	1,290	6,335	6,051	4,013	-	1,500	1,400
09A-1x3D	1,290	7,235	6,951	4,613	-	1,500	1,400
09A-1x4A	1,290	5,935	5,653	1,402	4,215	1,500	1,400
09A-1x4B	1,290	7,135	6,853	1,701	5,115	1,500	1,400
09A-1x4C	1,290	8,335	8,053	2,002	6,015	1,500	1,400
09A-1x4D	1,290	9,535	9,253	2,302	6,915	1,500	1,400
09A-1x5A	1,290	7,335	7,054	2,803	4,215	1,500	1,400
09A-1x5B	1,290	8,835	8,550	3,403	5,115	1,500	1,400
09A-1x5C	1,290	10,335	10,054	4,003	6,015	1,500	1,400
10A-1x1B	1,730	2,030	1,748	-	-	1,500	1,400
10A-1x1C	1,730	2,330	2,048	-	-	1,500	1,400
10A-1x1D	1,730	2,630	2,348	-	-	1,500	1,400
10A-1x2B	1,730	3,730	3,450	-	-	1,500	1,400
10A-1x2C	1,730	4,330	4,050	-	-	1,500	1,400
10A-1x2D	1,730	4,930	4,650	-	-	1,500	1,400
10A-1x3B	1,730	5,433	5,151	3,413	-	1,500	1,400
10A-1x3C	1,730	6,333	6,051	4,013	-	1,500	1,400
10A-1x3D	1,730	7,233	6,951	4,613	-	1,500	1,400
10A-1x4B	1,730	7,135	6,853	1,702	5,115	1,500	1,400
10A-1x4C	1,730	8,335	8,053	2,002	6,015	1,500	1,400
10A-1x4D	1,730	9,535	9,253	2,302	6,915	1,500	1,400
10A-1x5B	1,730	8,835	8,554	3,403	5,115	1,500	1,400
10A-1x5C	1,730	10,335	10,054	3,703	6,015	1,500	1,400











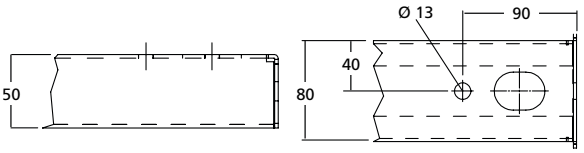
E_0 for CAH 05/06 = 150 mm

E_0 for CAH 08/09/10 = 74 mm

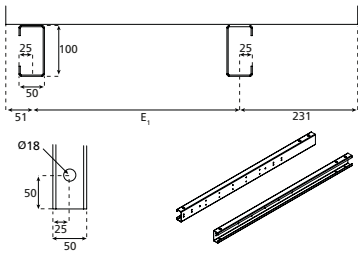
E_0 (CAH 08/09/10) **= 74 mm**

E_0 (CAH 05/06) **= 150 mm**

Feet CAH 05/06

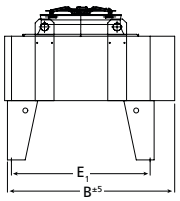


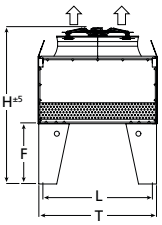
Feet CAH 08/09/10

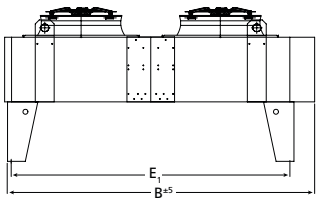


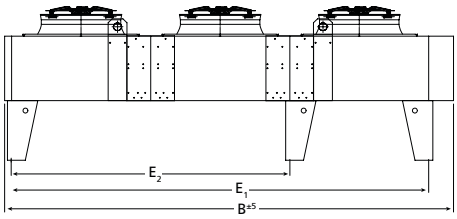
Dimensions 2-range (CAV)

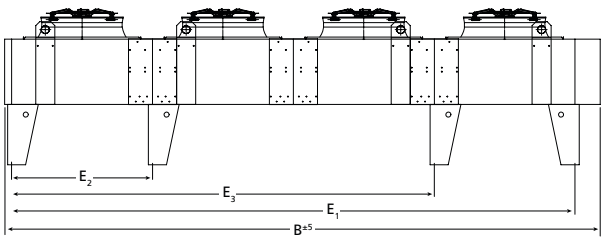
Type	CAV..-2x..: Dimensions [mm]								
CA.	H	B	E_1	E_2	E_3	E_4	F	T	L
05A-2x1F	1,000	1,410	960	-	-	-	500	1,702	1,652
05A-2x1G	1,000	1,410	960	-	-	-	500	1,702	1,652
05A-2x2F	1,000	2,512	2,062	-	-	-	500	1,702	1,652
05A-2x2G	1,000	2,512	2,062	-	-	-	500	1,702	1,652
05A-2x3F	1,000	3,613	3,163	1,102	-	-	500	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	9,509	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



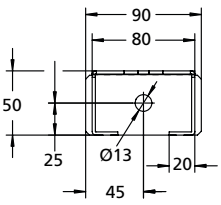




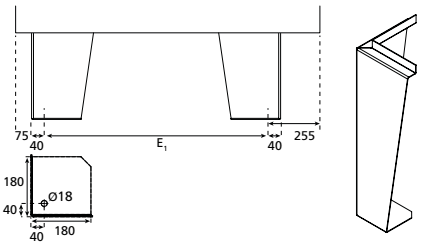




Feet CAV 05/06

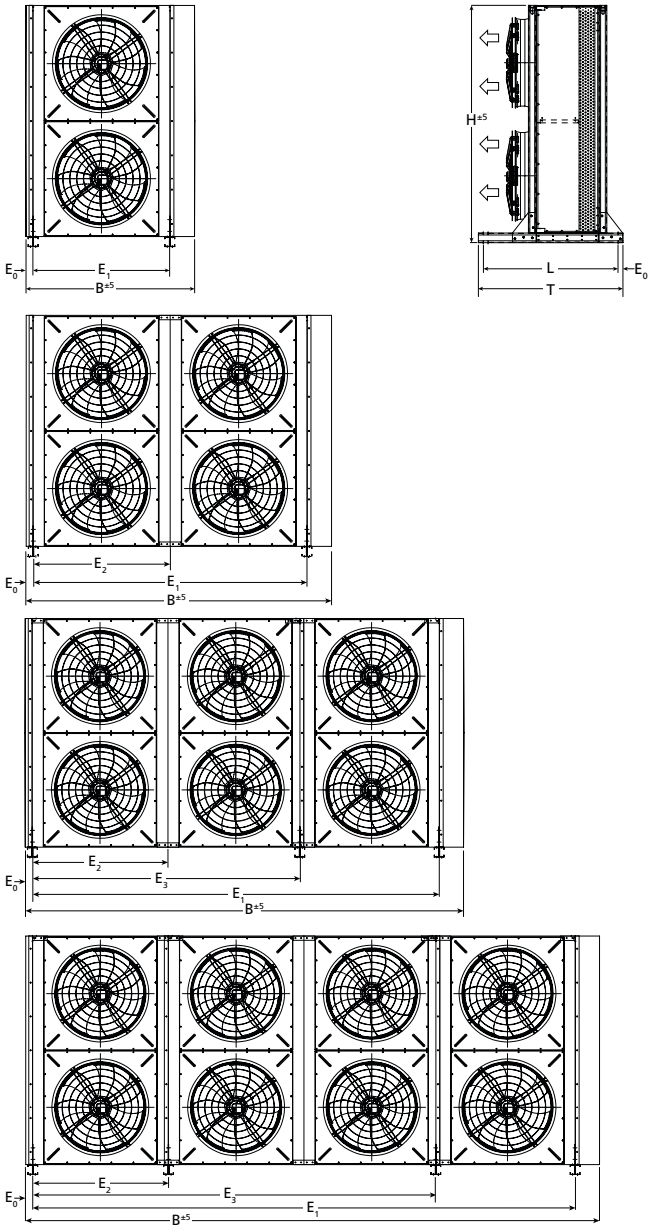


Feet CAV 08/09/10



Dimensions 2-range (CAH)

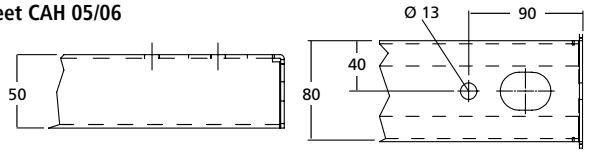
Typ	CAH..-2x..: Dimensions [mm]							
CA.	H	B	E_1	E_2	E_3	E_4	T	L
05A-2x1F	1,655	1,410	960	-	-	-	925	745
05A-2x1G	1,655	1,410	960	-	-	-	925	745
05A-2x2F	1,655	2,512	2,062	960	-	-	925	745
05A-2x2G	1,655	2,512	2,062	960	-	-	925	745
05A-2x3F	1,655	3,613	3,163	1,102	2,062	-	925	745
05A-2x3G	1,655	3,613	3,163	1,102	2,062	-	925	745
06A-2x1F	2,163	1,410	960	-	-	-	925	745
06A-2x1H	2,163	1,760	1,310	-	-	-	925	745
06A-2x1G	2,163	1,410	960	-	-	-	925	745
06A-2x1I	2,163	1,760	1,310	-	-	-	925	745
06A-2x2F	2,163	2,512	2,062	960	-	-	925	745
06A-2x2H	2,163	3,212	2,762	1,310	-	-	925	745
06A-2x2G	2,163	2,512	2,062	960	-	-	925	745
06A-2x2I	2,163	3,212	2,762	1,310	-	-	925	745
06A-2x3F	2,163	3,613	3,163	1,102	2,062	-	925	745
06A-2x3H	2,163	4,663	4,213	1,452	2,762	-	925	745
06A-2x3G	2,163	3,613	3,163	1,102	2,062	-	925	745
06A-2x3I	2,163	4,663	4,213	1,452	2,762	-	925	745
08A-2x1A	2,465	1,730	1,448	-	-	-	1,500	1,400
08A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
08A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
08A-2x2A	2,465	3,130	2,850	-	-	-	1,500	1,400
08A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
08A-2x2C	2,465	4,335	4,050	-	-	-	1,500	1,400
08A-2x3A	2,465	4,535	4,250	2,813	-	-	1,500	1,400
08A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
08A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
08A-2x4A	2,465	5,935	5,653	1,402	4,215	-	1,500	1,400
08A-2x4B	2,465	7,135	6,853	1,701	5,115	-	1,500	1,400
08A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
08A-2x5A	2,465	7,335	7,054	2,803	4,215	-	1,500	1,400
08A-2x5B	2,465	8,835	8,550	3,403	5,115	-	1,500	1,400
08A-2x5C	2,465	10,335	10,054	4,003	6,015	-	1,500	1,400
08A-2x6A	2,465	8,738	8,456	2,803	5,616	-	1,500	1,400
08A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400
08A-2x7A	2,465	10,139	9,857	2,803	4,205	7,054	1,500	1,400
09A-2x1A	2,465	1,730	1,448	-	-	-	1,500	1,400
09A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
09A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
09A-2x1D	2,465	2,630	2,348	-	-	-	1,500	1,400
09A-2x2A	2,465	3,130	2,850	-	-	-	1,500	1,400
09A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
09A-2x2C	2,465	4,335	4,050	-	-	-	1,500	1,400
09A-2x2D	2,465	4,930	4,650	-	-	-	1,500	1,400
09A-2x3A	2,465	4,535	4,250	2,813	-	-	1,500	1,400
09A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
09A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
09A-2x3D	2,465	7,235	6,951	4,613	-	-	1,500	1,400
09A-2x4A	2,465	5,935	5,653	1,402	4,215	-	1,500	1,400
09A-2x4B	2,465	7,135	6,853	1,701	5,115	-	1,500	1,400
09A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
09A-2x4D	2,465	9,535	9,253	2,302	6,915	-	1,500	1,400
09A-2x5A	2,465	7,335	7,054	2,803	4,215	-	1,500	1,400
09A-2x5B	2,465	8,835	8,550	3,403	5,115	-	1,500	1,400
09A-2x5C	2,465	10,335	10,054	4,003	6,015	-	1,500	1,400
09A-2x6A	2,465	8,738	8,456	2,803	5,616	-	1,500	1,400
09A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400
09A-2x7A	2,465	10,139	9,857	2,803	4,205	7,054	1,500	1,400
10A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
10A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
10A-2x1D	2,465	2,630	2,348	-	-	-	1,500	1,400
10A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
10A-2x2C	2,465	4,330	4,050	-	-	-	1,500	1,400
10A-2x2D	2,465	4,930	4,650	-	-	-	1,500	1,400
10A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
10A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
10A-2x3D	2,465	7,235	6,951	4,613	-	-	1,500	1,400
10A-2x4B	2,465	7,135	6,853	1,702	5,115	-	1,500	1,400
10A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
10A-2x4D	2,465	9,535	9,253	2,302	6,915	-	1,500	1,400
10A-2x5B	2,465	8,835	8,554	3,403	5,115	-	1,500	1,400
10A-2x5C	2,465	10,335	10,054	3,703	6,015	-	1,500	1,400
10A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400



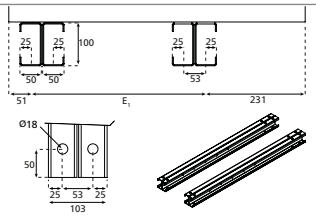
E_0 (CAH 08/09/10) = **74 mm**

E_0 (CAH 05/06) = **150 mm**

Feet CAH 05/06



Feet CAH 08/09/10



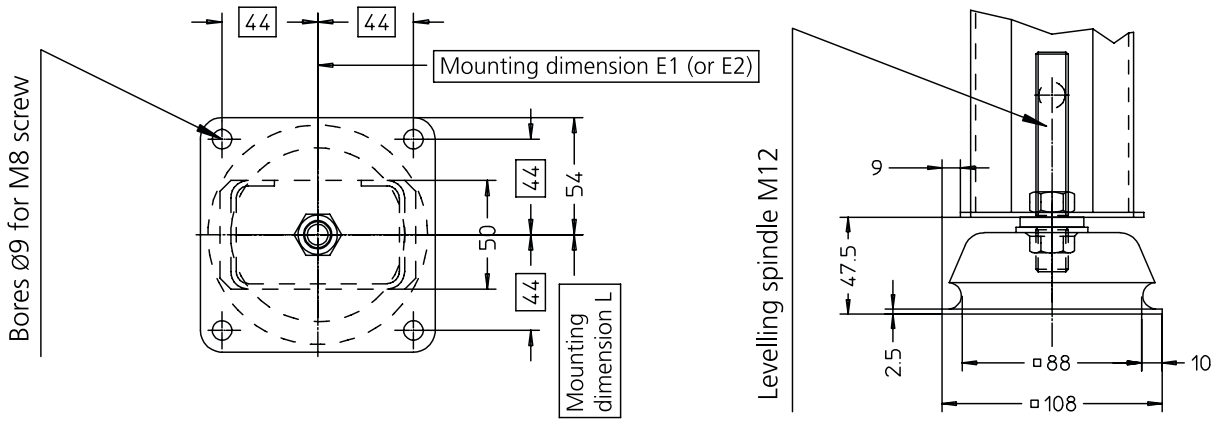
Types and Accessories

Following variants and accessoires are available for extra charge:

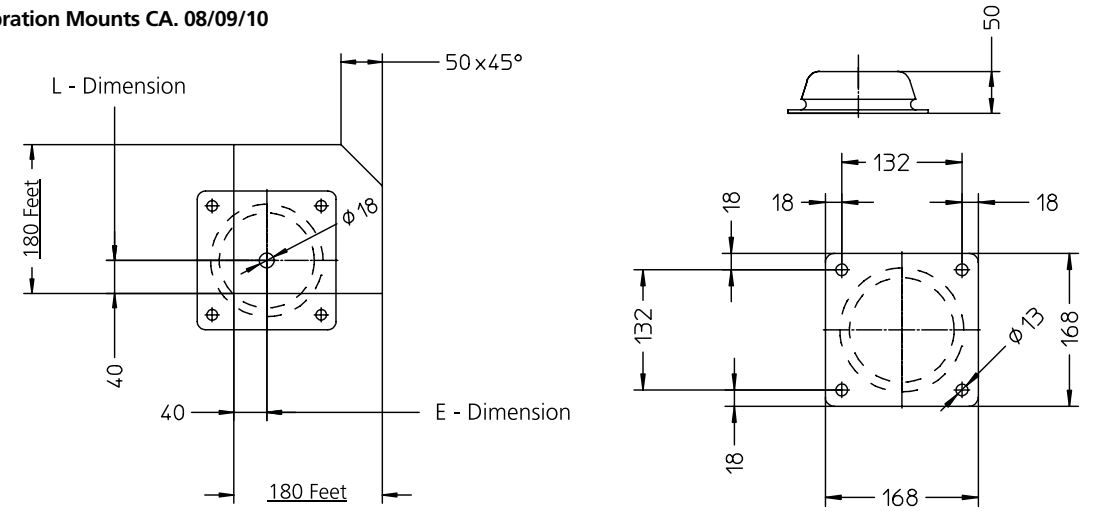
- Circuit subdivision
- Subcooling circuit
- Different fin spacing: from 1.8 to 4.2 mm
- Fins „Goldlack“: 1.8 to 3.6 mm
- Fins Copper: 1.8 to 3.2 mm
- Fin AlMg2.5
- Anti-vibration mounts
- Stainless steel tubing (see NAV)
- Other RAL-tints (colors)
- Fans with other voltage, frequency and temperature range
- Other Support Legs: 100, 400, 600, 850, 1000 mm, (without extra charges) Note minimum feet height
- Fans wired to repair switches on face or terminal boxes in an open enclosure, UV resistant cable
- Liquid Receiver “optionally with piping”
- Air duct with or without protection guard
- Electronic regulators for fans
- Pressure transducer mounted or loose
- Inspection apertures
- Stainless steel housing
- 1200 mm foot height on request

Dimensional changes for Anti-Vibration Mounts

Anti-Vibration Mounts CA. 05/06



Anti-Vibration Mounts CA. 08/09/10



Description: GEA Küba CAV / H

CAV/CAH: Axial fan condensor

For outdoor installation, air flow vertical (CAV ...), horizontal (CAH ...), without external pressure

Heat exchanger:

- High performance tubing system with staggered special internally ribbed SF copper tubes and pure aluminium fins with closed dimpling. Standard fin spacing is 2,2 mm.
- Series connection suitable for multiple subdivisions with draining and bleeding plugs on each circuit.
- Distributor and accumulator tubes and soldering connections made of SF-copper.

Casing:

- Self-supporting construction, fan sections individually partitioned. and optimised flow suction chamber
- Casing and legs from galvanized sheet steel. The parts are individually powder coated including the edges, to achieve corrosion and scratch resistance impossible with liquid coating.
- Powder coating resistant to temperature and UV rays.
- Standard colour is RAL 7032, pebble grey.
- Mounted transport eyes are included in the standard scope of delivery.

Axial fans:

- Compact unit, motor with fans (blade-/sickle blade) and fan guard in accordance with DIN EN ISO 13857 corrosion proof and weather resistent.
- Fan blades ø 500, 650, 800, 910, 1000 mm balanced in two levels according to standard DIN EN ISO 1940.
- 400 V, 3-ph 50 Hz supply for standard motors
  - with 2 speeds (Δ-Y-connections)
  - variable speed control (30-100 %) by reduction of voltage
  - suitable for operation with frequency converter with sinus filter on all phases according to catalogue specifications
  - standard protection of motor by thermocouples, in the terminal box
- Protection: IP 54; Protected against dust and all-round splash water
  - For outdoor installation and ambient motor temperatures standard of -30°C up to +60°C
- Output data certified under Eurovent ID No. 98-08-043
- The LPA acoustic pressure refers to the cuboid surface envelope and the enveloping surface terminating on reflecting levels

Accessories:

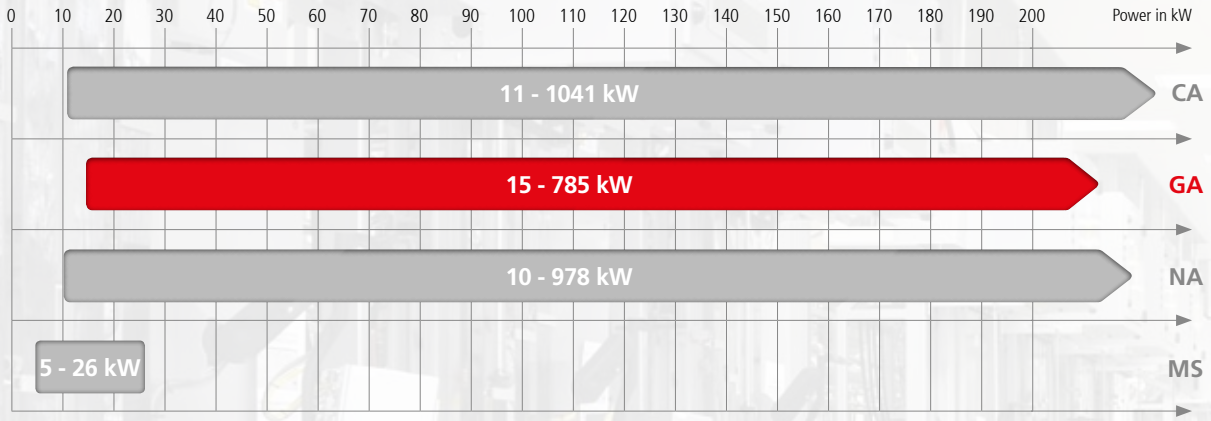
- Circuit subdivision
- Speed controller
- Switchgear cabinet
- Anti-Vibration Mounts
- Pressure transducer loose/mounted
- Repair switch mounted and wired on face
- Fins plastic coated ("Goldlack")
- Fins AlMg2.5
- Special voltage and frequencies

Technical Data:

Condenser capacity	Q_C	kW
Coolant	R	
Air intake temperature	t_{L1}	°C
Condensing temperature	t_C	°C
Airflow	V_L	m^3/h
Sound power level	L_{WA}	dB(A)
Sound pressure	L_{PA}	dB(A) in 10m
Exhaust direction (vert. / hor.)		
Number of fans		Number
Motor rpm	n	min^{-1}

Motor rated power at rated voltage.	P_{el}	W	V
Rated current and mains frequency	I	A	Hz
Weight			kg
Length / Width / Height			m
Connections	Inlet		mm
Connections	Outlet		mm
Colour	RAL		
Make	GEA Küba		
Type			
Price			EUR

Power range



Application areas

The GEA Küba CAV/H is used among other as a component of the refrigeration system in areas such as:

Shopping malls

Ice rinks

Cold rooms

Note

Ensure when installing the equipment that there is neither external air resistance nor air backflow.
Technical changes reserved!

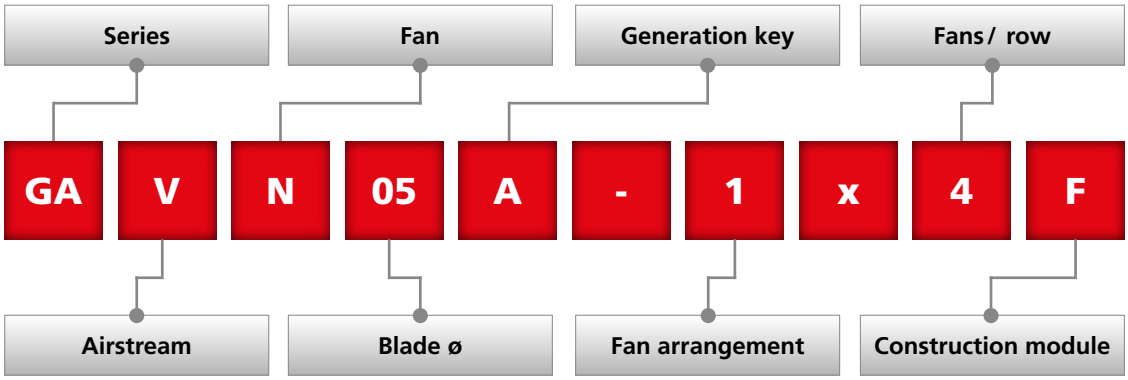
GAV/H


ErP ready
EUROVENT
CERTIFIED
PERFORMANCE
www.eurovent-certification.com

GAV/H

Construction

Nomenclature:



Series:
CA = Frigen
GA = Glykol
NA = NH_3

Airflow:
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:**
  Nominal capacity GA. from 15 to 785 kW at t_{L1}=32°C and t_{glycol}=45/40°C, 34 Vol% Monoethlyenglycol (Antifrogen N)
- **Suitable refrigerants:**
  The type series is suitable for all conventional brines and water. EDP calculation in acc. with GEA Küba selection software.
- All 828 models designed for **external installation**.
- **Possible areas 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 parallelpiped measuring surface squared around the dry cooler (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. In the case of multi-fan dry cooler deviations of up to 3 dB(A) may occur.

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 lugs standard

Heat exchanger

Standard tube arrangement lengthwise, staggered, in special copper.

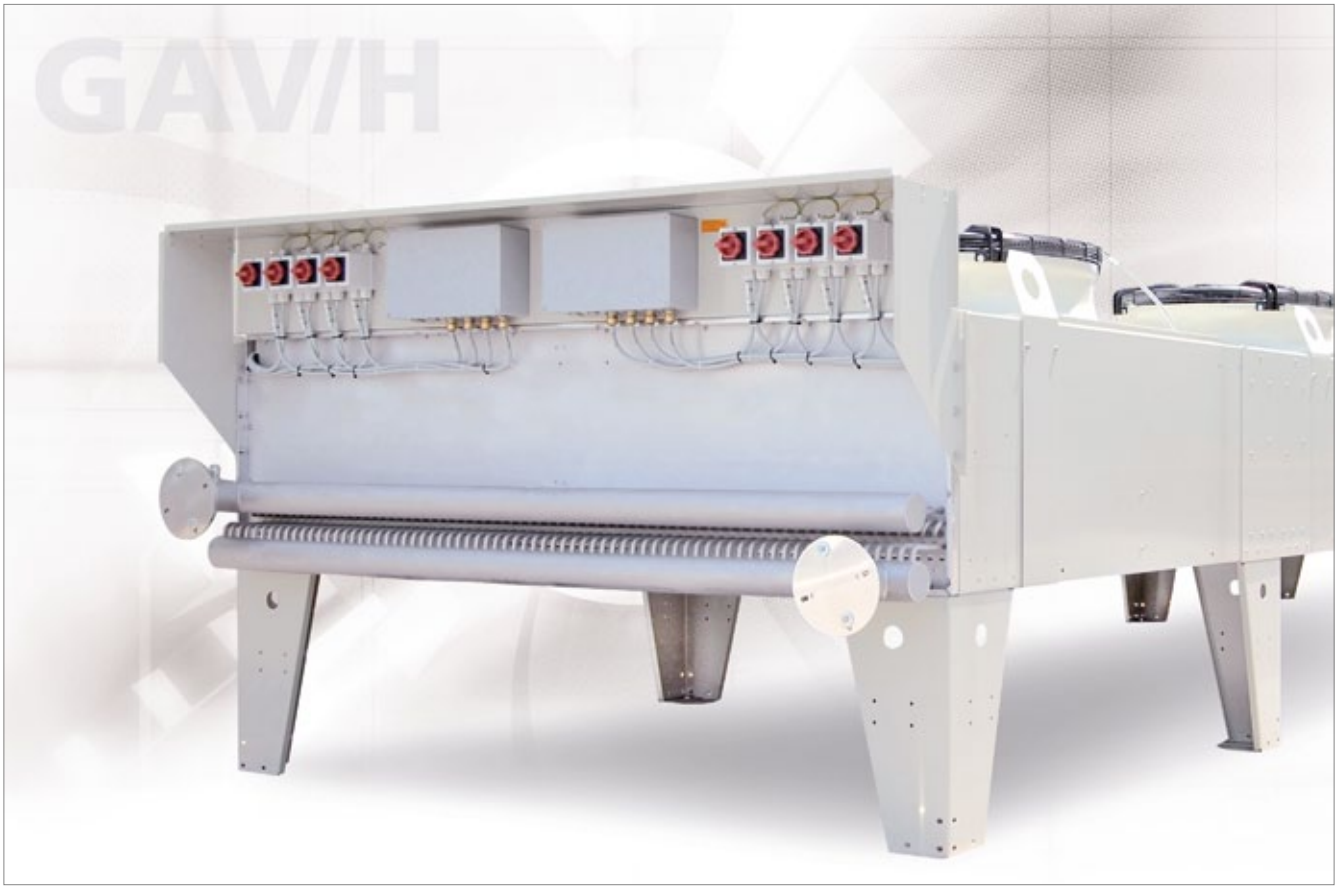
- Material:
  Tubes: SF-Cu
  Fins: AL with closed dimpled fins
  Fin spacing: 2.2 mm
- Multi-circuiting possible
- Connections
  Male thread connection of steel, vertical type (use for vertical and horizontal airflow)
- Maximum permissible pressure: 16 bar

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 blade 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.
- GA. 05 and 06: Fans 230V 1, (no surcharge)
- All fans ErP 2015 compliant

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



Power, Fluid connections

Power

To determine the specifications of the dry coolers for use with other fluids or other conditions, please use our GEA Küba Selection Software.

Connections

Standard models include air vents and drain plug.

Cooling agent flow V_{GLY} m^3/h	**Male screw connection according to DIN 2440** NW [Inches]
< 1.09	1/2
< 1.98	3/4
< 3.14	1
< 4.75	1 1/4
< 6.45	1 1/2
< 10.60	2
< 20.08	2 1/2
< 24.50	3
< 42.41	4
< 49.00	2 x 3
< 84.82	2 x 4

Fans

Standard construction

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

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

Module	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 performances and Sound Pressure Levels quoted.
- Operation with frequency converter only possible with sinusoidal filter on all phases.
- According to nameplate information, 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 between 30% and 100% of rated motor frequency.
For reduction of peak voltages and voltage increase speed and motor noise (at reduced speed) frequency converter manufacturers 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.

Manufacurers 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 thermo-couples 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 fulfill 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 dry cooler	**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	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		125 Hz		250 Hz		500 Hz		1 kHz		2 kHz		4 kHz		8 kHz		16 kHz	
			Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	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)

GAV / H N ..- 1x ..							GAV / H L ..- 1x ..							GA. N + L		
Type	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Type**	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]			[kW]		[m³/h]		[dB(A)]		[m²]	[dm³]	[kg]
GA.	Δ	Y	Δ	Y	Δ	Y	**GA.**	Δ	Y	Δ	Y	Δ	Y			
N05A-1x1F	14.0	11.8	6,410	4,940	52	45	**L05A-1x1F**	13.8	11.9	6,260	5,030	50	44	42	7.6	86
N05A-1x1G	19.2	15.5	6,020	4,640	52	45	**L05A-1x1G**	18.7	15.6	5,840	4,680	50	44	84	14.8	97
N05A-1x2F	27.9	23.5	12,830	9,880	55	48	**L05A-1x2F**	27.5	23.8	12,510	10,050	53	47	84	14.7	116
N05A-1x2G	38.6	31.1	12,040	9,280	55	48	**L05A-1x2G**	37.5	31.3	11,680	9,350	53	47	167	28.9	158
N05A-1x3F	42.0	35.3	19,240	14,820	57	50	**L05A-1x3F**	41.3	35.7	18,770	15,080	55	49	125	22.2	172
N05A-1x3G	57.9	46.9	18,050	13,920	57	50	**L05A-1x3G**	57.0	47.2	17,520	14,030	55	49	251	45.5	228
N06A-1x1F	24.0	21.6	14,650	12,310	63	59	**L06A-1x1F**	18.8	17.7	9,820	8,900	53	51	55	11.0	128
N06A-1x1G	36.3	31.7	12,700	10,600	63	59	**L06A-1x1G**	26.3	24.1	8,360	7,530	53	51	110	21.3	150
N06A-1x1H	29.2	26.5	15,430	13,170	63	59	**L06A-1x1H**	22.5	21.2	10,250	9,350	53	51	73	13.7	142
N06A-1x1I	39.2	35.3	13,670	11,960	62	58	**L06A-1x1I**	29.5	27.1	9,470	8,570	52	50	146	26.9	176
N06A-1x2F	48.0	43.2	29,300	24,630	66	62	**L06A-1x2F**	37.6	35.3	19,630	17,790	56	54	110	21.2	208
N06A-1x2G	72.5	63.4	25,390	21,190	65	61	**L06A-1x2G**	52.6	48.7	16,720	15,050	55	53	221	43.6	255
N06A-1x2H	58.4	53.0	30,860	26,340	66	62	**L06A-1x2H**	45.1	42.4	20,500	18,700	56	54	146	31.6	242
N06A-1x2I	83.8	75.8	27,340	23,910	65	61	**L06A-1x2I**	62.7	57.6	18,940	17,140	55	53	291	54.4	299
N06A-1x3F	77.6	69.9	43,950	36,940	68	64	**L06A-1x3F**	60.6	57.1	29,450	26,690	58	56	166	34.7	300
N06A-1x3G	105.8	92.2	38,090	31,790	67	63	**L06A-1x3G**	77.2	70.7	25,080	22,580	57	55	331	60.9	370
N06A-1x3H	82.7	75.0	46,290	39,510	68	64	**L06A-1x3H**	63.7	60.0	30,750	28,050	58	56	218	43.1	357
N06A-1x3I	123.4	110.9	41,020	35,870	67	63	**L06A-1x3I**	93.1	85.5	28,400	25,700	57	55	437	77.2	418
N08A-1x1A	45.9	37.9	16,500	12,900	52	46	**L08A-1x1A**	45.9	35.1	15,470	10,890	53	46	158	29.5	290
N08A-1x1B	52.8	42.9	18,100	13,850	52	46	**L08A-1x1B**	50.0	38.2	16,840	12,010	53	46	191	34.7	320
N08A-1x1C	57.7	47.1	18,900	14,630	52	46	**L08A-1x1C**	55.2	42.5	17,880	12,830	53	46	225	45.6	340
N08A-1x2A	91.3	76.0	33,000	25,790	54	49	**L08A-1x2A**	87.0	66.4	30,940	21,770	56	49	315	59.8	500
N08A-1x2B	105.6	86.0	36,200	27,700	54	49	**L08A-1x2B**	100.0	76.4	33,690	24,020	56	49	383	70.3	570
N08A-1x2C	115.6	94.0	37,790	29,250	54	49	**L08A-1x2C**	110.5	84.9	35,760	25,660	56	49	450	80.8	620
N08A-1x3A	144.0	119.3	49,500	38,690	56	51	**L08A-1x3A**	138.1	104.1	46,410	32,660	58	51	473	74.1	730
N08A-1x3B	152.0	123.4	54,290	41,540	56	51	**L08A-1x3B**	143.8	110.5	50,530	36,030	58	51	574	89.7	840
N08A-1x3C	167.6	136.7	56,690	43,880	56	51	**L08A-1x3C**	160.5	123.2	53,640	38,480	58	51	675	105.4	920
N08A-1x4A	182.8	152.1	66,000	51,580	57	52	**L08A-1x4A**	174.1	132.8	61,880	43,540	59	52	630	98.5	970
N08A-1x4B	211.4	172.4	72,390	55,390	57	52	**L08A-1x4B**	200.0	152.8	67,380	48,040	59	52	765	119.4	1,110
N08A-1x4C	231.4	187.7	75,580	58,510	57	52	**L08A-1x4C**	221.1	169.2	71,520	51,310	59	52	901	150.6	1,220
N08A-1x5A	235.9	195.2	82,510	64,480	58	53	**L08A-1x5A**	224.6	170.9	77,350	54,430	60	53	788	133.1	1,180
N08A-1x5B	271.8	218.8	90,490	69,240	57	52	**L08A-1x5B**	256.4	195.4	84,220	60,050	59	52	957	149.1	1,340
N08A-1x5C	293.4	240.9	94,480	73,140	57	52	**L08A-1x5C**	280.9	215.1	89,400	64,140	59	52	1.126	175.3	1,480

Continued on next page

Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°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 (CGAV/H) and other designs available in our GEA Küba Select selection program!

Selection table 1-range (N + L)

GAV / H N ..- 1x ..

Type	Nominal capacity Q_{GLY}		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
GA.	Δ	Y	Δ	Y	Δ	Y
N09A-1x1A	52.9	42.6	20,140	14,970	60	53
N09A-1x1B	61.5	50.1	22,170	16,910	60	53
N09A-1x1C	68.8	56.0	23,820	18,200	60	53
N09A-1x1D	75.3	61.6	25,130	19,460	60	53
N09A-1x2A	105.8	84.9	40,290	29,930	62	55
N09A-1x2B	123.2	100.2	44,330	33,810	62	55
N09A-1x2C	137.6	112.1	47,650	36,400	62	55
N09A-1x2D	150.7	123.0	50,260	38,930	62	55
N09A-1x3A	149.7	120.5	60,430	44,900	64	57
N09A-1x3B	177.0	144.2	66,500	50,720	64	57
N09A-1x3C	199.3	162.7	71,470	54,600	64	57
N09A-1x3D	219.2	180.8	75,390	58,390	64	57
N09A-1x4A	211.8	169.8	80,580	59,860	65	58
N09A-1x4B	246.6	200.6	88,660	67,620	65	58
N09A-1x4C	275.4	224.4	95,290	72,800	65	58
N09A-1x4D	301.6	245.8	100,520	77,860	64	57
N09A-1x5A	272.5	219.0	100,720	74,830	66	59
N09A-1x5B	314.8	257.2	110,830	84,530	65	58
N09A-1x5C	322.3	263.3	119,120	91,000	65	58
N10A-1x1B	78.7	63.0	26,700	20,160	55	47
N10A-1x1C	84.6	69.6	28,130	22,080	55	47
N10A-1x1D	91.4	78.0	29,570	24,000	55	47
N10A-1x2B	153.1	123.2	53,390	40,320	58	50
N10A-1x2C	169.5	139.1	56,270	44,160	58	50
N10A-1x2D	182.8	155.0	59,140	48,000	58	50
N10A-1x3B	220.1	177.2	80,090	60,480	60	52
N10A-1x3C	245.1	202.4	84,400	66,240	60	52
N10A-1x3D	266.9	226.7	88,710	72,000	60	52
N10A-1x4B	306.4	246.5	106,780	80,640	61	53
N10A-1x4C	336.8	278.1	112,530	88,320	60	52
N10A-1x4D	365.6	309.7	118,280	96,000	60	52
N10A-1x5B	391.4	314.7	133,480	100,800	61	53
N10A-1x5C	429.3	354.8	140,670	110,400	61	53

GAV / H L ..- 1x ..

Type	Nominal capacity Q_{GLY}		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
GA.	Δ	Y	Δ	Y	Δ	Y
L09A-1x1A	49.7	39.5	17,270	12,780	53	45
L09A-1x1B	56.5	44.3	19,770	14,380	53	45
L09A-1x1C	64.0	49.4	21,500	15,530	53	45
L09A-1x1D	69.2	54.2	22,610	16,510	53	45
L09A-1x2A	94.5	75.4	34,550	25,560	55	47
L09A-1x2B	113.0	88.7	39,540	28,750	55	47
L09A-1x2C	127.3	98.6	42,990	31,060	55	47
L09A-1x2D	138.5	107.7	45,220	33,020	55	47
L09A-1x3A	134.2	106.6	51,820	38,340	57	49
L09A-1x3B	162.5	127.1	59,310	43,130	57	49
L09A-1x3C	185.4	143.5	64,490	46,590	57	49
L09A-1x3D	202.0	157.3	67,820	49,530	57	49
L09A-1x4A	189.1	151.0	69,100	51,120	58	50
L09A-1x4B	226.2	178.0	79,080	57,500	58	50
L09A-1x4C	254.7	197.0	85,990	62,120	58	50
L09A-1x4D	277.0	217.0	90,430	66,040	57	49
L09A-1x5A	244.3	193.8	86,370	63,900	59	51
L09A-1x5B	288.9	225.5	98,850	71,880	58	50
L09A-1x5C	299.5	232.2	107,490	77,650	58	50
L10A-1x1B	66.3	57.7	21,500	18,030	49	45
L10A-1x1C	71.1	61.5	22,700	18,910	49	45
L10A-1x1D	77.6	67.5	23,890	20,230	49	45
L10A-1x2B	129.6	113.0	43,010	36,050	52	48
L10A-1x2C	142.2	122.8	45,400	37,810	52	48
L10A-1x2D	154.5	136.4	47,790	40,450	52	48
L10A-1x3B	186.4	162.2	64,510	54,080	54	50
L10A-1x3C	206.9	178.6	68,100	56,720	54	50
L10A-1x3D	225.8	196.0	71,680	60,680	54	50
L10A-1x4B	259.2	226.3	86,020	72,110	55	51
L10A-1x4C	284.5	245.1	90,800	75,630	54	50
L10A-1x4D	308.7	272.3	95,570	80,900	54	50
L10A-1x5B	331.7	287.5	107,520	90,140	55	51
L10A-1x5C	362.5	315.9	113,500	94,540	55	51

GA. N + L

Surface	Tube volume	Weight
[m²]	[dm³]	[kg]
158	29.5	290
191	40.3	320
225	45.6	340
259	50.8	384
315	59.8	500
383	70.3	570
450	70.6	620
518	81.1	701
473	74.0	730
574	89.7	840
675	105.4	920
777	121.2	1,040
630	98.5	970
765	129.6	1,110
901	140.4	1,220
1.036	161.4	1,379
788	122.9	1,180
957	149.1	1,340
1.126	175.1	1,480
264	56.1	380
310	63.5	420
357	70.7	460
528	83.5	690
621	98.1	760
714	112.6	850
792	124.6	1,020
931	160.6	1,120
1.071	168.3	1,240
1.056	165.9	1,350
1.242	195.0	1,480
1.428	224.1	1,650
1.319	207.1	1,610
1.552	243.5	1,850

Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°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 (CGAV/H) and other designs available in our GEA Küba Select selection program!

Selection table 1-range (S)

GAV / H S ..-1x ..							GA. S		
Type	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		[m²]	[dm³]	[kg]
GA.	Δ	Y	Δ	Y	Δ	Y			
S05A-1x1F	10.5	8.0	4,160	2,880	40	30	42	7.4	86
S05A-1x1G	13.5	9.9	3,890	2,740	40	30	84	14.3	97
S05A-1x2F	20.9	16.0	8,330	5,750	43	34	84	14.7	116
S05A-1x2G	26.7	20.1	7,780	5,470	43	34	167	27.8	158
S05A-1x3F	31.5	24.0	12,490	8,630	45	36	125	21.1	172
S05A-1x3G	41.0	29.7	11,670	8,210	45	36	251	41.8	228
S06A-1x1F	17.2	15.8	7,230	6,390	45	43	55	10.7	128
S06A-1x1G	21.2	19.3	6,120	5,470	45	43	110	19.6	150
S06A-1x1H	19.9	18.1	7,650	6,650	45	43	73	13.4	142
S06A-1x1I	24.8	22.6	7,170	6,300	44	42	146	25.3	176
S06A-1x2F	34.3	31.5	14,460	12,770	49	46	110	19.6	208
S06A-1x2G	43.0	38.6	12,250	10,940	48	45	221	38.4	255
S06A-1x2H	40.0	36.2	15,300	13,300	49	46	146	26.4	242
S06A-1x2I	50.4	45.2	14,340	12,590	48	45	291	49.5	299
S06A-1x3F	49.8	45.8	21,680	19,160	51	48	166	29.7	300
S06A-1x3G	63.6	58.1	18,370	16,410	50	47	331	60.7	370
S06A-1x3H	58.4	52.9	22,950	19,950	51	48	218	37.9	357
S06A-1x3I	77.3	67.9	21,510	18,890	50	47	437	77.0	418
S08A-1x1A	25.8	20.9	8,460	6,570	33	27	118	21.3	270
S08A-1x1B	28.5	23.1	9,050	6,930	33	27	144	25.3	290
S08A-1x1C	30.8	25.3	9,450	7,270	33	27	169	29.2	320
S08A-1x2A	51.3	42.3	16,910	13,140	36	30	236	41.5	460
S08A-1x2B	57.5	46.2	18,110	13,860	36	30	287	55.0	520
S08A-1x2C	62.7	49.8	18,910	14,550	36	30	338	62.9	570
S08A-1x3A	77.0	63.1	25,370	19,710	38	32	355	65.7	680
S08A-1x3B	86.6	69.4	27,160	20,790	38	32	431	77.4	770
S08A-1x3C	94.0	75.7	28,360	21,820	38	32	507	89.2	840
S08A-1x4A	98.0	80.2	33,820	26,280	39	33	473	84.0	890
S08A-1x4B	111.1	88.9	36,210	27,720	39	33	574	99.7	1,020
S08A-1x4C	120.1	97.9	37,820	29,100	39	33	675	115.5	1,120
S08A-1x5A	125.9	103.2	42,280	32,860	40	34	591	102.4	1,090
S08A-1x5B	141.2	114.5	45,270	34,660	39	33	718	111.9	1,240
S08A-1x5C	153.8	123.1	47,270	36,370	39	33	844	131.5	1,360

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Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°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 (CGAV/H) and other designs available in our GEA Küba Select selection program!

Selection table 1-range (S)

GAV / H S ..-1x ..							GA. S		
Type	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		[m²]	[dm³]	[kg]
GA.	Δ	Y	Δ	Y	Δ	Y			
S09A-1x1A	37.3	29.4	14,030	10,080	46	39	118	22.9	270
S09A-1x1B	43.1	34.2	15,440	11,260	46	39	144	26.9	290
S09A-1x1C	46.5	37.5	15,960	12,100	46	39	169	30.8	320
S09A-1x1D	50.3	41.4	16,650	12,930	46	39	194	34.7	362
S09A-1x2A	74.8	58.9	28,070	20,160	48	41	236	47.1	460
S09A-1x2B	82.8	65.4	30,870	22,520	48	41	287	55.2	520
S09A-1x2C	90.0	73.2	31,910	24,190	48	41	338	63.0	570
S09A-1x2D	97.9	80.3	33,290	25,860	48	41	388	70.9	644
S09A-1x3A	112.3	88.5	42,100	30,240	50	43	355	65.7	680
S09A-1x3B	118.3	93.9	46,310	33,790	50	43	431	77.5	770
S09A-1x3C	130.3	106.0	47,870	36,290	50	43	507	89.3	840
S09A-1x3D	142.3	117.2	49,940	38,790	50	43	583	90.9	949
S09A-1x4A	142.1	111.5	56,130	40,320	51	44	473	73.9	890
S09A-1x4B	165.0	130.9	61,740	45,050	51	44	574	89.6	1,020
S09A-1x4C	180.2	146.5	63,830	48,380	51	44	675	105.3	1,120
S09A-1x4D	196.1	160.6	66,590	51,720	50	43	777	121.0	1,266
S09A-1x5A	182.9	144.0	70,170	50,400	52	45	591	92.2	1,090
S09A-1x5B	211.8	168.1	77,180	56,310	51	44	718	111.9	1,240
S09A-1x5C	231.0	186.0	79,790	60,480	51	44	844	141.7	1,360
S10A-1x1B	52.2	47.4	18,350	16,050	43	40	198	37.6	350
S10A-1x1C	58.3	51.2	19,700	16,650	43	40	233	50.7	380
S10A-1x1D	59.6	54.0	20,390	17,840	43	40	268	56.5	410
S10A-1x2B	106.5	96.1	36,700	32,110	46	43	396	76.6	610
S10A-1x2C	114.3	100.8	39,400	33,300	46	43	466	87.6	680
S10A-1x2D	123.0	110.7	40,780	35,670	46	43	536	98.6	750
S10A-1x3B	160.0	144.2	55,050	48,160	48	45	594	93.6	910
S10A-1x3C	165.1	145.8	59,110	49,950	48	45	699	109.9	995
S10A-1x3D	178.9	161.3	61,170	53,510	48	45	803	126.2	1,100
S10A-1x4B	204.5	184.8	73,400	64,220	49	46	792	124.4	1,210
S10A-1x4C	228.2	201.6	78,810	66,600	48	45	931	160.4	1,340
S10A-1x4D	245.9	221.1	81,560	71,350	48	45	1.071	182.3	1,450
S10A-1x5B	261.2	237.8	91,750	80,270	49	46	990	169.5	1,460
S10A-1x5C	291.9	255.7	98,510	83,250	49	46	1.164	182.7	1,610

Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°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 (CGAV/H) and other designs available in our GEA Küba Select selection program!

Selection table 2-range (N + L)

GAV / H N ..-2x ..							GAV / H L ..-2x ..							GA. N + L		
Type	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Type**	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]			[kW]		[m³/h]		[dB(A)]		[m²]	[dm³]	[kg]
GA.	Δ	Y	Δ	Y	Δ	Y	**GA.**	Δ	Y	Δ	Y	Δ	Y			
N05A-2x1F	27.6	23.2	12,830	9,880	55	48	**L05A-2x1F**	27.1	23.5	12,510	10,050	53	47	82	16.5	154
N05A-2x1G	38.1	31.2	12,040	9,280	55	48	**L05A-2x1G**	37.5	31.4	11,680	9,350	53	47	164	32.1	176
N05A-2x2F	55.2	46.4	25,660	19,760	57	50	**L05A-2x2F**	54.3	47.0	25,020	20,100	55	49	164	31.7	283
N05A-2x2G	76.1	62.3	24,070	18,560	57	50	**L05A-2x2G**	74.3	62.7	23,360	18,710	55	49	328	65.6	327
N05A-2x3F	82.7	69.7	38,480	29,650	58	51	**L05A-2x3F**	81.5	70.5	37,540	30,160	56	50	246	52.3	412
N05A-2x3G	115.3	93.3	36,110	27,840	58	51	**L05A-2x3G**	113.5	93.9	35,040	28,060	56	50	492	91.3	478
N06A-2x1F	47.3	42.7	29,300	24,630	66	62	**L06A-2x1F**	37.1	34.9	19,630	17,790	56	54	109	25.2	199
N06A-2x1G	72.0	63.1	25,390	21,190	65	61	**L06A-2x1G**	52.3	48.2	16,720	15,050	55	53	218	52.9	247
N06A-2x1H	57.7	52.3	30,860	26,340	66	62	**L06A-2x1H**	44.5	42.0	20,500	18,700	56	54	143	40.6	238
N06A-2x1I	77.9	70.2	27,340	23,910	65	61	**L06A-2x1I**	58.3	54.1	18,940	17,140	55	53	287	64.3	300
N06A-2x2F	94.6	85.3	58,600	49,260	68	64	**L06A-2x2F**	74.3	69.8	39,270	35,590	58	56	218	52.7	365
N06A-2x2G	144.0	126.3	50,790	42,380	67	63	**L06A-2x2G**	104.5	96.2	33,440	30,100	57	55	435	69.7	456
N06A-2x2H	115.3	104.7	61,720	52,680	68	64	**L06A-2x2H**	89.0	83.7	41,000	37,400	58	56	287	63.6	443
N06A-2x2I	166.5	150.1	54,690	47,830	67	63	**L06A-2x2I**	126.1	114.7	37,870	34,270	57	55	574	91.4	561
N06A-2x3F	153.3	138.2	87,890	73,880	69	65	**L06A-2x3F**	120.2	112.6	58,900	53,380	59	57	327	51.9	537
N06A-2x3G	209.0	183.2	76,180	63,570	68	64	**L06A-2x3G**	152.4	141.0	50,160	45,160	58	56	653	103.8	677
N06A-2x3H	163.1	148.0	92,570	79,020	69	65	**L06A-2x3H**	126.3	118.5	61,500	56,100	59	57	430	68.2	648
N06A-2x3I	245.7	220.5	82,030	71,740	68	64	**L06A-2x3I**	182.8	170.0	56,810	51,410	58	56	861	154.6	832
N08A-2x1A	90.7	75.5	33,000	25,790	54	49	**L08A-2x1A**	90.9	69.1	30,940	21,770	56	49	311	70.6	480
N08A-2x1B	105.0	85.6	36,200	27,700	54	49	**L08A-2x1B**	99.3	76.0	33,690	24,020	56	49	378	81.1	530
N08A-2x1C	115.0	93.4	37,790	29,250	54	49	**L08A-2x1C**	109.9	85.1	35,760	25,660	56	49	445	91.6	580
N08A-2x2A	181.4	151.2	66,000	51,580	56	51	**L08A-2x2A**	172.8	132.0	61,880	43,540	58	51	622	99.3	860
N08A-2x2B	210.0	171.7	72,390	55,390	56	51	**L08A-2x2B**	198.7	152.1	67,380	48,040	58	51	756	120.2	960
N08A-2x2C	230.3	186.7	75,580	58,510	56	51	**L08A-2x2C**	220.1	168.1	71,520	51,310	58	51	889	161.7	1,060
N08A-2x3A	286.2	237.5	99,010	77,380	59	54	**L08A-2x3A**	272.6	206.9	92,810	65,320	61	54	933	148.2	1,240
N08A-2x3B	302.0	245.2	108,590	83,090	59	54	**L08A-2x3B**	285.8	218.8	101,060	72,050	61	54	1.134	179.4	1,400
N08A-2x3C	333.5	271.8	113,380	87,760	59	54	**L08A-2x3C**	319.2	244.4	107,280	76,970	61	54	1.334	210.9	1,590
N08A-2x4A	363.0	300.9	132,010	103,170	60	56	**L08A-2x4A**	345.8	264.3	123,750	87,090	62	56	1.245	196.9	1,680
N08A-2x4B	420.3	341.1	144,780	110,780	59	55	**L08A-2x4B**	397.6	304.6	134,750	96,070	61	55	1.511	238.8	1,800
N08A-2x4C	461.1	373.1	151,170	117,020	59	55	**L08A-2x4C**	440.5	335.6	143,040	102,620	61	55	1.778	280.8	2,100
N08A-2x5A	469.0	387.9	165,010	128,960	60	56	**L08A-2x5A**	446.5	340.8	154,690	108,860	62	56	1.556	245.8	2,050
N08A-2x5B	536.9	435.1	180,980	138,480	60	56	**L08A-2x5B**	510.8	387.9	168,440	120,090	62	56	1.889	298.3	2,300
N08A-2x5C	583.6	478.6	188,960	146,270	60	56	**L08A-2x5C**	558.6	428.6	178,800	128,280	62	56	2.223	350.7	2,490
N08A-2x6A	572.5	475.2	198,010	154,750	61	57	**L08A-2x6A**	545.2	413.6	185,630	130,630	63	57	1.867	294.8	2,460
N08A-2x6B	655.5	530.5	217,180	166,180	61	57	**L08A-2x6B**	619.0	476.3	202,130	144,110	63	57	2.267	357.7	2,760
N08A-2x7A	748.7	619.1	264,540	204,780	62	58	**L08A-2x7A**	718.7	557.4	250,320	179,590	64	58	2.178	343.7	2,870

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Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°C
Sound pressure: Enveloping surface method, in acc. with DIN EN ISO 13487
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Container type (CGAV/H) and other designs available in our GEA Küba Select selection program!

Selection table 2-range (N + L)

GAV / H N ..-2x ..							GAV / H L ..-2x ..							GA. N + L		
Type	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Type**	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]			[kW]		[m³/h]		[dB(A)]		[m²]	[dm³]	[kg]
GA.	Δ	Y	Δ	Y	Δ	Y	**GA.**	Δ	Y	Δ	Y	Δ	Y			
N09A-2x1A	105.0	84.3	40,290	29,930	62	55	**L09A-2x1A**	98.7	78.5	34,550	25,560	55	47	311	70.6	480
N09A-2x1B	122.3	99.6	44,330	33,810	62	55	**L09A-2x1B**	112.3	88.4	39,540	28,750	55	47	378	81.1	530
N09A-2x1C	136.7	111.5	47,650	36,400	62	55	**L09A-2x1C**	126.5	98.1	42,990	31,060	55	47	445	71.4	580
N09A-2x1D	149.9	122.3	50,260	38,930	62	55	**L09A-2x1D**	137.7	107.9	45,220	33,020	55	47	511	81.9	630
N09A-2x2A	210.1	168.6	80,580	59,860	66	59	**L09A-2x2A**	187.7	150.1	69,100	51,120	59	51	622	99.3	860
N09A-2x2B	243.7	199.3	88,660	67,620	66	59	**L09A-2x2B**	224.7	175.6	79,080	57,500	59	51	756	140.7	960
N09A-2x2C	273.5	223.3	95,290	72,800	66	59	**L09A-2x2C**	253.1	196.0	85,990	62,120	59	51	889	141.2	1,060
N09A-2x2D	300.1	244.4	100,520	77,860	66	59	**L09A-2x2D**	275.6	214.8	90,430	66,040	59	51	1.022	162.2	1,160
N09A-2x3A	296.7	239.0	120,860	89,800	68	61	**L09A-2x3A**	266.1	211.6	103,640	76,670	61	53	933	148.0	1,240
N09A-2x3B	349.8	286.6	133,000	101,440	68	61	**L09A-2x3B**	322.8	252.6	118,610	86,260	61	53	1.134	179.4	1,400
N09A-2x3C	395.8	323.7	142,940	109,190	68	61	**L09A-2x3C**	366.4	285.3	128,980	93,180	61	53	1.334	210.9	1,590
N09A-2x3D	435.7	357.2	150,780	116,780	67	60	**L09A-2x3D**	401.5	313.6	135,650	99,070	60	52	1.534	242.3	1,680
N09A-2x4A	420.5	337.3	161,150	119,730	69	62	**L09A-2x4A**	375.6	298.8	138,190	102,230	62	54	1.245	196.9	1,680
N09A-2x4B	487.4	398.7	177,330	135,250	68	61	**L09A-2x4B**	449.7	351.3	158,150	115,010	61	53	1.511	238.8	1,800
N09A-2x4C	547.2	447.0	190,580	145,590	68	61	**L09A-2x4C**	506.2	391.9	171,980	124,240	61	53	1.778	280.8	2,100
N09A-2x4D	600.6	488.7	201,040	155,710	68	61	**L09A-2x4D**	551.5	429.2	180,860	132,090	61	53	2.045	322.7	2,300
N09A-2x5A	540.9	435.3	201,440	149,660	69	62	**L09A-2x5A**	485.6	385.2	172,740	127,790	62	54	1.556	245.8	2,050
N09A-2x5B	625.6	512.3	221,660	169,060	69	62	**L09A-2x5B**	574.1	448.6	197,690	143,760	62	54	1.889	298.3	2,300
N09A-2x5C	701.9	566.4	238,230	181,990	69	62	**L09A-2x5C**	646.9	500.2	214,970	155,300	62	54	2.223	350.7	2,490
N09A-2x6A	664.3	531.7	241,730	179,590	70	63	**L09A-2x6A**	592.6	471.7	207,290	153,350	63	55	1.867	294.8	2,460
N09A-2x6B	762.0	620.8	265,990	202,870	70	63	**L09A-2x6B**	703.1	546.2	237,230	172,510	63	55	2.267	357.7	2,760
N09A-2x7A	784.9	630.5	282,020	209,520	71	64	**L09A-2x7A**	700.4	555.7	241,840	178,910	64	56	2.178	343.7	2,870
N10A-2x1B	128.7	104.6	47,820	36,050	58	50	**L10A-2x1B**	110.3	96.4	38,630	32,420	52	48	378	81.1	530
N10A-2x1C	144.7	121.1	51,390	40,270	58	50	**L10A-2x1C**	123.2	107.1	41,510	34,620	52	48	445	71.4	580
N10A-2x1D	159.0	135.5	54,700	44,310	58	50	**L10A-2x1D**	135.6	118.6	44,320	37,460	52	48	511	81.9	630
N10A-2x2B	257.5	209.4	95,630	72,100	61	53	**L10A-2x2B**	220.8	192.9	77,260	64,840	55	51	756	140.7	960
N10A-2x2C	289.5	240.7	102,780	80,540	61	53	**L10A-2x2C**	246.4	214.3	83,020	69,240	55	51	889	141.2	1,060
N10A-2x2D	318.1	271.2	109,400	88,620	61	53	**L10A-2x2D**	271.2	237.1	88,640	74,920	55	51	1.022	162.2	1,160
N10A-2x3B	369.6	301.0	143,450	108,150	63	55	**L10A-2x3B**	317.2	277.4	115,890	97,260	57	53	1.134	179.4	1,510
N10A-2x3C	418.6	350.5	154,170	120,810	63	55	**L10A-2x3C**	356.8	311.1	124,530	103,860	57	53	1.334	210.9	1,550
N10A-2x3D	464.8	395.3	164,100	132,930	62	54	**L10A-2x3D**	395.3	346.6	132,960	112,380	56	52	1.534	242.3	1,680
N10A-2x4B	515.1	418.9	191,260	144,200	63	55	**L10A-2x4B**	441.8	385.9	154,520	129,680	57	53	1.511	238.8	1,850
N10A-2x4C	579.2	481.5	205,560	161,080	63	55	**L10A-2x4C**	492.8	428.8	166,040	138,480	57	53	1.778	280.8	2,060
N10A-2x4D	636.3	542.5	218,800	177,240	63	55	**L10A-2x4D**	542.6	474.0	177,280	149,840	57	53	2.045	322.7	2,300
N10A-2x5B	661.7	535.3	239,080	180,250	64	56	**L10A-2x5B**	564.1	495.0	193,150	162,100	58	54	1.889	298.3	2,310
N10A-2x5C	737.7	613.9	256,950	201,350	64	56	**L10A-2x5C**	629.0	544.5	207,550	173,100	58	54	2.223	350.7	2,550
N10A-2x6B	805.8	653.3	286,890	216,300	65	57	**L10A-2x6B**	690.3	600.4	231,780	194,520	59	55	2.267	357.7	2,772

Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°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 (CGAV/H) and other designs available in our GEA Küba Select selection program!

Selection table 2-range (S)

GAV / H S ..-2x ..							GA. S		
Type	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		[m²]	[dm³]	[kg]
GA.	Δ	Y	Δ	Y	Δ	Y			
S05A-2x1F	20.7	15.9	8,330	5,750	43	34	82	16.5	154
S05A-2x1G	26.5	19.6	7,780	5,470	43	34	164	30.0	176
S05A-2x2F	41.3	31.7	16,660	11,500	45	36	164	31.7	283
S05A-2x2G	53.0	39.9	15,560	10,940	45	36	328	58.0	327
S05A-2x3F	62.0	47.6	24,980	17,250	46	37	246	52.3	412
S05A-2x3G	81.5	60.3	23,340	16,420	46	37	492	91.3	478
S06A-2x1F	34.1	31.3	14,460	12,770	49	46	109	22.0	199
S06A-2x1G	42.2	39.1	12,250	10,940	48	45	218	42.5	247
S06A-2x1H	39.6	35.9	15,300	13,300	49	46	143	30.2	238
S06A-2x1I	50.1	45.0	14,340	12,590	48	45	287	53.9	300
S06A-2x2F	67.9	62.7	28,910	25,550	51	48	218	52.2	365
S06A-2x2G	85.5	76.9	24,500	21,880	50	47	435	87.0	456
S06A-2x2H	79.0	71.6	30,600	26,600	51	48	287	63.1	443
S06A-2x2I	100.4	88.4	28,680	25,180	50	47	574	109.3	561
S06A-2x3F	98.6	90.7	43,370	38,320	52	49	327	69.8	537
S06A-2x3G	126.5	114.0	36,740	32,820	51	48	653	121.7	677
S06A-2x3H	116.0	105.0	45,900	39,900	52	49	430	86.1	648
S06A-2x3I	153.8	135.3	43,020	37,770	51	48	861	136.5	832
S08A-2x1A	51.1	41.8	16,910	13,140	36	30	233	46.3	450
S08A-2x1B	57.4	46.0	18,110	13,860	36	30	283	65.3	480
S08A-2x1C	62.2	49.6	18,910	14,550	36	30	333	73.2	530
S08A-2x2A	102.2	83.6	33,820	26,280	38	32	467	94.7	770
S08A-2x2B	114.1	92.1	36,210	27,720	38	32	567	110.4	860
S08A-2x2C	124.5	100.4	37,820	29,100	38	32	667	126.2	960
S08A-2x3A	153.4	125.3	50,730	39,430	41	35	700	111.2	1,130
S08A-2x3B	171.1	138.1	54,320	41,590	41	35	850	134.8	1,270
S08A-2x3C	186.7	150.6	56,720	43,640	41	35	1.000	158.4	1,390
S08A-2x4A	193.8	159.5	67,640	52,570	43	37	933	147.7	1,530
S08A-2x4B	219.6	177.0	72,420	55,450	42	36	1.134	179.2	1,750
S08A-2x4C	238.8	193.1	75,630	58,190	42	36	1.334	231.1	1,900
S08A-2x5A	250.2	205.6	84,550	65,710	43	37	1.167	204.9	1,850
S08A-2x5B	280.8	228.5	90,530	69,310	43	37	1.417	223.7	2,100
S08A-2x5C	305.8	245.3	94,540	72,740	43	37	1.667	263.0	2,300
S08A-2x6A	307.0	250.5	101,460	78,850	44	38	1.400	221.1	2,520
S08A-2x6B	342.1	276.3	108,640	83,170	44	38	1.700	268.3	2,220
S08A-2x7A	395.0	321.3	132,360	101,840	45	39	1.634	257.8	2,590

Continued on next page

Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°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 (CGAV/H) and other designs available in our GEA Küba Select selection program!

Selection table 2-range (S)

GAV / H S ..-2x ..							GA. S		
Type	**Nominal capacity Q_{GLY}**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		[m²]	[dm³]	[kg]
GA.	Δ	Y	Δ	Y	Δ	Y			
S09A-2x1A	74.3	58.6	28,070	20,160	48	41	233	57.5	450
S09A-2x1B	85.4	67.6	30,870	22,520	48	41	283	65.3	480
S09A-2x1C	92.6	75.0	31,910	24,190	48	41	333	73.2	530
S09A-2x1D	99.7	82.4	33,290	25,860	48	41	383	81.1	570
S09A-2x2A	148.6	116.5	56,130	40,320	52	45	467	74.5	770
S09A-2x2B	163.7	130.0	61,740	45,050	52	45	567	90.2	860
S09A-2x2C	178.9	145.8	63,830	48,380	52	45	667	105.9	960
S09A-2x2D	195.0	159.7	66,590	51,720	52	45	767	121.7	1,044
S09A-2x3A	223.0	174.8	84,200	60,480	54	47	700	111.2	1,130
S09A-2x3B	234.8	186.7	92,620	67,570	54	47	850	155.1	1,270
S09A-2x3C	258.7	210.9	95,740	72,580	54	47	1.000	178.7	1,390
S09A-2x3D	282.8	232.9	99,880	77,580	53	46	1.150	181.8	1,512
S09A-2x4A	281.0	221.5	112,260	80,640	55	48	933	147.7	1,530
S09A-2x4B	327.4	260.1	123,490	90,100	54	47	1.134	179.2	1,750
S09A-2x4C	358.0	291.9	127,660	96,770	54	47	1.334	210.6	1,900
S09A-2x4D	387.6	319.3	133,180	103,440	54	47	1.534	242.1	2,070
S09A-2x5A	363.0	286.2	140,330	100,800	55	48	1.167	184.4	1,850
S09A-2x5B	420.7	334.8	154,360	112,620	55	48	1.417	223.7	2,100
S09A-2x5C	456.1	370.0	159,570	120,960	55	48	1.667	263.0	2,300
S09A-2x6A	446.2	349.6	168,400	120,960	56	49	1.400	221.1	2,220
S09A-2x6B	512.4	405.9	185,230	135,140	56	49	1.700	268.3	2,520
S09A-2x7A	527.2	415.4	196,460	141,120	57	50	1.634	257.8	2,590
S10A-2x1B	85.3	78.0	32,730	28,760	46	43	283	65.7	480
S10A-2x1C	97.5	86.2	35,870	30,390	46	43	333	73.6	530
S10A-2x1D	106.1	96.5	37,630	32,930	46	43	383	81.4	570
S10A-2x2B	182.7	165.8	65,460	57,520	49	46	567	90.3	860
S10A-2x2C	195.0	172.5	71,740	60,780	49	46	667	105.9	960
S10A-2x2D	212.3	193.3	75,260	65,860	49	46	767	121.7	1,044
S10A-2x3B	244.8	223.0	98,190	86,280	51	48	850	155.1	1,270
S10A-2x3C	281.7	249.5	107,610	91,170	51	48	1.000	158.2	1,390
S10A-2x3D	310.1	280.5	112,890	98,790	50	47	1.150	181.8	1,512
S10A-2x4B	341.5	311.1	130,920	115,040	51	48	1.134	179.2	1,850
S10A-2x4C	390.2	345.1	143,480	121,560	51	48	1.334	210.6	1,900
S10A-2x4D	424.6	384.4	150,520	131,720	51	48	1.534	242.1	2,070
S10A-2x5B	439.0	399.4	163,650	143,800	52	49	1.417	223.7	2,100
S10A-2x5C	497.0	442.6	179,350	151,950	52	49	1.667	263.0	2,300
S10A-2x6B	534.6	486.5	196,380	172,560	53	50	1.700	268.3	2,520

Nominal capacity Q_{GLY}: 34% by vol. monoethylene glycol (Antifrogen N); t (in/out) = 45/40°C, t_{L1} = 32°C
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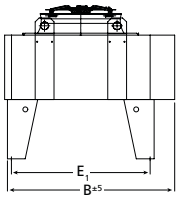
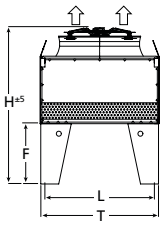
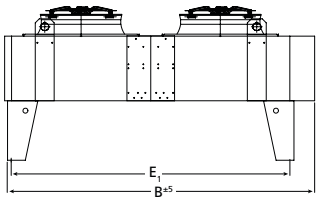
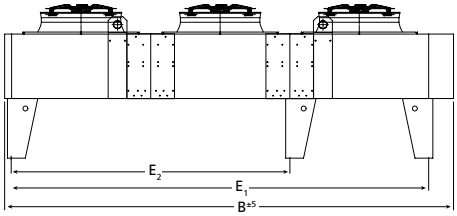
Dimensions 1-range (GAV)

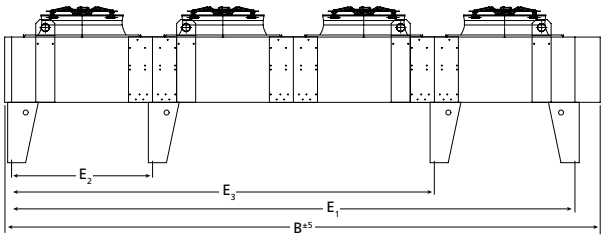
Type	GAV..-1x..: Dimensions [mm]							
GA.	H	B	E_1	E_2	E_3	F	T	L
05A-1x1F	1,000	1,410	960	-	-	500	900	850
05A-1x1G	1,000	1,410	960	-	-	500	900	850
05A-1x2F	1,000	2,512	2,062	-	-	500	900	850
05A-1x2G	1,000	2,512	2,062	-	-	500	900	850
05A-1x3F	1,000	3,613	3,163	1,102	-	500	900	850
05A-1x3G	1,000	3,613	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



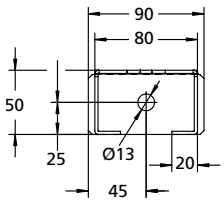








Feet GAV 05/06



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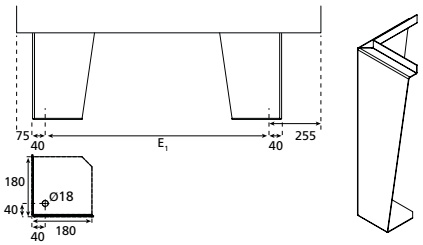
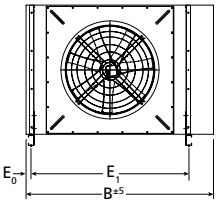
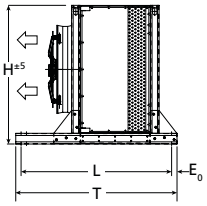
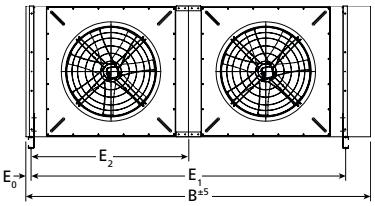


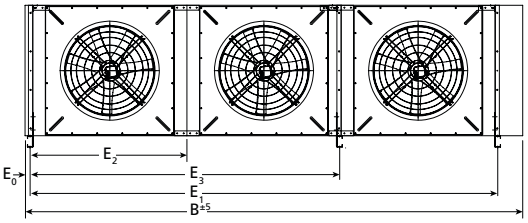
Dimensions 1-range (GAH)

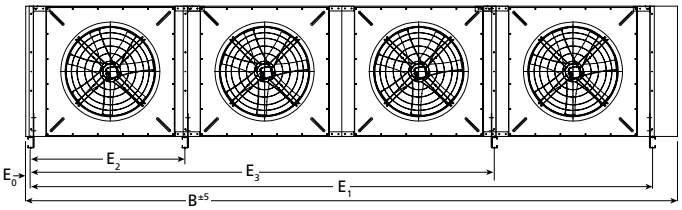
Type	GAH..-1x..: Dimensions [mm]						
GA.	H	B	E_1	E_2	E_3	T	L
05A-1x1F	851	1,410	960	-	-	925	745
05A-1x1G	851	1,410	960	-	-	925	745
05A-1x2F	851	2,512	2,062	960	-	925	745
05A-1x2G	851	2,512	2,062	960	-	925	745
05A-1x3F	851	3,613	3,163	1,102	2,062	925	745
05A-1x3G	851	3,613	3,163	1,102	2,062	925	745
06A-1x1F	1,106	1,410	960	-	-	925	745
06A-1x1H	1,106	1,760	1,310	-	-	925	745
06A-1x1G	1,106	1,410	960	-	-	925	745
06A-1x1I	1,106	1,760	1,310	-	-	925	745
06A-1x2F	1,106	2,512	2,062	960	-	925	745
06A-1x2H	1,106	3,212	2,762	1,310	-	925	745
06A-1x2G	1,106	2,512	2,062	960	-	925	745
06A-1x2I	1,106	3,212	2,762	1,310	-	925	745
06A-1x3F	1,106	3,613	3,163	1,102	2,062	925	745
06A-1x3H	1,106	4,663	4,213	1,452	2,762	925	745
06A-1x3G	1,106	3,613	3,163	1,102	2,062	925	745
06A-1x3I	1,106	4,663	4,213	1,452	2,762	925	745
08A-1x1A	1,290	1,730	1,448	-	-	1,500	1,400
08A-1x1B	1,290	2,030	1,748	-	-	1,500	1,400
08A-1x1C	1,290	2,330	2,048	-	-	1,500	1,400
08A-1x2A	1,290	3,130	2,850	-	-	1,500	1,400
08A-1x2B	1,290	3,730	3,450	-	-	1,500	1,400
08A-1x2C	1,290	4,335	4,050	-	-	1,500	1,400
08A-1x3A	1,290	4,535	4,250	2,813	-	1,500	1,400
08A-1x3B	1,290	5,435	5,151	3,413	-	1,500	1,400
08A-1x3C	1,290	6,335	6,051	4,013	-	1,500	1,400
08A-1x4A	1,290	5,935	5,653	1,402	4,215	1,500	1,400
08A-1x4B	1,290	7,135	6,853	1,701	5,115	1,500	1,400
08A-1x4C	1,290	8,335	8,053	2,002	6,015	1,500	1,400
08A-1x5A	1,290	7,335	7,054	2,803	4,215	1,500	1,400
08A-1x5B	1,290	8,835	8,550	3,403	5,115	1,500	1,400
08A-1x5C	1,290	10,335	10,054	4,003	6,015	1,500	1,400
09A-1x1A	1,290	1,730	1,448	-	-	1,500	1,400
09A-1x1B	1,290	2,030	1,748	-	-	1,500	1,400
09A-1x1C	1,290	2,330	2,048	-	-	1,500	1,400
09A-1x1D	1,290	2,630	2,348	-	-	1,500	1,400
09A-1x2A	1,290	3,130	2,850	-	-	1,500	1,400
09A-1x2B	1,290	3,730	3,450	-	-	1,500	1,400
09A-1x2C	1,290	4,335	4,050	-	-	1,500	1,400
09A-1x2D	1,290	4,930	4,650	-	-	1,500	1,400
09A-1x3A	1,290	4,535	4,250	2,813	-	1,500	1,400
09A-1x3B	1,290	5,435	5,151	3,413	-	1,500	1,400
09A-1x3C	1,290	6,335	6,051	4,013	-	1,500	1,400
09A-1x3D	1,290	7,235	6,951	4,613	-	1,500	1,400
09A-1x4A	1,290	5,935	5,653	1,402	4,215	1,500	1,400
09A-1x4B	1,290	7,135	6,853	1,701	5,115	1,500	1,400
09A-1x4C	1,290	8,335	8,053	2,002	6,015	1,500	1,400
09A-1x4D	1,290	9,535	9,253	2,302	6,915	1,500	1,400
09A-1x5A	1,290	7,335	7,054	2,803	4,215	1,500	1,400
09A-1x5B	1,290	8,835	8,550	3,403	5,115	1,500	1,400
09A-1x5C	1,290	10,335	10,054	4,003	6,015	1,500	1,400
10A-1x1B	1,730	2,030	1,748	-	-	1,500	1,400
10A-1x1C	1,730	2,330	2,048	-	-	1,500	1,400
10A-1x1D	1,730	2,630	2,348	-	-	1,500	1,400
10A-1x2B	1,730	3,730	3,450	-	-	1,500	1,400
10A-1x2C	1,730	4,330	4,050	-	-	1,500	1,400
10A-1x2D	1,730	4,930	4,650	-	-	1,500	1,400
10A-1x3B	1,730	5,433	5,151	3,413	-	1,500	1,400
10A-1x3C	1,730	6,333	6,051	4,013	-	1,500	1,400
10A-1x3D	1,730	7,233	6,951	4,613	-	1,500	1,400
10A-1x4B	1,730	7,135	6,853	1,702	5,115	1,500	1,400
10A-1x4C	1,730	8,335	8,053	2,002	6,015	1,500	1,400
10A-1x4D	1,730	9,535	9,253	2,302	6,915	1,500	1,400
10A-1x5B	1,730	8,835	8,554	3,403	5,115	1,500	1,400
10A-1x5C	1,730	10,335	10,054	3,703	6,015	1,500	1,400







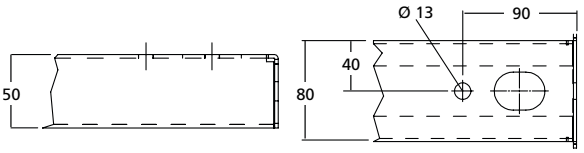




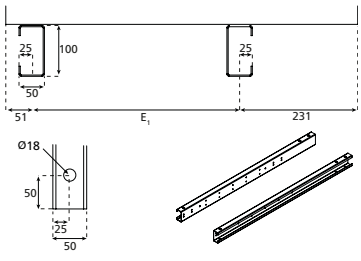
E_0 (GAH 08/09/10) **= 74 mm**

E_0 (GAH 05/06) **= 150 mm**

Feet GAH 05/06

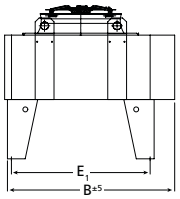


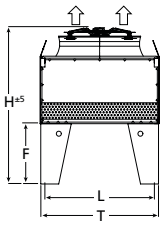
Feet GAH 08/09/10

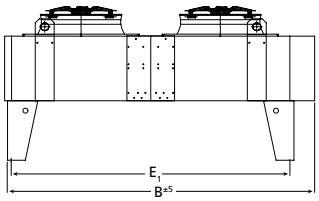


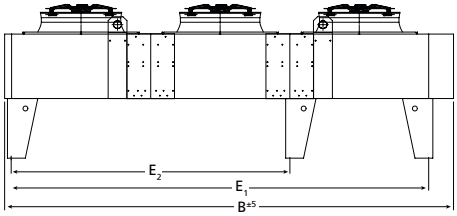
Dimensions 2-range (GAV)

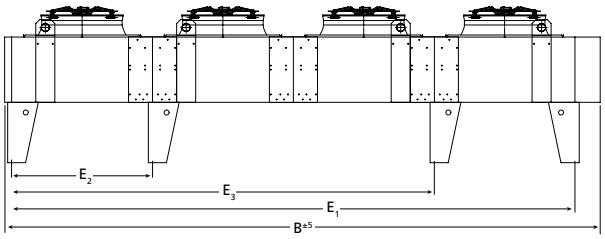
Type	GAV..-2x..: Dimensions [mm]								
GA.	H	B	E_1	E_2	E_3	E_4	F	T	L
05A-2x1F	1,000	1,410	960	-	-	-	500	1,702	1,652
05A-2x1G	1,000	1,410	960	-	-	-	500	1,702	1,652
05A-2x2F	1,000	2,512	2,062	-	-	-	500	1,702	1,652
05A-2x2G	1,000	2,512	2,062	-	-	-	500	1,702	1,652
05A-2x3F	1,000	3,613	3,163	1,102	-	-	500	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	9,509	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



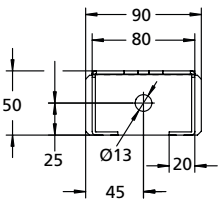




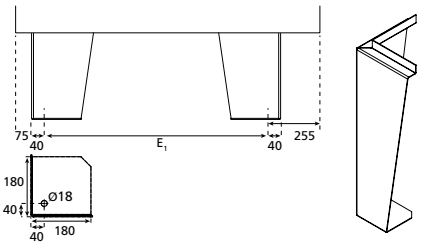




Feet GAV 05/06

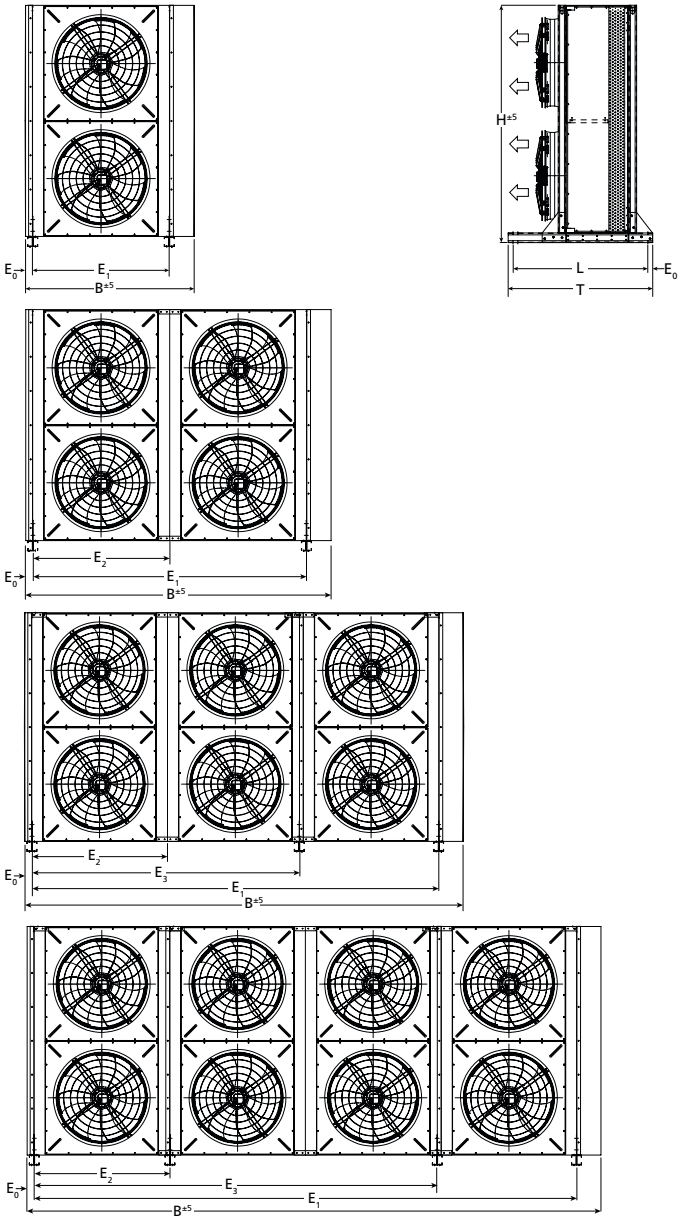


Feet GAV 08/09/10



Dimensions 2-range (GAH)

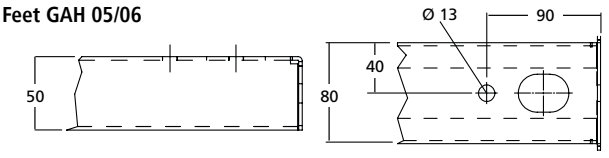
Type	GAH..-2x..: Dimensions [mm]							
GA.	H	B	E_1	E_2	E_3	E_4	T	L
05A-2x1F	1,655	1,410	960	-	-	-	925	745
05A-2x1G	1,655	1,410	960	-	-	-	925	745
05A-2x2F	1,655	2,512	2,062	960	-	-	925	745
05A-2x2G	1,655	2,512	2,062	960	-	-	925	745
05A-2x3F	1,655	3,613	3,163	1,102	2,062	-	925	745
05A-2x3G	1,655	3,613	3,163	1,102	2,062	-	925	745
06A-2x1F	2,163	1,410	960	-	-	-	925	745
06A-2x1H	2,163	1,760	1,310	-	-	-	925	745
06A-2x1G	2,163	1,410	960	-	-	-	925	745
06A-2x1I	2,163	1,760	1,310	-	-	-	925	745
06A-2x2F	2,163	2,512	2,062	960	-	-	925	745
06A-2x2H	2,163	3,212	2,762	1,310	-	-	925	745
06A-2x2G	2,163	2,512	2,062	960	-	-	925	745
06A-2x2I	2,163	3,212	2,762	1,310	-	-	925	745
06A-2x3F	2,163	3,613	3,163	1,102	2,062	-	925	745
06A-2x3H	2,163	4,663	4,213	1,452	2,762	-	925	745
06A-2x3G	2,163	3,613	3,163	1,102	2,062	-	925	745
06A-2x3I	2,163	4,663	4,213	1,452	2,762	-	925	745
08A-2x1A	2,465	1,730	1,448	-	-	-	1,500	1,400
08A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
08A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
08A-2x2A	2,465	3,130	2,850	-	-	-	1,500	1,400
08A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
08A-2x2C	2,465	4,335	4,050	-	-	-	1,500	1,400
08A-2x3A	2,465	4,535	4,250	2,813	-	-	1,500	1,400
08A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
08A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
08A-2x4A	2,465	5,935	5,653	1,402	4,215	-	1,500	1,400
08A-2x4B	2,465	7,135	6,853	1,701	5,115	-	1,500	1,400
08A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
08A-2x5A	2,465	7,335	7,054	2,803	4,215	-	1,500	1,400
08A-2x5B	2,465	8,835	8,550	3,403	5,115	-	1,500	1,400
08A-2x5C	2,465	10,335	10,054	4,003	6,015	-	1,500	1,400
08A-2x6A	2,465	8,738	8,456	2,803	5,616	-	1,500	1,400
08A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400
08A-2x7A	2,465	10,139	9,857	2,803	4,205	7,054	1,500	1,400
09A-2x1A	2,465	1,730	1,448	-	-	-	1,500	1,400
09A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
09A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
09A-2x1D	2,465	2,630	2,348	-	-	-	1,500	1,400
09A-2x2A	2,465	3,130	2,850	-	-	-	1,500	1,400
09A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
09A-2x2C	2,465	4,335	4,050	-	-	-	1,500	1,400
09A-2x2D	2,465	4,930	4,650	-	-	-	1,500	1,400
09A-2x3A	2,465	4,535	4,250	2,813	-	-	1,500	1,400
09A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
09A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
09A-2x3D	2,465	7,235	6,951	4,613	-	-	1,500	1,400
09A-2x4A	2,465	5,935	5,653	1,402	4,215	-	1,500	1,400
09A-2x4B	2,465	7,135	6,853	1,701	5,115	-	1,500	1,400
09A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
09A-2x4D	2,465	9,535	9,253	2,302	6,915	-	1,500	1,400
09A-2x5A	2,465	7,335	7,054	2,803	4,215	-	1,500	1,400
09A-2x5B	2,465	8,835	8,550	3,403	5,115	-	1,500	1,400
09A-2x5C	2,465	10,335	10,054	4,003	6,015	-	1,500	1,400
09A-2x6A	2,465	8,738	8,456	2,803	5,616	-	1,500	1,400
09A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400
09A-2x7A	2,465	10,139	9,857	2,803	4,205	7,054	1,500	1,400
10A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
10A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
10A-2x1D	2,465	2,630	2,348	-	-	-	1,500	1,400
10A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
10A-2x2C	2,465	4,330	4,050	-	-	-	1,500	1,400
10A-2x2D	2,465	4,930	4,650	-	-	-	1,500	1,400
10A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
10A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
10A-2x3D	2,465	7,235	6,951	4,613	-	-	1,500	1,400
10A-2x4B	2,465	7,135	6,853	1,702	5,115	-	1,500	1,400
10A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
10A-2x4D	2,465	9,535	9,253	2,302	6,915	-	1,500	1,400
10A-2x5B	2,465	8,835	8,554	3,403	5,115	-	1,500	1,400
10A-2x5C	2,465	10,335	10,054	3,703	6,015	-	1,500	1,400
10A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400



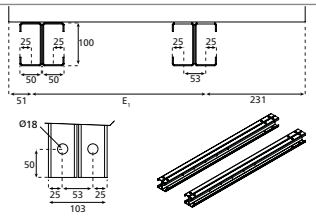
E_0 (GAH 08/09/10) = **74 mm**

E_0 (GAH 05/06) = **150 mm**

Feet GAH 05/06



Feet GAH 08/09/10



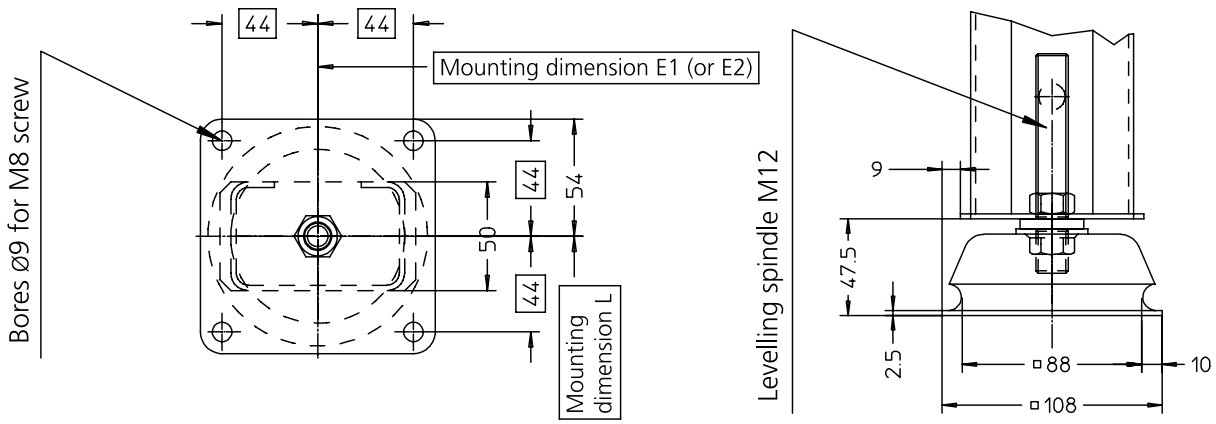
Types and Accessories

Following variants and accessoires are available for extra charge:

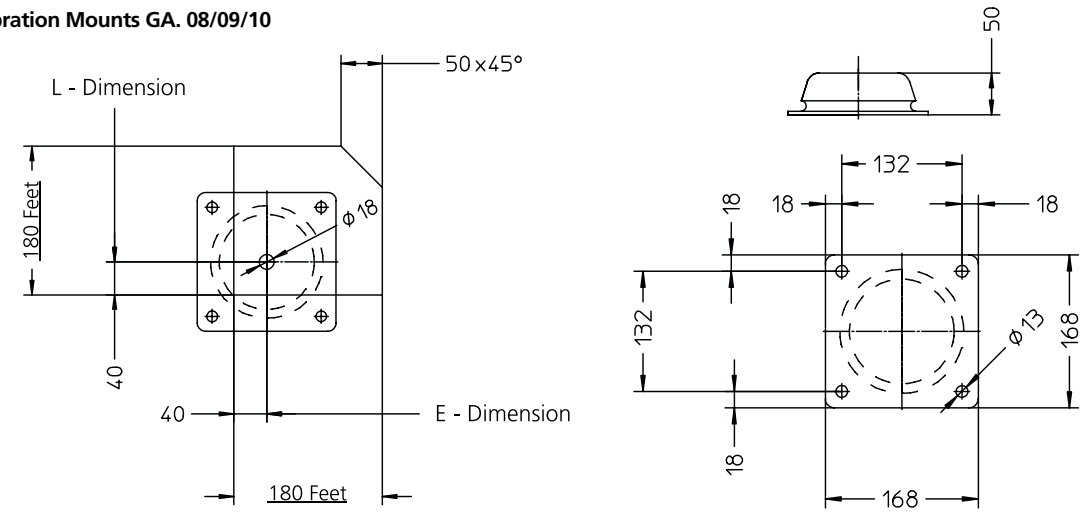
- Circuit subdivision
- Flange
- Different fin spacing: from 1,8 to 4,2 mm
- Fins „Goldlack“: 1.8 to 3.6 mm
- Fins Copper: 1,8 bis 3,2 mm
- Fin AlMg2.5
- Anti-Vibration Mounts
- Tubes stainless steel
- Other RAL-tints
- Fans with other voltage, frequency and temperature range
- Other Support Legs: 100, 400, 600, 850, 1000 mm (without extra charges)
- Fans wired to repair switches on face or terminal boxes in an open enclosure, UV resistant cable
- Air duct with or without protection guard
- Electronic regulators for fans

Dimensional changes for Anti-Vibration Mounts

Anti-Vibration Mounts GA. 05/06



Anti-Vibration Mounts GA. 08/09/10



Description: GEA Küba GAV / H

GAV/GAH: Axial Fan dry cooler

For outdoor installation, air flow vertical (GAV ...), horizontal (GAH ...), without external pressure

Heat exchanger:

- High performance tubing system with staggered special SF copper tubes and pure aluminium fins with closed dimpling. Standard fin spacing is 2,2 mm.
- Series connection suitable for multiple subdivisions with draining and bleeding plugs on each circuit.
- Distributor and accumulator tubes of SF copper, steel connections.

Casing:

- Self-supporting construction, fan sections individually partitioned and optimised flow suction chamber.
- Casing and legs from galvanized sheet steel. The parts are individually powder coated including the edges, to achieve corrosion and scratch resistance impossible with liquid coating.
- Powder coating resistant to temperature and UV rays.
- Standard colour is RAL 7032, pebble grey.
- Mounted transport eyes are included in the standard scope of delivery.

Axial fans:

- Compact unit, motor with fans (blade-/sickle blade) and fan guard in accordance with DIN EN ISO 13857, corrosion proof and weather resistent.
- Fan blades ø 500, 650, 800, 910, 1000 mm balanced in two levels according to standard DIN EN ISO 1940.
- 400 V, 3-ph 50 Hz supply for standard motors
  - with 2 speeds (Δ-Y-connections)
  - variable speed control (30-100 %) by reduction of voltage
  - suitable for operation with frequency converter with sinus filter on all phases according to catalogue specifications
  - standard protection of motor by thermocouples, in the terminal box
- Protection: IP 54; Protected against dust and all-round splash water
  - For outdoor installation and ambient motor temperatures standard of -30°C up to +60°C
- Output data certified under Eurovent ID No. 98-08-043
- The LPA acoustic pressure refers to the cuboid surface envelope and the enveloping surface terminating on reflecting levels

Accessories:

- Circuit subdivision
- Speed controller
- Flange connections
- Switchgear cabinet
- Anti-Vibration Mounts
- Immersion sensor TFT loose/mounted
- Immersion tube TFT loose/mounted
- Repair switch mounted and wired on face
- Fins plastic coated ("Goldlack")
- Fins AlMg2.5
- Special voltage and frequencies

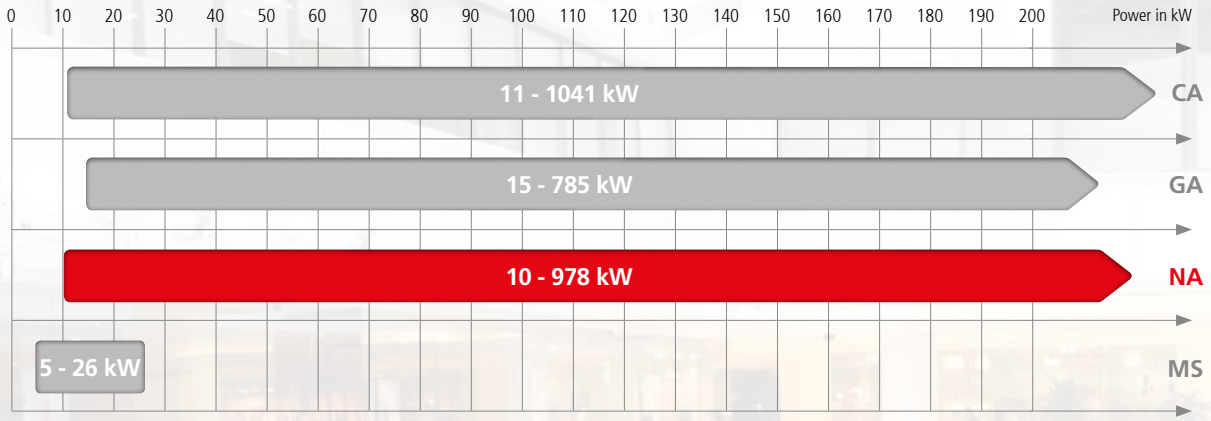
Technical Data:

Dry cooler capacity	Q_{GLY}	kW
Coolant/concentration		%
Air inlet temperature	t_{L1}	°C
Coolant temperatures	t_{ein} / t_{aus}	°C
Airflow	V_L	m³/h
Sound Power Level	L_{WA}	dB(A)
Sound Pressure	L_{PA}	dB(A) in 10 m
Air direction discharge (vert./hor.)		
Number of fans	n	Number
Motor speed		min^{-1}

Nominal motor capacity for nominal voltage.	P_{el}	W	V
Nominal current and mains frequency	I	A	Hz
Weight			kg
Length / Width / Height			mm
Connections	Inlet		mm
Connections	Outlet		mm
Colour	RAL		
Make	GEA Küba		
Type			
Price			EUR

GEA Küba **Red Line** NAV/H

Power range



Application areas

The GEA Küba NAV/H is used among other as a component of the refrigeration system in areas such as:

Ice rinks

Supermarkets

Hospitals

Note

Ensure when installing the equipment that there is neither external air resistance nor air backflow.
Technical changes reserved!

NAV/H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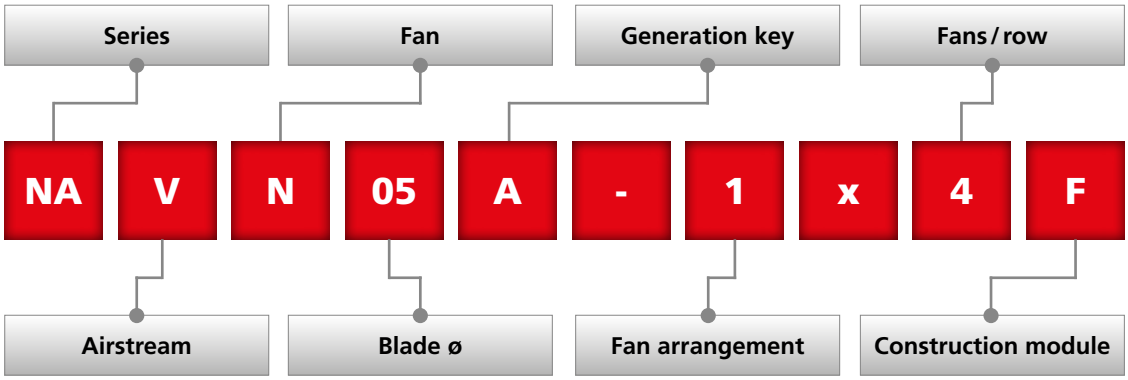
NAV/H

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:**
  R717 from 10 to 978 kW at Δt=15K (t_{L1} = 25°C, t_c = 40°C).
- **Suitable refrigerant:**
  R717
  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 areas 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 power level

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 stainless steel.

- Material:
  Tubes: Stainless steel, (V2A, 1.4301)
  Fins: High performance aluminum fins
  Fin spacing: 2,2 mm
- Multi-circuiting possible
- Fluid connections:
  black seamless drawn according to DIN 2440, vertical (can be used with vertical and horizontal air flow).
- Maximum permissible 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 (CNAV/H) and other designs available in our Küba Select selection program!

Fans

Standard construction

NA. 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

NA. 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	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**	**Blade Ø**	**Sound Power Level**		**Sound Power Level L_{WA} [dB(A)] at octave band centre frequnecy f [Hz], A-rated**															
			L_{WA}		63 Hz		125 Hz		250 Hz		500 Hz		1 kHz		2 kHz		4 kHz		8 kHz		16 kHz	
			Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	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

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)

NAV / H N ..-1x ..							NAV / H L ..-1x ..							NA. N + L			
Type	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Type**	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]			[kW]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
NA.	Δ	Y	Δ	Y	Δ	Y	**NA.**	Δ	Y	Δ	Y	Δ	Y				
N05A-1x1F	19.9	16.7	6,410	4,940	52	45	**L05A-1x1F**	19.5	16.9	6,260	5,030	50	44	1	42	6.8	86
N05A-1x1G	25.5	20.3	6,020	4,640	52	45	**L05A-1x1G**	24.9	20.7	5,840	4,680	50	44	2	84	13.5	97
N05A-1x2F	39.9	33.5	12,830	9,880	55	48	**L05A-1x2F**	39.3	33.9	12,510	10,050	53	47	2	84	13.3	116
N05A-1x2G	51.0	41.0	12,040	9,280	55	48	**L05A-1x2G**	49.8	40.7	11,680	9,350	53	47	4	167	26.6	158
N05A-1x3F	60.0	50.0	19,240	14,820	57	50	**L05A-1x3F**	59.1	50.6	18,770	15,080	55	49	4	125	19.9	172
N05A-1x3G	76.6	62.4	18,050	13,920	57	50	**L05A-1x3G**	74.7	62.6	17,520	14,030	55	49	6	251	39.7	228
N06A-1x1F	37.1	33.2	14,650	12,310	63	59	**L06A-1x1F**	28.9	26.9	9,820	8,900	53	51	2	55	9.3	128
N06A-1x1G	48.3	41.7	12,700	10,600	63	59	**L06A-1x1G**	34.4	31.6	8,360	7,530	53	51	4	110	18.4	150
N06A-1x1H	42.4	38.6	15,430	13,170	63	59	**L06A-1x1H**	32.7	30.8	10,250	9,350	53	51	2	73	12.2	142
N06A-1x1I	54.8	49.3	13,670	11,960	62	58	**L06A-1x1I**	40.6	37.1	9,470	8,570	52	50	4	146	23.8	176
N06A-1x2F	74.5	66.6	29,300	24,630	66	62	**L06A-1x2F**	57.2	53.8	19,630	17,790	56	54	4	110	18.4	208
N06A-1x2G	97.7	84.6	25,390	21,190	65	61	**L06A-1x2G**	69.7	64.0	16,720	15,050	55	53	6	221	35.8	255
N06A-1x2H	85.3	77.5	30,860	26,340	66	62	**L06A-1x2H**	65.6	61.8	20,500	18,700	56	54	4	146	23.8	242
N06A-1x2I	109.7	98.7	27,340	23,910	65	61	**L06A-1x2I**	81.1	74.2	18,940	17,140	55	53	8	291	47.1	299
N06A-1x3F	111.8	99.9	43,950	36,940	68	64	**L06A-1x3F**	85.9	80.7	29,450	26,690	58	56	6	166	27.3	300
N06A-1x3G	147.1	127.7	38,090	31,790	67	63	**L06A-1x3G**	105.3	96.6	25,080	22,580	57	55	8	331	53.3	370
N06A-1x3H	128.1	116.4	46,290	39,510	68	64	**L06A-1x3H**	98.5	92.7	30,750	28,050	58	56	6	218	35.5	357
N06A-1x3I	164.5	147.0	41,020	35,870	67	63	**L06A-1x3I**	120.9	111.3	28,400	25,700	57	55	13	437	70.5	418
N08A-1x1A	63.6	52.2	16,500	12,900	52	46	**L08A-1x1A**	60.5	45.6	15,470	10,890	53	46	6	158	25.9	290
N08A-1x1B	70.4	56.9	18,100	13,850	52	46	**L08A-1x1B**	66.7	50.8	16,840	12,010	53	46	9	191	31.5	320
N08A-1x1C	75.9	61.6	18,900	14,630	52	46	**L08A-1x1C**	72.7	55.4	17,880	12,830	53	46	9	225	36.8	343
N08A-1x2A	127.2	104.3	33,000	25,790	54	49	**L08A-1x2A**	121.1	91.3	30,940	21,770	56	49	12	315	51.2	500
N08A-1x2B	144.8	116.2	36,200	27,700	54	49	**L08A-1x2B**	135.8	102.8	33,690	24,020	56	49	12	383	61.7	570
N08A-1x2C	151.9	123.2	37,790	29,250	54	49	**L08A-1x2C**	145.5	110.7	35,760	25,660	56	49	18	450	73.2	626
N08A-1x3A	190.8	156.5	49,500	38,690	56	51	**L08A-1x3A**	181.7	136.9	46,410	32,660	58	51	18	473	76.7	730
N08A-1x3B	217.2	174.4	54,290	41,540	56	51	**L08A-1x3B**	203.8	154.2	50,530	36,030	58	51	18	574	92.4	840
N08A-1x3C	233.1	188.2	56,690	43,880	56	51	**L08A-1x3C**	223.0	167.6	53,640	38,480	58	51	18	675	108.2	929
N08A-1x4A	258.2	213.1	66,000	51,580	57	52	**L08A-1x4A**	245.8	184.6	61,880	43,540	59	52	18	630	102.2	970
N08A-1x4B	281.7	227.6	72,390	55,390	57	52	**L08A-1x4B**	266.8	203.4	67,380	48,040	59	52	36	765	123.1	1,110
N08A-1x4C	303.8	246.3	75,580	58,510	57	52	**L08A-1x4C**	291.0	221.5	71,520	51,310	59	52	36	901	144.1	1,232
N08A-1x5A	312.9	257.6	82,510	64,480	58	53	**L08A-1x5A**	298.3	226.0	77,350	54,430	60	53	36	788	126.6	1,180
N08A-1x5B	357.7	287.6	90,490	69,240	57	52	**L08A-1x5B**	335.2	254.7	84,220	60,050	59	52	36	957	154.4	1,340
N08A-1x5C	384.8	310.9	94,480	73,140	57	52	**L08A-1x5C**	368.4	278.9	89,400	64,140	59	52	36	1.126	180.6	1,495

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Nominal capacity Q_c: R 717; 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

Selection table 1-range (N + L)

NAV / H N ..-1x ..							NAV / H L ..-1x ..							NA. N + L			
Type	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Typ**	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]			[kW]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
NA.	Δ	Y	Δ	Y	Δ	Y	**NA.**	Δ	Y	Δ	Y	Δ	Y				
N09A-1x1A	74.4	59.0	20,140	14,970	60	53	**L09A-1x1A**	65.8	51.8	17,270	12,780	53	45	6	158	26.3	290
N09A-1x1B	81.6	66.9	22,170	16,910	60	53	**L09A-1x1B**	75.2	58.6	19,770	14,380	53	45	9	191	31.5	320
N09A-1x1C	91.4	73.7	23,820	18,200	60	53	**L09A-1x1C**	83.7	64.6	21,500	15,530	53	45	9	225	36.8	340
N09A-1x1D	98.9	80.3	25,130	19,460	60	53	**L09A-1x1D**	91.1	70.4	22,610	16,510	53	45	9	259	42.0	388
N09A-1x2A	149.0	118.1	40,290	29,930	62	55	**L09A-1x2A**	131.6	103.6	34,550	25,560	55	47	12	315	51.2	500
N09A-1x2B	168.9	136.2	44,330	33,810	62	55	**L09A-1x2B**	155.0	119.8	39,540	28,750	55	47	12	383	62.7	570
N09A-1x2C	182.9	147.5	47,650	36,400	62	55	**L09A-1x2C**	167.5	129.2	42,990	31,060	55	47	18	450	73.2	620
N09A-1x2D	197.8	160.6	50,260	38,930	62	55	**L09A-1x2D**	182.3	140.7	45,220	33,020	55	47	18	518	83.7	707
N09A-1x3A	223.5	177.2	60,430	44,900	64	57	**L09A-1x3A**	197.5	155.4	51,820	38,340	57	49	18	473	76.7	730
N09A-1x3B	253.5	204.3	66,500	50,720	64	57	**L09A-1x3B**	232.5	179.7	59,310	43,130	57	49	18	574	93.5	840
N09A-1x3C	280.9	226.2	71,470	54,600	64	57	**L09A-1x3C**	257.9	197.7	64,490	46,590	57	49	18	675	109.2	920
N09A-1x3D	291.5	237.9	75,390	58,390	64	57	**L09A-1x3D**	269.2	209.1	67,820	49,530	57	49	36	777	124.9	1,050
N09A-1x4A	301.9	239.6	80,580	59,860	65	58	**L09A-1x4A**	269.3	210.0	69,100	51,120	58	50	18	630	102.2	970
N09A-1x4B	326.7	267.6	88,660	67,620	65	58	**L09A-1x4B**	300.7	234.3	79,080	57,500	58	50	36	765	123.1	1,110
N09A-1x4C	366.0	295.1	95,290	72,800	65	58	**L09A-1x4C**	335.1	258.3	85,990	62,120	58	50	36	901	145.6	1,220
N09A-1x4D	395.7	321.3	100,520	77,860	64	57	**L09A-1x4D**	364.6	281.4	90,430	66,040	57	49	36	1.036	166.6	1,392
N09A-1x5A	366.1	291.1	100,720	74,830	66	59	**L09A-1x5A**	323.5	255.8	86,370	63,900	59	51	36	788	128.1	1,180
N09A-1x5B	416.5	336.1	110,830	84,530	65	58	**L09A-1x5B**	382.5	296.3	98,850	71,880	58	50	36	957	154.4	1,340
N09A-1x5C	464.3	373.6	119,120	91,000	65	58	**L09A-1x5C**	429.1	326.4	107,490	77,650	58	50	36	1.126	180.6	1,480
N10A-1x1B	103.6	82.7	26,700	20,160	55	47	**L10A-1x1B**	87.0	75.7	21,500	18,030	49	45	10	264	43.8	380
N10A-1x1C	112.5	92.1	28,130	22,080	55	47	**L10A-1x1C**	94.9	81.2	22,700	18,910	49	45	10	310	51.7	420
N10A-1x1D	117.4	100.0	29,570	24,000	55	47	**L10A-1x1D**	99.6	86.8	23,890	20,230	49	45	20	357	59.0	460
N10A-1x2B	203.9	163.5	53,390	40,320	58	50	**L10A-1x2B**	171.8	149.9	43,010	36,050	52	48	25	528	87.1	690
N10A-1x2C	221.8	183.7	56,270	44,160	58	50	**L10A-1x2C**	187.8	161.1	45,400	37,810	52	48	25	621	101.7	760
N10A-1x2D	240.9	202.4	59,140	48,000	58	50	**L10A-1x2D**	201.6	174.8	47,790	40,450	52	48	25	714	116.2	850
N10A-1x3B	315.2	251.0	80,090	60,480	60	52	**L10A-1x3B**	264.2	227.6	64,510	54,080	54	50	25	792	128.4	1,020
N10A-1x3C	341.1	279.2	84,400	66,240	60	52	**L10A-1x3C**	285.6	245.7	68,100	56,720	54	50	25	931	150.2	1,120
N10A-1x3D	352.9	300.4	88,710	72,000	60	52	**L10A-1x3D**	299.4	261.7	71,680	60,680	54	50	50	1.071	172.0	1,240
N10A-1x4B	407.9	327.0	106,780	80,640	61	53	**L10A-1x4B**	343.5	299.8	86,020	72,110	55	51	50	1.056	169.6	1,350
N10A-1x4C	443.7	367.5	112,530	88,320	60	52	**L10A-1x4C**	375.7	322.2	90,800	75,630	54	50	50	1.242	198.7	1,480
N10A-1x4D	481.9	404.8	118,280	96,000	60	52	**L10A-1x4D**	403.3	349.6	95,570	80,900	54	50	50	1.428	227.8	1,650
N10A-1x5B	518.6	413.7	133,480	100,800	61	53	**L10A-1x5B**	435.1	378.4	107,520	90,140	55	51	50	1.319	212.3	1,610
N10A-1x5C	562.8	460.9	140,670	110,400	61	53	**L10A-1x5C**	474.9	406.3	113,500	94,540	55	51	50	1.552	248.7	1,850

Nominal capacity Q_c: R 717; 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

Selection table 1-range (S)

NAV / H S ..-1x ..							NA. S			
Type	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
NA.	Δ	Y	Δ	Y	Δ	Y				
S05A-1x1F	14.9	11.2	4,160	2,880	40	30	1	42	6.8	86
S05A-1x1G	17.1	12.8	3,890	2,740	40	30	2	84	13.4	97
S05A-1x2F	29.8	22.4	8,330	5,750	43	34	2	84	13.2	116
S05A-1x2G	33.6	25.7	7,780	5,470	43	34	4	167	26.3	158
S05A-1x3F	44.0	33.4	12,490	8,630	45	36	4	125	19.7	172
S05A-1x3G	53.0	38.5	11,670	8,210	45	36	6	251	39.2	228
S06A-1x1F	23.2	21.4	7,230	6,390	45	43	2	55	9.1	128
S06A-1x1G	26.6	23.8	6,120	5,470	45	43	4	110	18.0	150
S06A-1x1H	26.7	24.2	7,650	6,650	45	43	2	73	11.8	142
S06A-1x1I	31.0	27.5	7,170	6,300	44	42	4	146	23.6	176
S06A-1x2F	46.4	42.7	14,460	12,770	49	46	4	110	18.0	208
S06A-1x2G	54.8	46.9	12,250	10,940	48	45	6	221	35.4	255
S06A-1x2H	53.5	48.4	15,300	13,300	49	46	4	146	23.5	242
S06A-1x2I	62.4	54.8	14,340	12,590	48	45	8	291	46.3	299
S06A-1x3F	69.7	64.1	21,680	19,160	51	48	6	166	26.9	300
S06A-1x3G	83.9	70.2	18,370	16,410	50	47	8	331	52.9	370
S06A-1x3H	80.2	72.6	22,950	19,950	51	48	6	218	35.1	357
S06A-1x3I	93.1	81.5	21,510	18,890	50	47	13	437	69.2	418
S08A-1x1A	33.7	27.6	8,460	6,570	33	27	6	118	19.3	270
S08A-1x1B	37.2	30.0	9,050	6,930	33	27	6	144	23.3	290
S08A-1x1C	39.8	31.8	9,450	7,270	33	27	6	169	27.2	323
S08A-1x2A	68.1	55.5	16,910	13,140	36	30	9	236	38.3	460
S08A-1x2B	75.1	60.1	18,110	13,860	36	30	9	287	46.2	520
S08A-1x2C	80.4	63.6	18,910	14,550	36	30	9	338	54.1	576
S08A-1x3A	101.0	82.7	25,370	19,710	38	32	18	355	56.6	680
S08A-1x3B	111.6	90.0	27,160	20,790	38	32	18	431	68.9	770
S08A-1x3C	119.6	97.3	28,360	21,820	38	32	18	507	80.7	848
S08A-1x4A	136.2	110.9	33,820	26,280	39	33	18	473	75.5	890
S08A-1x4B	148.6	119.6	36,210	27,720	39	33	27	574	91.2	1,020
S08A-1x4C	159.3	123.2	37,820	29,100	39	33	27	675	107.9	1,131
S08A-1x5A	168.6	138.5	42,280	32,860	40	34	27	591	94.8	1,090
S08A-1x5B	186.1	150.1	45,270	34,660	39	33	27	718	114.5	1,240
S08A-1x5C	200.6	159.5	47,270	36,370	39	33	27	844	134.2	1,374

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Nominal capacity Q_c: R 717; 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

Selection table 1-range (S)

NAV / H S ..-1x ..							NA. S			
Type	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
NA.	Δ	Y	Δ	Y	Δ	Y				
S09A-1x1A	48.9	38.3	14,030	10,080	46	39	6	118	19.6	270
S09A-1x1B	55.8	44.3	15,440	11,260	46	39	6	144	23.5	290
S09A-1x1C	60.7	48.7	15,960	12,100	46	39	6	169	27.5	320
S09A-1x1D	65.0	53.0	16,650	12,930	46	39	6	194	31.4	365
S09A-1x2A	100.0	77.8	28,070	20,160	48	41	9	236	38.3	460
S09A-1x2B	114.8	89.8	30,870	22,520	48	41	9	287	46.7	520
S09A-1x2C	122.9	98.6	31,910	24,190	48	41	9	338	54.5	570
S09A-1x2D	132.0	107.7	33,290	25,860	48	41	9	388	62.4	651
S09A-1x3A	146.9	115.1	42,100	30,240	50	43	18	355	57.1	680
S09A-1x3B	167.4	132.9	46,310	33,790	50	43	18	431	70.0	770
S09A-1x3C	182.0	146.2	47,870	36,290	50	43	18	507	81.8	840
S09A-1x3D	195.1	159.1	49,940	38,790	50	43	18	583	93.6	958
S09A-1x4A	200.1	155.7	56,130	40,320	51	44	18	473	76.5	890
S09A-1x4B	222.5	175.4	61,740	45,050	51	44	27	574	92.2	1,020
S09A-1x4C	239.6	193.1	63,830	48,380	51	44	27	675	107.9	1,120
S09A-1x4D	259.6	211.9	66,590	51,720	50	43	27	777	124.7	1,278
S09A-1x5A	245.6	192.0	70,170	50,400	52	45	27	591	94.8	1,090
S09A-1x5B	283.2	222.0	77,180	56,310	51	44	27	718	115.6	1,240
S09A-1x5C	304.1	244.1	79,790	60,480	51	44	27	844	135.2	1,360
S10A-1x1B	70.8	64.0	18,350	16,050	43	40	5	198	33.2	350
S10A-1x1C	74.8	65.8	19,700	16,650	43	40	15	233	38.7	380
S10A-1x1D	79.8	72.1	20,390	17,840	43	40	15	268	44.1	410
S10A-1x2B	138.5	125.4	36,700	32,110	46	43	15	396	64.8	610
S10A-1x2C	154.1	134.3	39,400	33,300	46	43	15	466	77.2	680
S10A-1x2D	163.8	147.4	40,780	35,670	46	43	15	536	88.1	750
S10A-1x3B	207.3	187.7	55,050	48,160	48	45	25	594	97.2	910
S10A-1x3C	228.7	201.2	59,110	49,950	48	45	25	699	113.5	995
S10A-1x3D	245.3	219.3	61,170	53,510	48	45	25	803	129.9	1,100
S10A-1x4B	280.8	253.8	73,400	64,220	49	46	25	792	126.7	1,210
S10A-1x4C	304.3	265.7	78,810	66,600	48	45	37	931	149.9	1,340
S10A-1x4D	324.0	292.0	81,560	71,350	48	45	37	1.071	171.8	1,450
S10A-1x5B	349.8	313.6	91,750	80,270	49	46	37	990	159.0	1,460
S10A-1x5C	385.5	335.9	98,510	83,250	49	46	37	1.164	186.3	1,610

Nominal capacity Q_c: R 717; 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

Selection table 2-range (N + L)

NAV / H N ..-2x ..

Type	Nominal capacity Q_c		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
NA.	Δ	Y	Δ	Y	Δ	Y
N05A-2x1F	39.1	32.5	12,830	9,880	55	48
N05A-2x1G	50.7	42.0	12,040	9,280	55	48
N05A-2x2F	78.2	65.2	25,660	19,760	57	50
N05A-2x2G	101.5	82.8	24,070	18,560	57	50
N05A-2x3F	118.7	99.0	38,480	29,650	58	51
N05A-2x3G	152.3	125.8	36,110	27,840	58	51
N06A-2x1F	73.5	65.7	29,300	24,630	66	62
N06A-2x1G	96.0	83.0	25,390	21,190	65	61
N06A-2x1H	84.1	76.6	30,860	26,340	66	62
N06A-2x1I	109.0	98.2	27,340	23,910	65	61
N06A-2x2F	147.5	131.8	58,600	49,260	68	64
N06A-2x2G	194.3	168.2	50,790	42,380	67	63
N06A-2x2H	169.0	153.7	61,720	52,680	68	64
N06A-2x2I	219.2	197.5	54,690	47,830	67	63
N06A-2x3F	221.1	199.7	87,890	73,880	69	65
N06A-2x3G	292.6	254.0	76,180	63,570	68	64
N06A-2x3H	254.9	231.4	92,570	79,020	69	65
N06A-2x3I	327.3	292.4	82,030	71,740	68	64
N08A-2x1A	126.4	103.8	33,000	25,790	54	49
N08A-2x1B	140.1	113.3	36,200	27,700	54	49
N08A-2x1C	151.1	122.7	37,790	29,250	54	49
N08A-2x2A	253.0	207.7	66,000	51,580	56	51
N08A-2x2B	288.2	231.5	72,390	55,390	56	51
N08A-2x2C	302.3	245.3	75,580	58,510	56	51
N08A-2x3A	379.6	311.5	99,010	77,380	59	54
N08A-2x3B	432.3	347.3	108,590	83,090	59	54
N08A-2x3C	464.2	374.9	113,380	87,760	59	54
N08A-2x4A	513.8	421.2	132,010	103,170	60	56
N08A-2x4B	560.4	453.3	144,780	110,780	59	55
N08A-2x4C	604.6	490.7	151,170	117,020	59	55
N08A-2x5A	622.3	512.6	165,010	128,960	60	56
N08A-2x5B	711.7	572.8	180,980	138,480	60	56
N08A-2x5C	766.1	619.5	188,960	146,270	60	56
N08A-2x6A	759.4	623.2	198,010	154,750	61	57
N08A-2x6B	864.9	694.7	217,180	166,180	61	57
N08A-2x7A	993.6	811.5	264,540	204,780	62	58

NAV / H L ..-2x ..

Type	Nominal capacity Q_c		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
NA.	Δ	Y	Δ	Y	Δ	Y
L05A-2x1F	38.4	31.4	12,510	10,050	53	47
L05A-2x1G	49.5	42.0	11,680	9,350	53	47
L05A-2x2F	77.0	62.8	25,020	20,100	55	49
L05A-2x2G	99.0	78.8	23,360	18,710	55	49
L05A-2x3F	116.8	95.4	37,540	30,160	56	50
L05A-2x3G	148.6	126.0	35,040	28,060	56	50
L06A-2x1F	56.6	53.2	19,630	17,790	56	54
L06A-2x1G	68.5	63.0	16,720	15,050	55	53
L06A-2x1H	65.0	61.2	20,500	18,700	56	54
L06A-2x1I	80.8	73.9	18,940	17,140	55	53
L06A-2x2F	113.4	106.6	39,270	35,590	58	56
L06A-2x2G	138.5	127.3	33,440	30,100	57	55
L06A-2x2H	130.2	122.6	41,000	37,400	58	56
L06A-2x2I	162.7	148.9	37,870	34,270	57	55
L06A-2x3F	172.2	161.8	58,900	53,380	59	57
L06A-2x3G	209.6	192.4	50,160	45,160	58	56
L06A-2x3H	195.6	182.5	61,500	56,100	59	57
L06A-2x3I	240.7	221.7	56,810	51,410	58	56
L08A-2x1A	120.5	90.9	30,940	21,770	56	49
L08A-2x1B	132.7	101.3	33,690	24,020	56	49
L08A-2x1C	144.8	110.3	35,760	25,660	56	49
L08A-2x2A	241.0	181.8	61,880	43,540	58	51
L08A-2x2B	270.3	204.7	67,380	48,040	58	51
L08A-2x2C	289.7	220.7	71,520	51,310	58	51
L08A-2x3A	361.6	272.7	92,810	65,320	61	54
L08A-2x3B	405.6	307.2	101,060	72,050	61	54
L08A-2x3C	444.2	334.1	107,280	76,970	61	54
L08A-2x4A	489.2	367.7	123,750	87,090	62	56
L08A-2x4B	531.0	405.2	134,750	96,070	61	55
L08A-2x4C	579.4	441.4	143,040	102,620	61	55
L08A-2x5A	593.5	450.1	154,690	108,860	62	56
L08A-2x5B	667.0	507.4	168,440	120,090	62	56
L08A-2x5C	733.5	556.0	178,800	128,280	62	56
L08A-2x6A	723.3	545.4	185,630	130,630	63	57
L08A-2x6B	811.3	614.4	202,130	144,110	63	57
L08A-2x7A	953.7	732.7	250,320	179,590	64	58

NA. N + L

Number of Circuits	Surface	Tube volume	Weight
x	[m²]	[dm³]	[kg]
3	82	13.9	154
4	164	27.5	176
6	164	27.6	283
8	328	53.7	327
8	246	41.0	412
12	492	81.3	478
4	109	19.7	199
8	218	37.4	247
4	143	25.1	238
8	287	49.2	300
8	218	37.6	365
13	435	74.3	456
8	287	50.3	443
13	574	96.0	561
11	327	56.5	537
16	653	106.6	677
13	430	71.0	648
26	861	141.1	832
12	311	53.5	480
18	378	64.0	530
18	445	76.6	586
24	622	102.5	860
24	756	123.4	960
36	889	146.4	1,070
36	933	153.4	1,240
36	1.134	184.9	1,400
36	1.334	216.3	1,605
36	1.245	204.5	1,680
72	1.511	246.3	1,800
72	1.778	288.2	2,120
72	1.556	253.3	2,050
72	1.889	308.7	2,300
72	2.223	361.2	2,515
72	1.867	305.2	2,484
72	2.267	368.1	2,790
72	2.178	355.3	2,898

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Nominal capacity Q_c: R 717; 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

Selection table 2-range (N + L)

NAV / H N ..-2x ..

Type	Nominal capacity Q_c		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
NA.	Δ	Y	Δ	Y	Δ	Y
N09A-2x1A	148.0	117.5	40,290	29,930	62	55
N09A-2x1B	162.3	133.1	44,330	33,810	62	55
N09A-2x1C	181.9	146.8	47,650	36,400	62	55
N09A-2x1D	196.7	159.9	50,260	38,930	62	55
N09A-2x2A	296.2	235.1	80,580	59,860	66	59
N09A-2x2B	336.0	271.1	88,660	67,620	66	59
N09A-2x2C	363.9	293.6	95,290	72,800	66	59
N09A-2x2D	393.6	319.9	100,520	77,860	66	59
N09A-2x3A	444.4	352.6	120,860	89,800	68	61
N09A-2x3B	504.2	406.7	133,000	101,440	68	61
N09A-2x3C	559.0	450.5	142,940	109,190	68	61
N09A-2x3D	601.1	489.0	150,780	116,780	67	60
N09A-2x4A	600.4	476.9	161,150	119,730	69	62
N09A-2x4B	649.5	532.5	177,330	135,250	68	61
N09A-2x4C	727.9	587.4	190,580	145,590	68	61
N09A-2x4D	787.3	639.8	201,040	155,710	68	61
N09A-2x5A	727.7	579.1	201,440	149,660	69	62
N09A-2x5B	828.3	668.9	221,660	169,060	69	62
N09A-2x5C	923.8	743.8	238,230	181,990	69	62
N09A-2x6A	889.1	705.4	241,730	179,590	70	63
N09A-2x6B	1.008.7	813.6	265,990	202,870	70	63
N09A-2x7A	1.050.3	825.9	282,020	209,520	71	64
N10A-2x1B	173.6	139.6	47,820	36,050	58	50
N10A-2x1C	192.3	158.6	51,390	40,270	58	50
N10A-2x1D	209.6	178.5	54,700	44,310	58	50
N10A-2x2B	347.3	279.3	95,630	72,100	61	53
N10A-2x2C	384.8	317.3	102,780	80,540	61	53
N10A-2x2D	419.5	357.2	109,400	88,620	61	53
N10A-2x3B	537.6	431.0	143,450	108,150	63	55
N10A-2x3C	591.6	487.9	154,170	120,810	63	55
N10A-2x3D	617.1	527.6	164,100	132,930	62	54
N10A-2x4B	694.7	558.7	191,260	144,200	63	55
N10A-2x4C	769.8	634.6	205,560	161,080	63	55
N10A-2x4D	839.2	714.4	218,800	177,240	63	55
N10A-2x5B	885.1	709.5	239,080	180,250	64	56
N10A-2x5C	977.8	805.0	256,950	201,350	64	56
N10A-2x6B	1.075.5	862.2	286,890	216,300	65	57

NAV / H L ..-2x ..

Type	Nominal capacity Q_c		Airflow		Sound pressure L_{PA}=10 m	
	[kW]		[m³/h]		[dB(A)]	
NA.	Δ	Y	Δ	Y	Δ	Y
L09A-2x1A	130.8	103.1	34,550	25,560	55	47
L09A-2x1B	149.5	116.6	39,540	28,750	55	47
L09A-2x1C	166.6	128.6	42,990	31,060	55	47
L09A-2x1D	181.4	140.2	45,220	33,020	55	47
L09A-2x2A	261.8	206.2	69,100	51,120	59	51
L09A-2x2B	308.4	238.6	79,080	57,500	59	51
L09A-2x2C	333.3	257.2	85,990	62,120	59	51
L09A-2x2D	362.8	280.4	90,430	66,040	59	51
L09A-2x3A	392.8	309.4	103,640	76,670	61	53
L09A-2x3B	462.7	357.9	118,610	86,260	61	53
L09A-2x3C	513.3	393.8	128,980	93,180	61	53
L09A-2x3D	553.8	427.3	135,650	99,070	60	52
L09A-2x4A	535.8	418.2	138,190	102,230	62	54
L09A-2x4B	598.1	466.5	158,150	115,010	61	53
L09A-2x4C	666.6	514.5	171,980	124,240	61	53
L09A-2x4D	725.8	560.7	180,860	132,090	61	53
L09A-2x5A	643.3	509.1	172,740	127,790	62	54
L09A-2x5B	760.9	590.0	197,690	143,760	62	54
L09A-2x5C	853.9	650.2	214,970	155,300	62	54
L09A-2x6A	785.7	618.8	207,290	153,350	63	55
L09A-2x6B	925.6	715.9	237,230	172,510	63	55
L09A-2x7A	929.3	730.5	241,840	178,910	64	56
L10A-2x1B	147.0	127.7	38,630	32,420	52	48
L10A-2x1C	162.3	141.2	41,510	34,620	52	48
L10A-2x1D	178.6	155.1	44,320	37,460	52	48
L10A-2x2B	294.0	255.4	77,260	64,840	55	51
L10A-2x2C	324.6	282.4	83,020	69,240	55	51
L10A-2x2D	357.2	310.3	88,640	74,920	55	51
L10A-2x3B	454.5	393.6	115,890	97,260	57	53
L10A-2x3C	499.6	432.8	124,530	103,860	57	53
L10A-2x3D	527.7	459.9	132,960	112,380	56	52
L10A-2x4B	588.0	510.9	154,520	129,680	57	53
L10A-2x4C	649.3	564.9	166,040	138,480	57	53
L10A-2x4D	714.5	620.6	177,280	149,840	57	53
L10A-2x5B	747.8	647.7	193,150	162,100	58	54
L10A-2x5C	824.1	714.8	207,550	173,100	58	54
L10A-2x6B	909.3	787.4	231,780	194,520	59	55

NA. N + L

Number of Circuits	Surface	Tube volume	Weight
x	[m²]	[dm³]	[kg]
12	311	53.5	480
18	378	66.1	530
18	445	76.6	580
18	511	87.0	636
24	622	102.5	860
24	756	125.5	960
36	889	146.4	1,060
36	1.022	167.4	1,172
36	933	153.4	1,240
36	1.134	187.0	1,400
36	1.334	218.4	1,590
36	1.534	249.9	1,700
36	1.245	204.5	1,680
72	1.511	246.3	1,800
72	1.778	291.3	2,100
72	2.045	333.2	2,325
72	1.556	256.3	2,050
72	1.889	308.7	2,300
72	2.223	361.2	2,490
72	1.867	305.2	2,484
72	2.267	369.3	2,784
72	2.178	355.3	2,898
18	378	66.1	530
18	445	76.6	580
18	511	87.0	630
36	756	125.5	960
36	889	146.4	1,060
36	1.022	167.4	1,160
36	1.134	187.0	1,510
36	1.334	218.4	1,550
72	1.534	249.8	1,680
72	1.511	246.3	1,850
72	1.778	291.3	2,060
72	2.045	333.2	2,300
72	1.889	308.7	2,310
72	2.223	361.2	2,550
72	2.267	369.3	2,802

Nominal capacity Q_c: R 717; 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

Selection table 2-range (S)

NAV / H S ..-2x ..							NA. S			
Type	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
NA.	Δ	Y	Δ	Y	Δ	Y				
S05A-2x1F	29.0	22.0	8,330	5,750	43	34	3	82	13.7	154
S05A-2x1G	34.4	25.7	7,780	5,470	43	34	4	164	27.0	176
S05A-2x2F	58.0	44.0	16,660	11,500	45	36	6	164	27.0	283
S05A-2x2G	69.9	51.3	15,560	10,940	45	36	8	328	53.2	327
S05A-2x3F	87.2	66.2	24,980	17,250	46	37	8	246	39.9	412
S05A-2x3G	106.0	77.0	23,340	16,420	46	37	12	492	79.3	478
S06A-2x1F	46.0	42.4	14,460	12,770	49	46	4	109	19.0	199
S06A-2x1G	52.9	48.2	12,250	10,940	48	45	8	218	36.7	247
S06A-2x1H	53.0	48.0	15,300	13,300	49	46	4	143	24.4	238
S06A-2x1I	65.4	54.0	14,340	12,590	48	45	8	287	47.6	300
S06A-2x2F	92.1	84.8	28,910	25,550	51	48	8	218	36.8	365
S06A-2x2G	106.7	93.2	24,500	21,880	50	47	13	435	72.4	456
S06A-2x2H	106.2	96.2	30,600	26,600	51	48	8	287	47.6	443
S06A-2x2I	125.3	107.6	28,680	25,180	50	47	13	574	94.2	561
S06A-2x3F	140.0	127.5	43,370	38,320	52	49	11	327	54.7	537
S06A-2x3G	154.8	138.2	36,740	32,820	51	48	16	653	108.4	677
S06A-2x3H	159.2	143.0	45,900	39,900	52	49	13	430	71.0	648
S06A-2x3I	184.1	163.1	43,020	37,770	51	48	26	861	141.0	832
S08A-2x1A	67.0	54.9	16,910	13,140	36	30	12	233	40.0	450
S08A-2x1B	74.0	59.8	18,110	13,860	36	30	12	283	47.8	480
S08A-2x1C	79.4	62.1	18,910	14,550	36	30	12	333	55.7	535
S08A-2x2A	135.5	110.5	33,820	26,280	38	32	18	467	77.6	770
S08A-2x2B	149.6	119.8	36,210	27,720	38	32	18	567	93.3	860
S08A-2x2C	160.1	124.7	37,820	29,100	38	32	18	667	111.1	970
S08A-2x3A	203.3	165.7	50,730	39,430	41	35	27	700	114.3	1,130
S08A-2x3B	224.3	179.6	54,320	41,590	41	35	27	850	137.9	1,270
S08A-2x3C	240.2	188.5	56,720	43,640	41	35	27	1.000	161.5	1,405
S08A-2x4A	274.3	222.8	67,640	52,570	43	37	27	933	151.0	1,530
S08A-2x4B	295.9	238.3	72,420	55,450	42	36	54	1.134	182.4	1,750
S08A-2x4C	317.3	264.4	75,630	58,190	42	36	54	1.334	215.9	1,920
S08A-2x5A	335.5	275.9	84,550	65,710	43	37	54	1.167	189.7	1,850
S08A-2x5B	370.6	299.1	90,530	69,310	43	37	54	1.417	229.0	2,100
S08A-2x5C	399.7	322.3	94,540	72,740	43	37	54	1.667	268.3	2,325
S08A-2x6A	406.7	331.4	101,460	78,850	44	38	54	1.400	226.4	2,244
S08A-2x6B	448.8	359.3	108,640	83,170	44	38	54	1.700	273.6	2,544
S08A-2x7A	522.5	422.6	132,360	101,840	45	39	54	1.634	265.2	2,618

Continued on next page

Nominal capacity Q_c: R 717; 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

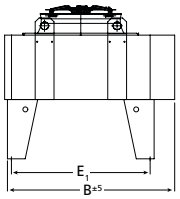
Selection table 2-range (S)

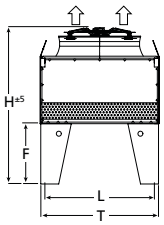
NAV / H S ..-2x ..							NA. S			
Type	**Nominal capacity Q_c**		**Airflow**		**Sound pressure L_{PA}=10 m**		**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
	[kW]		[m³/h]		[dB(A)]		x	[m²]	[dm³]	[kg]
NA.	Δ	Y	Δ	Y	Δ	Y				
S09A-2x1A	97.2	76.3	28,070	20,160	48	41	12	233	40.0	450
S09A-2x1B	110.9	88.1	30,870	22,520	48	41	12	283	48.8	480
S09A-2x1C	120.6	97.0	31,910	24,190	48	41	12	333	56.7	530
S09A-2x1D	129.3	105.6	33,290	25,860	48	41	12	383	64.5	576
S09A-2x2A	198.8	154.8	56,130	40,320	52	45	18	467	79.7	770
S09A-2x2B	228.2	178.7	61,740	45,050	52	45	18	567	95.4	860
S09A-2x2C	238.2	192.1	63,830	48,380	52	45	27	667	109.1	960
S09A-2x2D	258.2	210.9	66,590	51,720	52	45	27	767	124.8	1,055
S09A-2x3A	298.2	232.2	84,200	60,480	54	47	27	700	116.4	1,130
S09A-2x3B	342.3	268.1	92,620	67,570	54	47	27	850	140.0	1,270
S09A-2x3C	366.7	294.5	95,740	72,580	54	47	27	1.000	163.6	1,390
S09A-2x3D	394.1	321.8	99,880	77,580	53	46	27	1.150	187.2	1,530
S09A-2x4A	407.2	314.1	112,260	80,640	55	48	27	933	153.1	1,530
S09A-2x4B	442.3	349.0	123,490	90,100	54	47	54	1.134	184.5	1,750
S09A-2x4C	476.5	384.3	127,660	96,770	54	47	54	1.334	215.9	1,900
S09A-2x4D	516.4	421.9	133,180	103,440	54	47	54	1.534	249.5	2,090
S09A-2x5A	488.0	381.9	140,330	100,800	55	48	54	1.167	189.7	1,850
S09A-2x5B	562.9	441.7	154,360	112,620	55	48	54	1.417	231.1	2,100
S09A-2x5C	604.8	485.9	159,570	120,960	55	48	54	1.667	270.4	2,300
S09A-2x6A	596.6	464.5	168,400	120,960	56	49	54	1.400	228.5	2,244
S09A-2x6B	684.9	536.3	185,230	135,140	56	49	54	1.700	275.7	2,544
S09A-2x7A	706.2	548.7	196,460	141,120	57	50	54	1.634	268.2	2,618
S10A-2x1B	116.9	105.4	32,730	28,760	46	43	12	283	48.8	480
S10A-2x1C	131.4	116.3	35,870	30,390	46	43	12	333	56.7	530
S10A-2x1D	142.9	128.2	37,630	32,930	46	43	12	383	64.5	570
S10A-2x2B	238.0	216.6	65,460	57,520	49	46	18	567	95.4	860
S10A-2x2C	262.0	229.9	71,740	60,780	49	46	27	667	109.1	960
S10A-2x2D	282.9	256.0	75,260	65,860	49	46	27	767	124.8	1,044
S10A-2x3B	357.1	325.0	98,190	86,280	51	48	27	850	140.0	1,270
S10A-2x3C	402.5	353.5	107,610	91,170	51	48	27	1.000	163.6	1,390
S10A-2x3D	417.0	374.8	112,890	98,790	50	47	54	1.150	187.1	1,512
S10A-2x4B	460.6	420.7	130,920	115,040	51	48	54	1.134	184.5	1,850
S10A-2x4C	524.1	459.8	143,480	121,560	51	48	54	1.334	218.0	1,900
S10A-2x4D	565.8	512.2	150,520	131,720	51	48	54	1.534	249.5	2,070
S10A-2x5B	586.9	534.7	163,650	143,800	52	49	54	1.417	231.1	2,100
S10A-2x5C	665.1	583.2	179,350	151,950	52	49	54	1.667	270.4	2,300
S10A-2x6B	714.5	650.1	196,380	172,560	53	50	54	1.700	278.7	2,544

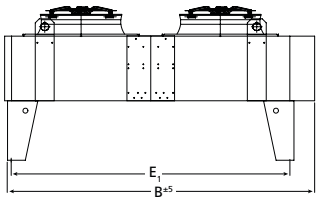
Nominal capacity Q_c: R 717; Δt=15K; t_{L1}= 25°C; t_c=40°C
Sound pressure: Enveloping surface method, in acc. with DIN EN ISO 13487
Δ: Valid at high rpm
Y: Valid at low rpm

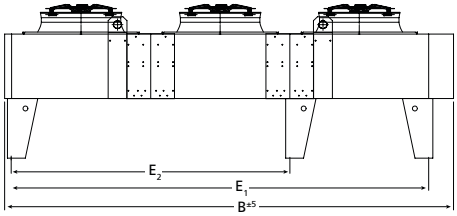
Dimensions 1-range (NAV)

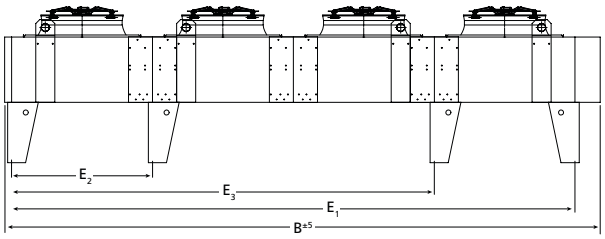
Type	NAV..-1x..: Dimensions [mm]							
GA.	H	B	E_1	E_2	E_3	F	T	L
05A-1x1F	1,000	1,410	960	-	-	500	900	850
05A-1x1G	1,000	1,410	960	-	-	500	900	850
05A-1x2F	1,000	2,512	2,062	-	-	500	900	850
05A-1x2G	1,000	2,512	2,062	-	-	500	900	850
05A-1x3F	1,000	3,613	3,163	1,102	-	500	900	850
05A-1x3G	1,000	3,613	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



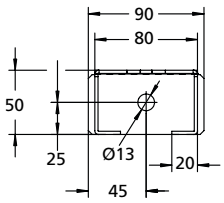




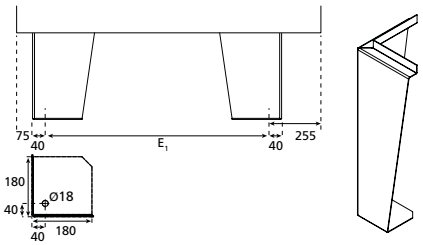




Feet NAV 05/06

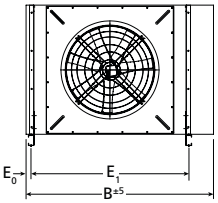


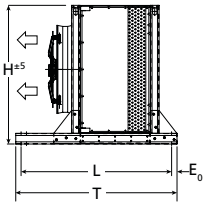
Feet NAV 08/09/10

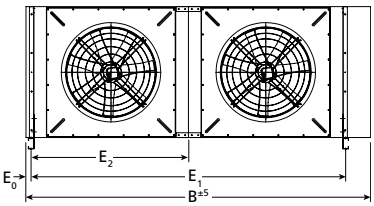


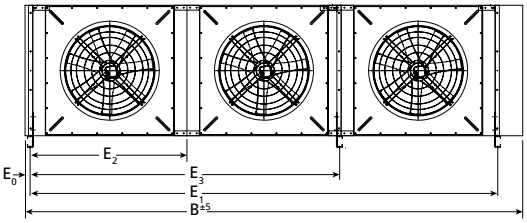
Dimensions 1-range (NAH)

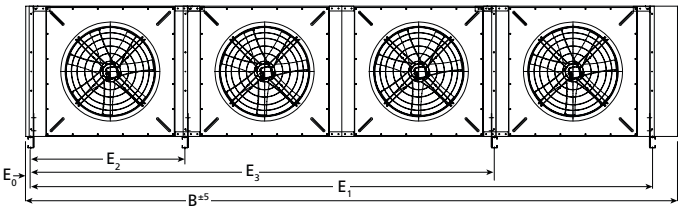
Type	NAH..-1x..: Dimensions [mm]						
GA.	H	B	E_1	E_2	E_3	T	L
05A-1x1F	851	1,410	960	-	-	925	745
05A-1x1G	851	1,410	960	-	-	925	745
05A-1x2F	851	2,512	2,062	960	-	925	745
05A-1x2G	851	2,512	2,062	960	-	925	745
05A-1x3F	851	3,613	3,163	1,102	2,062	925	745
05A-1x3G	851	3,613	3,163	1,102	2,062	925	745
06A-1x1F	1,106	1,410	960	-	-	925	745
06A-1x1H	1,106	1,760	1,310	-	-	925	745
06A-1x1G	1,106	1,410	960	-	-	925	745
06A-1x1I	1,106	1,760	1,310	-	-	925	745
06A-1x2F	1,106	2,512	2,062	960	-	925	745
06A-1x2H	1,106	3,212	2,762	1,310	-	925	745
06A-1x2G	1,106	2,512	2,062	960	-	925	745
06A-1x2I	1,106	3,212	2,762	1,310	-	925	745
06A-1x3F	1,106	3,613	3,163	1,102	2,062	925	745
06A-1x3H	1,106	4,663	4,213	1,452	2,762	925	745
06A-1x3G	1,106	3,613	3,163	1,102	2,062	925	745
06A-1x3I	1,106	4,663	4,213	1,452	2,762	925	745
08A-1x1A	1,290	1,730	1,448	-	-	1,500	1,400
08A-1x1B	1,290	2,030	1,748	-	-	1,500	1,400
08A-1x1C	1,290	2,330	2,048	-	-	1,500	1400
08A-1x2A	1,290	3,130	2,850	-	-	1,500	1,400
08A-1x2B	1,290	3,730	3,450	-	-	1,500	1,400
08A-1x2C	1,290	4,335	4,050	-	-	1,500	1,400
08A-1x3A	1,290	4,535	4,250	2,813	-	1,500	1,400
08A-1x3B	1,290	5,435	5,151	3,413	-	1,500	1,400
08A-1x3C	1,290	6,335	6,051	4,013	-	1,500	1,400
08A-1x4A	1,290	5,935	5,653	1,402	4,215	1,500	1,400
08A-1x4B	1,290	7,135	6,853	1,701	5,115	1,500	1,400
08A-1x4C	1,290	8,335	8,053	2,002	6,015	1,500	1,400
08A-1x5A	1,290	7,335	7,054	2,803	4,215	1,500	1,400
08A-1x5B	1,290	8,835	8,550	3,403	5,115	1,500	1,400
08A-1x5C	1,290	10,335	10,054	4,003	6,015	1,500	1,400
09A-1x1A	1,290	1,730	1,448	-	-	1,500	1,400
09A-1x1B	1,290	2,030	1,748	-	-	1,500	1,400
09A-1x1C	1,290	2,330	2,048	-	-	1,500	1,400
09A-1x1D	1,290	2,630	2,348	-	-	1,500	1,400
09A-1x2A	1,290	3,130	2,850	-	-	1,500	1,400
09A-1x2B	1,290	3,730	3,450	-	-	1,500	1,400
09A-1x2C	1,290	4,335	4,050	-	-	1,500	1,400
09A-1x2D	1,290	4,930	4,650	-	-	1,500	1,400
09A-1x3A	1,290	4,535	4,250	2,813	-	1,500	1,400
09A-1x3B	1,290	5,435	5,151	3,413	-	1,500	1,400
09A-1x3C	1,290	6,335	6,051	4,013	-	1,500	1,400
09A-1x3D	1,290	7,235	6,951	4,613	-	1,500	1,400
09A-1x4A	1,290	5,935	5,653	1,402	4,215	1,500	1,400
09A-1x4B	1,290	7,135	6,853	1,701	5,115	1,500	1,400
09A-1x4C	1,290	8,335	8,053	2,002	6,015	1,500	1,400
09A-1x4D	1,290	9,535	9,253	2,302	6,915	1,500	1,400
09A-1x5A	1,290	7,335	7,054	2,803	4,215	1,500	1,400
09A-1x5B	1,290	8,835	8,550	3,403	5,115	1,500	1,400
09A-1x5C	1,290	10,335	10,054	4,003	6,015	1,500	1,400
10A-1x1B	1,730	2,030	1,748	-	-	1,500	1,400
10A-1x1C	1,730	2,330	2,048	-	-	1,500	1,400
10A-1x1D	1,730	2,630	2,348	-	-	1,500	1,400
10A-1x2B	1,730	3,730	3,450	-	-	1,500	1,400
10A-1x2C	1,730	4,330	4,050	-	-	1,500	1,400
10A-1x2D	1,730	4,930	4,650	-	-	1,500	1,400
10A-1x3B	1,730	5,433	5,151	3,413	-	1,500	1,400
10A-1x3C	1,730	6,333	6,051	4,013	-	1,500	1,400
10A-1x3D	1,730	7,233	6,951	4,613	-	1,500	1,400
10A-1x4B	1,730	7,135	6,853	1,702	5,115	1,500	1,400
10A-1x4C	1,730	8,335	8,053	2,002	6,015	1,500	1,400
10A-1x4D	1,730	9,535	9,253	2,302	6,915	1,500	1,400
10A-1x5B	1,730	8,835	8,554	3,403	5,115	1,500	1,400
10A-1x5C	1,730	10,335	10,054	3,703	6,015	1,500	1,400







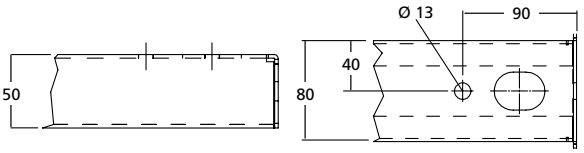




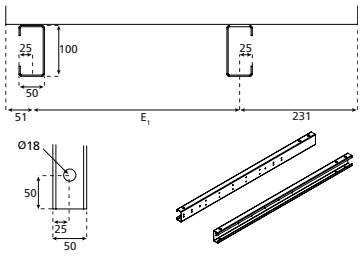
E_0 (NAH 08/09/10) **= 74 mm**

E_0 (NAH 05/06) **= 150 mm**

Feet NAH 05/06

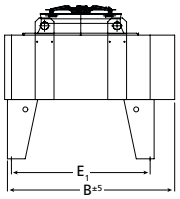


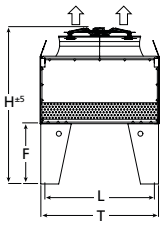
Feet NAH 08/09/10

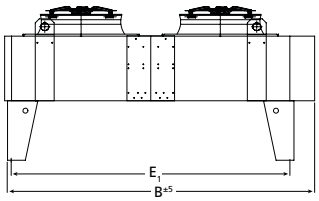


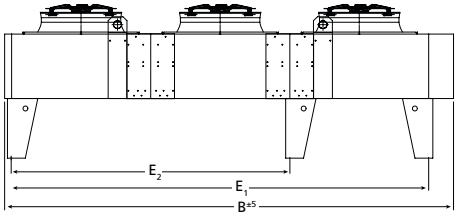
Dimensions 2-range (NAV)

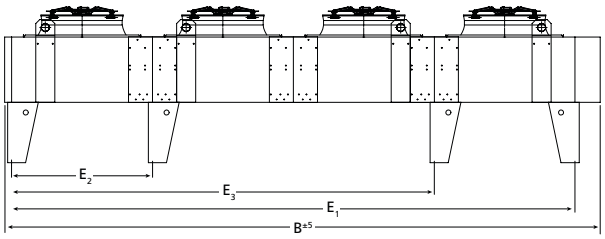
Type	NAV..-2x..: Dimensions [mm]								
GA.	H	B	E_1	E_2	E_3	E_4	F	T	L
05A-2x1F	1,000	1,410	960	-	-	-	500	1,702	1,652
05A-2x1G	1,000	1,410	960	-	-	-	500	1,702	1,652
05A-2x2F	1,000	2,512	2,062	-	-	-	500	1,702	1,652
05A-2x2G	1,000	2,512	2,062	-	-	-	500	1,702	1,652
05A-2x3F	1,000	3,613	3,163	1,102	-	-	500	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	9,509	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



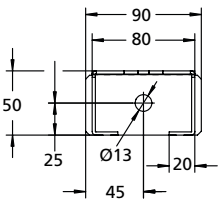




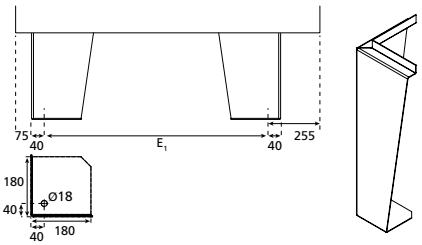




Feet NAV 05/06

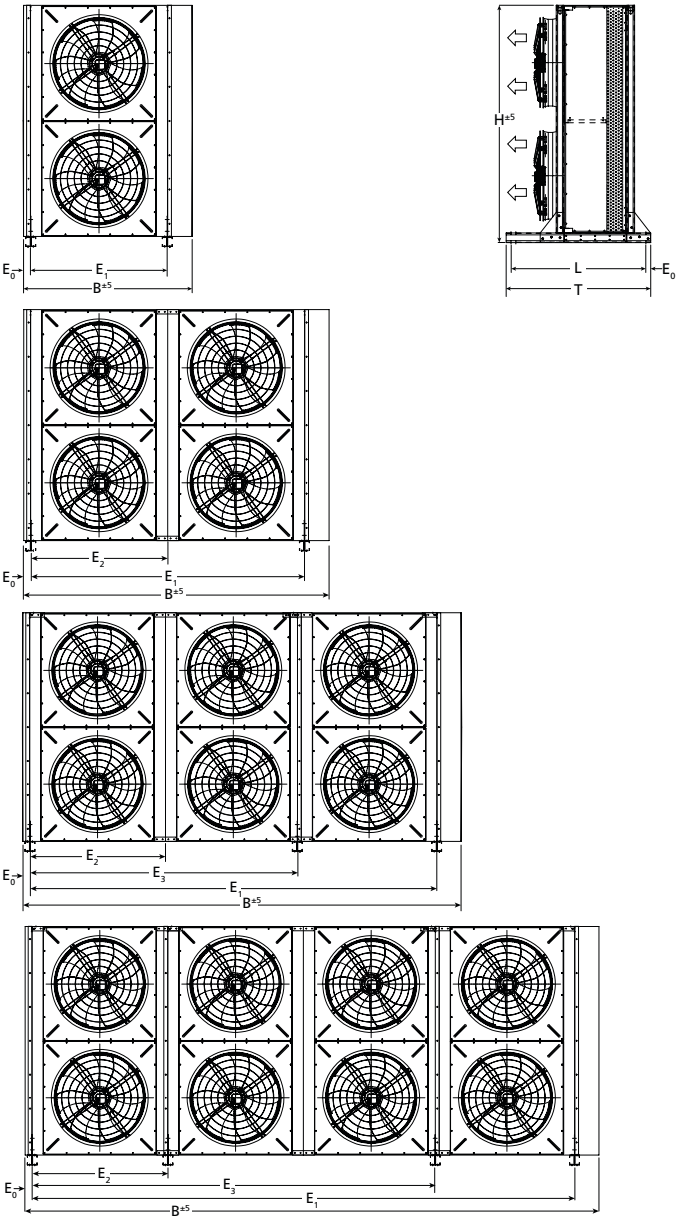


Feet NAV 08/09/10



Dimensions 2-range (NAH)

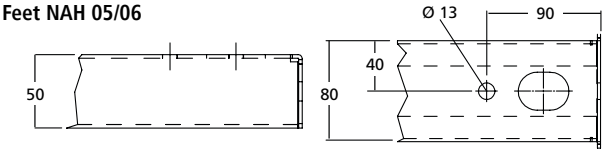
Type	NAH..-2x..: Dimensions [mm]							
GA.	H	B	E_1	E_2	E_3	E_4	T	L
05A-2x1F	1,655	1,410	960	-	-	-	925	745
05A-2x1G	1,655	1,410	960	-	-	-	925	745
05A-2x2F	1,655	2,512	2,062	960	-	-	925	745
05A-2x2G	1,655	2,512	2,062	960	-	-	925	745
05A-2x3F	1,655	3,613	3,163	1,102	2,062	-	925	745
05A-2x3G	1,655	3,613	3,163	1,102	2,062	-	925	745
06A-2x1F	2,163	1,410	960	-	-	-	925	745
06A-2x1H	2,163	1,760	1,310	-	-	-	925	745
06A-2x1G	2,163	1,410	960	-	-	-	925	745
06A-2x1I	2,163	1,760	1,310	-	-	-	925	745
06A-2x2F	2,163	2,512	2,062	960	-	-	925	745
06A-2x2H	2,163	3,212	2,762	1,310	-	-	925	745
06A-2x2G	2,163	2,512	2,062	960	-	-	925	745
06A-2x2I	2,163	3,212	2,762	1,310	-	-	925	745
06A-2x3F	2,163	3,613	3,163	1,102	2,062	-	925	745
06A-2x3H	2,163	4,663	4,213	1,452	2,762	-	925	745
06A-2x3G	2,163	3,613	3,163	1,102	2,062	-	925	745
06A-2x3I	2,163	4,663	4,213	1,452	2,762	-	925	745
08A-2x1A	2,465	1,730	1,448	-	-	-	1,500	1,400
08A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
08A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
08A-2x2A	2,465	3,130	2,850	-	-	-	1,500	1,400
08A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
08A-2x2C	2,465	4,335	4,050	-	-	-	1,500	1,400
08A-2x3A	2,465	4,535	4,250	2,813	-	-	1,500	1,400
08A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
08A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
08A-2x4A	2,465	5,935	5,653	1,402	4,215	-	1,500	1,400
08A-2x4B	2,465	7,135	6,853	1,701	5,115	-	1,500	1,400
08A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
08A-2x5A	2,465	7,335	7,054	2,803	4,215	-	1,500	1,400
08A-2x5B	2,465	8,835	8,550	3,403	5,115	-	1,500	1,400
08A-2x5C	2,465	10,335	10,054	4,003	6,015	-	1,500	1,400
08A-2x6A	2,465	8,738	8,456	2,803	5,616	-	1,500	1,400
08A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400
08A-2x7A	2,465	10,139	9,857	2,803	4,205	7,054	1,500	1,400
09A-2x1A	2,465	1,730	1,448	-	-	-	1,500	1,400
09A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
09A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
09A-2x1D	2,465	2,630	2,348	-	-	-	1,500	1,400
09A-2x2A	2,465	3,130	2,850	-	-	-	1,500	1,400
09A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
09A-2x2C	2,465	4,335	4,050	-	-	-	1,500	1,400
09A-2x2D	2,465	4,930	4,650	-	-	-	1,500	1,400
09A-2x3A	2,465	4,535	4,250	2,813	-	-	1,500	1,400
09A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
09A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
09A-2x3D	2,465	7,235	6,951	4,613	-	-	1,500	1,400
09A-2x4A	2,465	5,935	5,653	1,402	4,215	-	1,500	1,400
09A-2x4B	2,465	7,135	6,853	1,701	5,115	-	1,500	1,400
09A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
09A-2x4D	2,465	9,535	9,253	2,302	6,915	-	1,500	1,400
09A-2x5A	2,465	7,335	7,054	2,803	4,215	-	1,500	1,400
09A-2x5B	2,465	8,835	8,550	3,403	5,115	-	1,500	1,400
09A-2x5C	2,465	10,335	10,054	4,003	6,015	-	1,500	1,400
09A-2x6A	2,465	8,738	8,456	2,803	5,616	-	1,500	1,400
09A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400
09A-2x7A	2,465	10,139	9,857	2,803	4,205	7,054	1,500	1,400
10A-2x1B	2,465	2,030	1,748	-	-	-	1,500	1,400
10A-2x1C	2,465	2,330	2,048	-	-	-	1,500	1,400
10A-2x1D	2,465	2,630	2,348	-	-	-	1,500	1,400
10A-2x2B	2,465	3,730	3,450	-	-	-	1,500	1,400
10A-2x2C	2,465	4,330	4,050	-	-	-	1,500	1,400
10A-2x2D	2,465	4,930	4,650	-	-	-	1,500	1,400
10A-2x3B	2,465	5,435	5,151	3,413	-	-	1,500	1,400
10A-2x3C	2,465	6,335	6,051	4,013	-	-	1,500	1,400
10A-2x3D	2,465	7,235	6,951	4,613	-	-	1,500	1,400
10A-2x4B	2,465	7,135	6,853	1,702	5,115	-	1,500	1,400
10A-2x4C	2,465	8,335	8,053	2,002	6,015	-	1,500	1,400
10A-2x4D	2,465	9,535	9,253	2,302	6,915	-	1,500	1,400
10A-2x5B	2,465	8,835	8,554	3,403	5,115	-	1,500	1,400
10A-2x5C	2,465	10,335	10,054	3,703	6,015	-	1,500	1,400
10A-2x6B	2,465	10,538	10,256	3,403	6,816	-	1,500	1,400



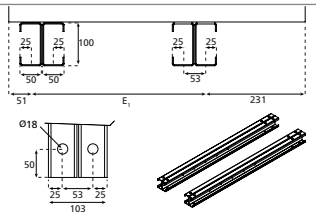
E_0 (NAH 08/09/10) = **74 mm**

E_0 (NAH 05/06) = **150 mm**

Feet NAH 05/06



Feet NAH 08/09/10



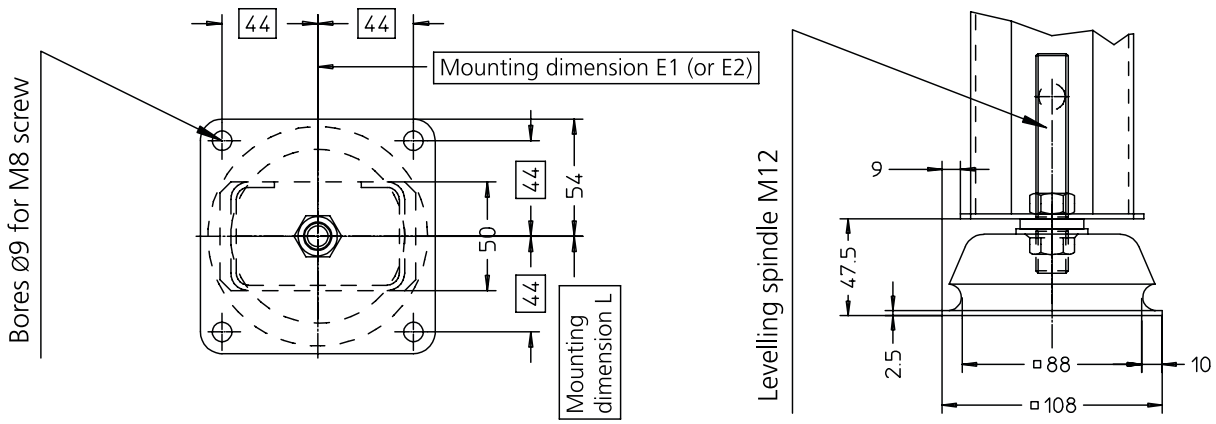
Types and Accessories

Following variants and accessoires are available for extra charge:

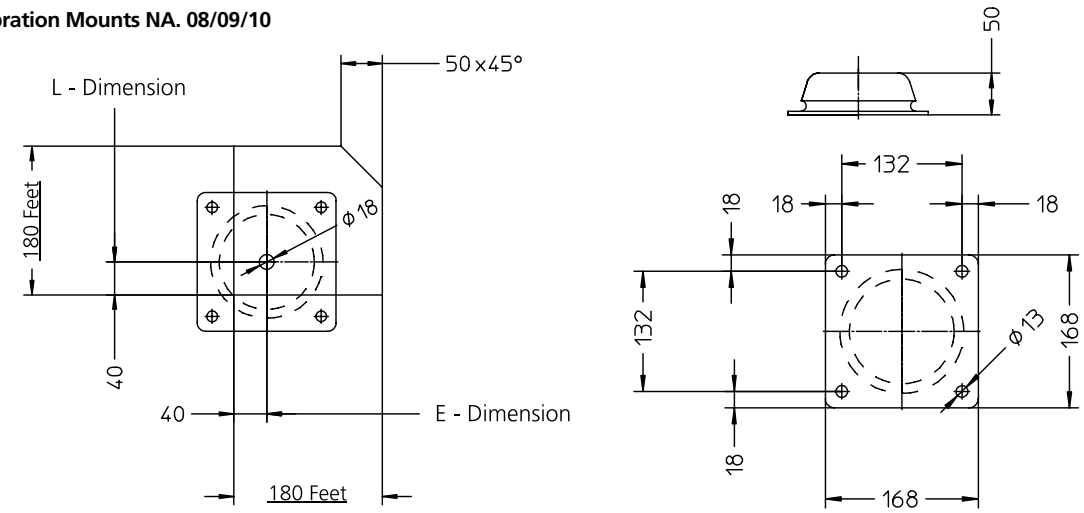
- Circuit subdivision
- Subcooling circuit
- Different fin spacing: from 1.8 to 4.2 mm
- Fins „Goldlack“: 1.8 to 3.6 mm
- Fins copper: 1.8 to 3.2 mm
- Fin AlMg2.5
- Anti-Vibration Mounts
- Stainless steel tubing 1,4404 (V4A)
- Other RAL-tints
- Fans with other voltage, frequency and temperature range
- Other Support Legs: 100, 400, 600, 850, 1000 mm, (without extra charges) Note minimum feet height
- Fans wired to repair switches on face or terminal boxes in an open enclosure, UV resistant cable
- Air duct with or without protection guard
- Electronic regulators for fans

Dimensional changes for Anti-Vibration Mounts

Anti-Vibration Mounts NA. 05/06



Anti-Vibration Mounts NA. 08/09/10



Description: GEA Küba NAV / H

NAV/NAH: Air-cooled NH_3 condensors with axial fans

For outdoor installation, air flow vertical (NAV ...), horizontal (NAH ...), without external pressure

Heat exchanger:

- High performance tubing system with staggered stainless steel tubes and pure aluminium fins with closed dimpling. Standard fin spacing is 2,2 mm.
- Series connection suitable for multiple subdivisions
- Distributor and accumulator tubes of stainless steel and welding connections.

Casing:

- Self-supporting construction, fan sections individually partitioned. and optimised flow suction chamber
- Casing and legs from galvanized sheet steel. The parts are individually powder coated including the edges, to achieve corrosion and scratch resistance impossible with liquid coating.
- Powder coating resistant to temperature and UV rays.
- Standard colour is RAL 7032, pebble grey.
- Mounted transport eyes are included in the standard scope of delivery.

Axial fans:

- Compact unit, motor with fans (blade-/sickle blade) and fan guard in accordance with DIN EN ISO 13857 corrosion proof and weather resistent.
- Fan blades ø 500, 650, 800, 900, 1000 mm balanced in two levels according to standard DIN EN ISO 1940.
- 400 V, 3-ph 50 Hz supply for standard motors
  - with 2 speeds (Δ-Y-connections)
  - variable speed control (30-100 %) by reduction of voltage
  - speed control by frequency converters see catalogue
  - Standard protection of motor by thermocouples, in the terminal box
- Protection: IP 54; Protected against dust and all-round splash water
  - For outdoor installation and ambient motor temperatures standard of -30°C up to +60°C
- Output data certified under Eurovent ID No. 98-08-043
- The LPA acoustic pressure refers to the cuboid surface envelope and the enveloping surface terminating on reflecting levels

Accessories:

- Circuit subdivision
- Speed controller
- Switchgear cabinet
- Anti-Vibration Mounts
- Pressure sensor loose/mounted
- Repair switch mounted and wired on face
- Fins plastic coated ("Goldlack")
- Fins AlMg2.5
- Special voltage and frequencies

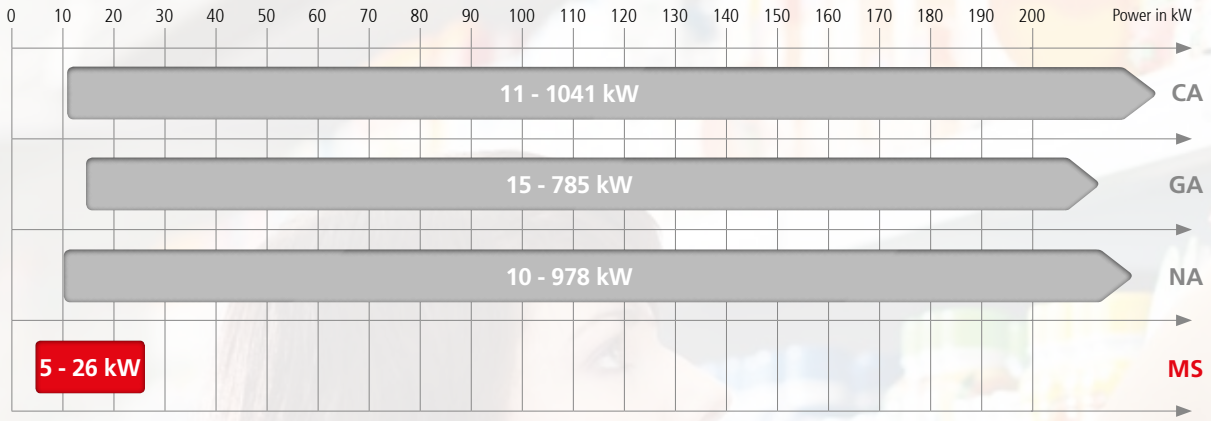
Technical Data:

Air inlet temperature	Q_C	kW
Refrigerant	R	
Air inlet temperature	t_{L1}	°C
Condensing temperature	t_C	°C
Airflow	V_L	m³/h
Sound power level	L_{WA}	dB(A)
Sound pressure	L_{PA}	dB(A) in 10m
Air direction discharge (vert./hor.)		
Number of fans		Stück
Motor speed	n	min^{-1}

Nominal motor capacity for nominal voltage	P_{el}	W	V
Nominal current and mains frequency	I	A	Hz
Weight			kg
Length / Width / Height			m
Connections	Inlet		mm
Connections	Outlet		mm
Colour	RAL		
Make	GEA Küba		
Type			
Price			EUR

MS Condenser

Power range



Application areas

The GEA Küba MS condenser is used among other as a component of the refrigeration system in areas such as:

Supermarkets

Restaurants

Filling stations

Note

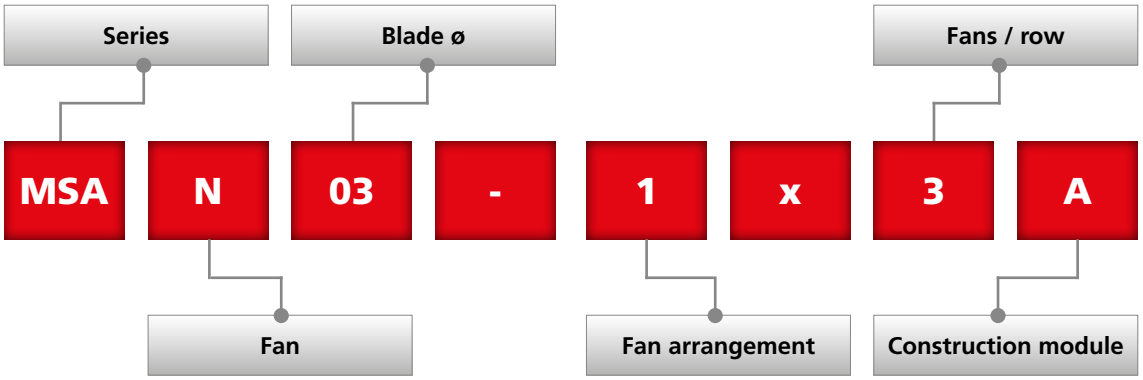
Ensure when installing the equipment that there is neither external air resistance nor air backflow.
Technical changes reserved!

MS Condenser

MS Condenser

Construction

Nomenclature



Fan:	N = normal L = quiet
Blade ø:	03 = 350 mm
Fan arrangement:	1 = 1-range
Fans/row:	1 = 1 fan/row 2 = 2 fans/row 3 = 3 fans/row
Construction module:	A = 2 tube layers B = 3 tube layers C = 4 tube layers

Application

The MS condenser series consists of a total of nine basic models, with the additional option of a 4-pole or 6-pole fan unit. The result is a total of 18 possible combinations, covering a condenser capacity range of 5.1 to 26.2 KW. The frame legs supplied with the MS condenser allow it to be installed either horizontally or vertically – wall mounting is also possible. The radial fans, which are of German manufacture, meet the highest quality and performance requirements and have been optimised for use in the MS condenser. As a result the MS condensers have very low noise levels.

Heat Exchanger and fan are supplied separately.

Noise level specifications

The given acoustic pressure L_{PA} is calculated based on the mean acoustic power level L_{WA} measured on a 10 m cuboid enveloping surface enclosing the apparatus (reference cuboid) and terminating on the reflecting plane.
The specified acoustic pressures L_{PA} are valid for a free-field setup over a reflecting plane. Any additional reflecting surfaces other than those of the reflecting setup will increase the acoustic pressure level.
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

The casing is made of sendzimir galvanized steel plate with UV resistant powder coating (RAL 9018). This surface coating ensures excellent weather resistance and corrosion protection. All mounting elements are made of stainless steel.

Heat exchanger

The heat exchanger consists of 8 mm copper tubing, with internal ribbing, and high-performance aluminium fins with a fin spacing of 2.1 mm. The formed fin collar ensures a permanent and effective connection between flared tubes and fins. This ensures highly effective heat transfer.

Axial fans

Low noise compact unit: Motor with fan blades, antitouch guard to DIN 31001/24176, of corrosion and weather-proof design.

Fan: Ø 350 mm, with dynamic counterbalancing to quality level G 6.3 of DIN ISO 1940. Two different speeds are available:

· 4-pole: 230 ± 10% V-1, 50 Hz, IP 44, motor protection via thermal contacts, internally wired, ambient temperature for motor from –25°C to +60°C, 1295 rpm

· 6-pole: 230 ± 10% V-1, 50/60 Hz, IP 44, motor protection via thermal contacts, internally wired, ambient temperature for motor from –25°C to +60°C, 880 rpm

Fully adjustable speed control by means of phase control or voltage reduction.

Power

Determining condenser capacity

The condenser capacity refers to the temperature difference Δt = 15K between the air intake temperature t_{L1} at the condenser (t_{L1}= 25° C) and the condensing temperature t_c at the condenser intake (t_c= 40° C) for R404A. It applies only to our 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

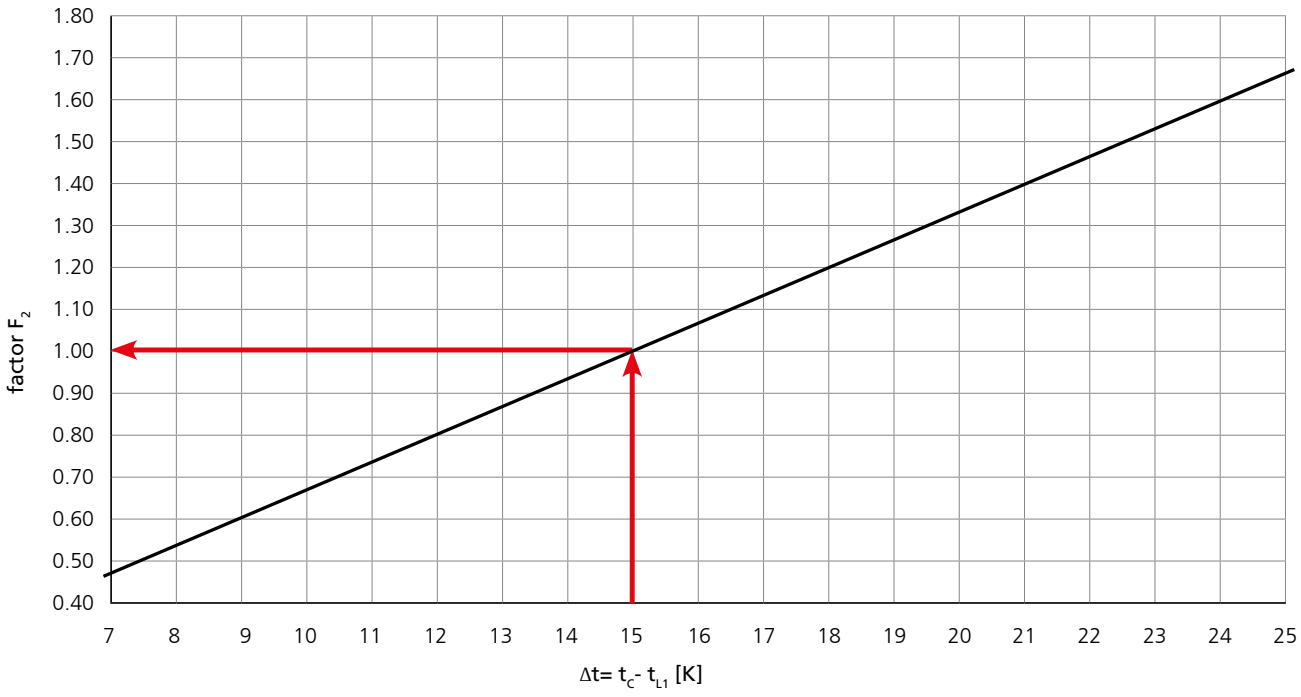
Correction factor for refrigerant (factor F_1)

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

Selection table 1-range (N+L)

MSA N ..-1x ..					MSA L ..-1x ..					MSA N+L			
Type	**Nominal capacity Q_c**	**Airflow**	**Sound pressure L_{PA}=10 m**	**Sound power level L_{WA}**	**Type**	**Nominal capacity Q_c**	**Airflow**	**Sound pressure L_{PA}=10 m**	**Sound power level L_{WA}**	**Number of Circuits**	**Surface**	**Tube volume**	**Weight**
MSA.	[kW]	[m³/h]	[dB(A)]	[dB(A)]	**MSA.**	[kW]	[m³/h]	[dB(A)]	[dB(A)]	x	[m²]	[dm³]	[kg]
N03-1x1A	6,6	2.628	39	70	**L03-1x1A**	5,1	1.620	30	61	2	11	1,4	25
N03-1x1B	8,2	2.376	39	70	**L03-1x1B**	6,1	1.476	30	61	3	17	1,9	27
N03-1x1C	8,7	2.268	39	70	**L03-1x1C**	6,5	1.368	33	61	4	23	2,5	29
N03-1x2A	13,2	5.256	42	73	**L03-1x2A**	10,2	3.240	33	64	4	23	2,4	39
N03-1x2B	16,4	4.752	42	73	**L03-1x2B**	12,2	2.952	33	64	5	34	3,5	43
N03-1x2C	17,5	4.536	42	73	**L03-1x2C**	12,9	2.736	33	64	8	45	4,5	47
N03-1x3A	19,7	7.884	44	75	**L03-1x3A**	15,3	4.860	35	66	5	34	3,4	53
N03-1x3B	24,6	7.128	44	75	**L03-1x3B**	18,3	4.428	35	66	10	51	5,0	59
N03-1x3C	26,2	6.804	44	75	**L03-1x3C**	19,4	4.104	35	66	10	68	6,7	65

Nominal capacity Q_c: R 404A; Δt=15K
Sound pressure: Enveloping surface method, in acc. with DIN EN ISO 13487

Sound pressure correction L_{PA} for other distances

The sound pressure changes for other distances using the enveloping surface method depend on the dimensions of the unit.

The GEA Küba selection software may be used for accurate calculations of the acoustic pressure level L_{PA}.

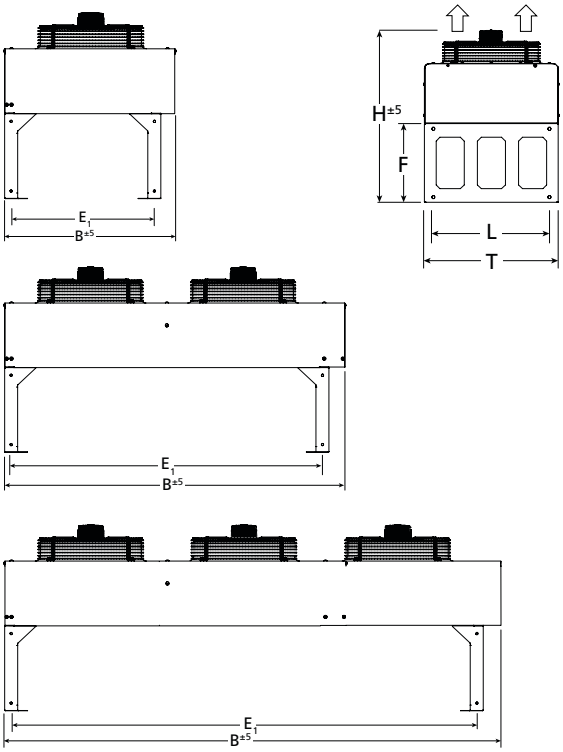
Distances [in m]	1	2	3	4	5	7	10	15	20	30	50	
Sound pressure correction value ΔL_{PA} [in dB (A)]	+17	+13	+10	+7	+6	+3	0	-3	-6	-9	-14	1-2 fans
Sound pressure correction value ΔL_{PA} [in dB (A)]	+16	+12	+9	+7	+6	+3	0	-3	-6	-9	-14	3 fans

So the correction values ΔL_{PA} are reference values.

Dimensions

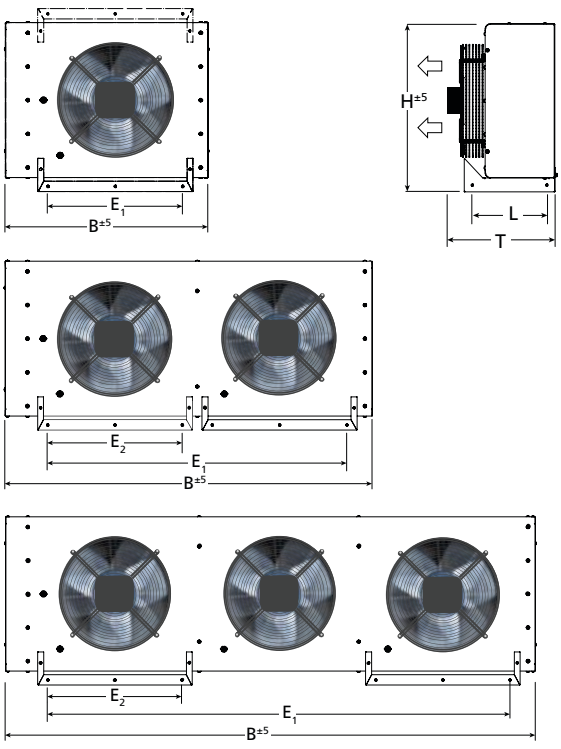
Air flow vertical

Type	MSA..-1x..: Dimensions [mm]					
MSA.	H	B	E_1	F	T	L
03-1x1A	667	677	570	305	518	450
03-1x1B	667	677	570	305	518	450
03-1x1C	667	677	570	305	518	450
03-1x2A	667	1.227	1.120	305	518	450
03-1x2B	667	1.227	1.120	305	518	450
03-1x2C	667	1.227	1.120	305	518	450
03-1x3A	667	1.777	1.670	305	518	450
03-1x3B	667	1.777	1.670	305	518	450
03-1x3C	667	1.777	1.670	305	518	450

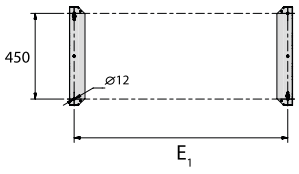


Air flow horizontal

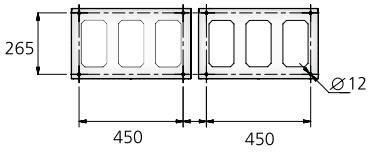
Type	MSA..-1x..: Dimensions [mm]					
MSA.	H	B	E_1	E_2	T	L
03-1x1A	565	677	450	-	363	265
03-1x1B	565	677	450	-	363	265
03-1x1C	565	677	450	-	363	265
03-1x2A	565	1.227	1.000	450	363	265
03-1x2B	565	1.227	1.000	450	363	265
03-1x2C	565	1.227	1.000	450	363	265
03-1x3A	565	1.777	1.550	450	363	265
03-1x3B	565	1.777	1.550	450	363	265
03-1x3C	565	1.777	1.550	450	363	265



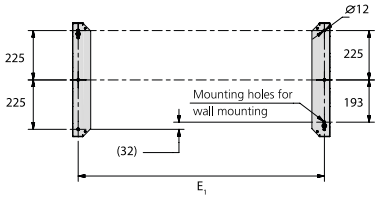
Leg dimensions for floor mounting (air flow vertical)



Leg dimensions for floor mounting (air flow horizontal)



Leg dimension for wall mounting



Description: GEA Küba MS Condenser

Air cooled condensers for industrial refrigeration MSA condenser
without external pressure. The legs forming part of the delivery allow vertical or horizontal mounting.

Heat exchanger:

- Heat exchangers with copper tubing with internal ribbing and high performance aluminium fins spaced 2.1 mm apart
- The formed fin collar ensures a permanent and effective connection between flared tubes and fins
- This ensures highly effective heat transfer

Casing:

- The casing consists of sendzimir galvanised steel plate with UV resistant powder coating (RAL9018)
- This surface coating ensures weather resistance and corrosion protection
- All mounting components are made of stainless steel

Axial fans:

- Low noise compact unit: Motor with fan blades, corrosion and weather protected fan guard grid
- Fan: Ø 350 mm, dynamically balanced with quality class G 6.3 in acc. with DIN EN ISO 1940, with two selectable speeds:
- 4-pole: 230 V ± 10% 1, 50 Hz, IP 44, thermostat relay for motor protection, internally wired, motor ambient temperature –25° C to +60°C, 1295 rpm
- 6-pole: 230 V ± 10% 1, 50/60 Hz, IP 44, thermostat relay for motor protection, internally wired, motor ambient temperature –25° C to +60°C, 880 rpm
- Continuously variable speed using phase angle control or voltage reduction
- Phase angle control may cause electromagnetic noise at some frequencies!

Technical data:

Condenser capacity	Q_C	kW
Coolant	R	
Air intake temperature	t_{L1}	°C
Condensing temperature	t_C	°C
Airflow	V_L	m³/h
Sound power level	L_{WA}	dB(A)
Sound pressure	L_{PA}	dB(A) in 10m
Exhaust direction (vert. / hor.)		
Number of fans		Number
Motor rpm	n	min^{-1}

Motor rated power at rated voltage.	P_{el}	W	V
Rated current and mains frequency	I	A	Hz
Weight			kg
Length / width / height			m
Connections	Inlet		mm
Connections	Outlet		mm
Colour	RAL		
Make	GEA Küba		
Type			
Price			EUR

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GEA Heat Exchangers

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