Expansion valve kit for air handling applications Air Conditioning Technical Data

EKEXVA

EKEXVA50
EKEXVA63
EKEXVA80
EKEXVA100
EKEXVA125
EKEXVA140
EKEXVA200
EKEXVA250
EKEXVA300
EKEXVA350
EKEXVA400
EKEXVA450
EKEXVA500

EEDEN23

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EKEXVA

1 Features

1 - 1 EKEXVA

Allows easy connection between DX outdoor unit and air handling unit

- The integration of an AHU into a DX system ensures fast response to changing loads, a high energy efficiency and easy design as no boilers, tanks or pumps are needed
- Wide range of expansion valve kit capacities from 5 to 61kW offers maximum application potential
- Unified indoor unit can be combined with R-32 and R-410A outdoor units, symplifying stock
- Can be installed outdoors, down to -20°C
- Control box and expansion valve kit are required for each combination plus an air handling unit

2 Specifications

2 - 1 Specifications

Technical specifications				EKEXVA50	EKEXVA63	EKEXVA80	EKEXVA100	EKEXVA125
Dimensions	Unit	Height	mm	404				
		Width	mm	217				
		Depth	mm	80.5				
	Packed unit	Height	mm	463				
		Width	mm	276				
		Depth	mm	126				
Weight	Unit		kg	2.90				
	Packed unit		kg	3.30				
Packing	Material			Cardboard				
	Weight		kg	0.300				
Packing 2	Material			EPS				
	Weight		kg	0.089				
Casing	Colour			Ivory white				
	Material			Galvanized and painted steel sheet				
Ambient installation conditions	Min.		°CDB	-20.0				
	Max.		°CDB	52.0				
Sound pressure level	Cooling	Nom.	dBA	36.5	37.5	38.6	39.5	40.5
	Heating	Nom.	dBA	24.8	25.8	26.8	27.8	28.8
Refrigerant	Type			R32/R410A				
Piping connections	Liquid	Type		Braze connection (only liquid line connected)				
		OD	mm	6.40			9.52	
	Heat insulation			Both inlet and outlet				

Technical specifications				EKEXVA140	EKEXVA200	EKEXVA250	EKEXVA250	EKEXVA250
Dimensions	Unit	Height	mm	404				
		Width	mm	217				
		Depth	mm	80.5				
	Packed unit	Height	mm	463				
		Width	mm	276				
		Depth	mm	126				
Weight	Unit		kg	2.90				
	Packed unit		kg	3.30				
Packing	Material			Cardboard				
	Weight		kg	0.300				
Packing 2	Material			EPS				
	Weight		kg	0.089				
Casing	Colour			Ivory white				
	Material			Galvanized and painted steel sheet				
Ambient installation conditions	Min.		°CDB	-20.0				
	Max.		°CDB	52.0				
Sound pressure level	Cooling	Nom.	dBA	41.1	42.5	43.5	44.3	45.1
	Heating	Nom.	dBA	29.4	30.8	31.8	32.5	33.3
Refrigerant	Type			R32/R410A				
Piping connections	Liquid	Type		Braze connection (only liquid line connected)				
		OD	mm	9.52			12.70	
	Heat insulation			Both inlet and outlet				

Technical specifications				EKEXVA400	EKEXVA250	EKEXVA500
Dimensions	Unit	Height	mm	404		
		Width	mm	217		
		Depth	mm	80.5		
	Packed unit	Height	mm	463		
		Width	mm	276		
		Depth	mm	126		
Weight	Unit		kg	2.90		
	Packed unit		kg	3.30		
Packing	Material			Cardboard		
	Weight		kg	0.300		
Packing 2	Material			EPS		
	Weight		kg	0.089		
Casing	Colour			Ivory white		
	Material			Galvanized and painted steel sheet		
Ambient installation conditions	Min.		°CDB	-20.0		
	Max.		°CDB	52.0		
Sound pressure level	Cooling	Nom.	dBA	45.6	46.1	46.5
	Heating	Nom.	dBA	33.8	34.3	34.8
Refrigerant	Type			R32/R410A		
Piping connections	Liquid	Type		Braze connection (only liquid line connected)		
		OD	mm	12.70		
	Heat insulation			Both inlet and outlet		

Standard accessories: Connection pipes;Quantity: 2;

2 Specifications

2 - 1 Specifications

Refer to outdoor unit refrigerant pipe selection drawing for piping length and level difference limitations

3 Selection procedure

3 - 1 Selection Procedure

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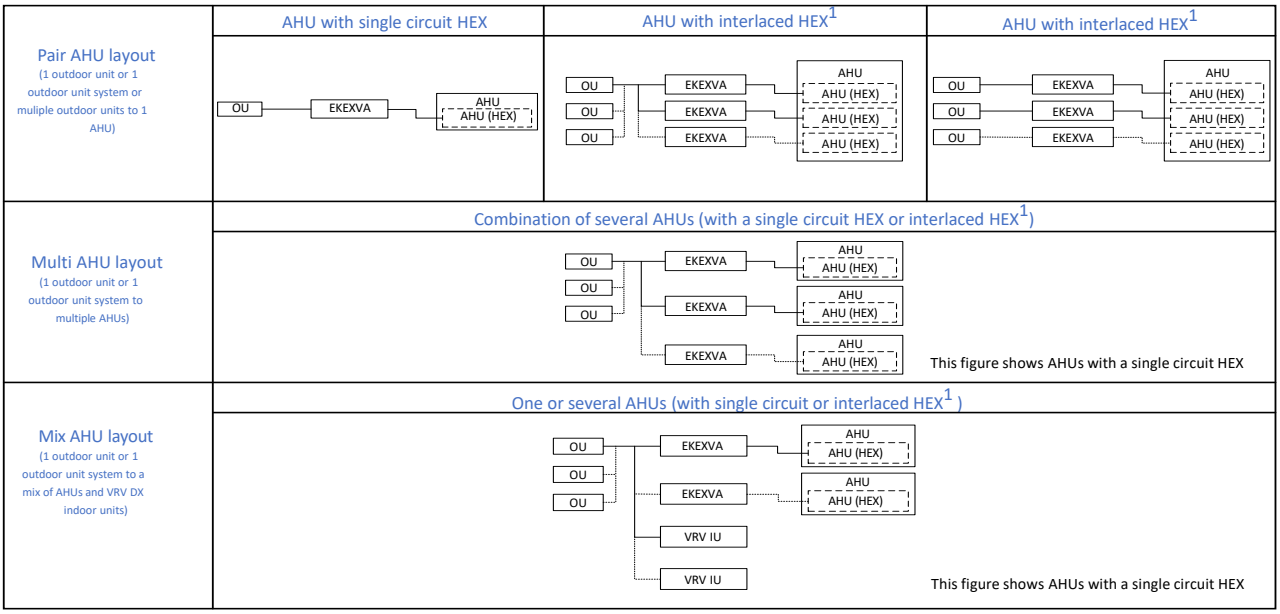
1. System layout

Determine the layout of the system:

Definition of different system layouts:



[1] Interlaced HEX is a HEX split in several separate circuits called interlaces

2. Application type: fresh air or 100% recirculation application

Determine whether the AHU will be used for fresh air or 100% recirculation applications.

Fresh air application: In this scenario, the primary role of the AHU is to provide ventilation by introducing external fresh air into the connected space. Some of the air processed by the AHU's heat exchanger comes from the outdoors. This is important for maintaining an appropriate indoor air quality in the connected space.

100% recirculation application: The AHU functions as an indoor unit. The on-coil temperature of the AHU matches the temperature of the conditioned space. All the air that passes through the AHU's heat exchanger is recirculated air from within the building or connected space.

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3 Selection procedure

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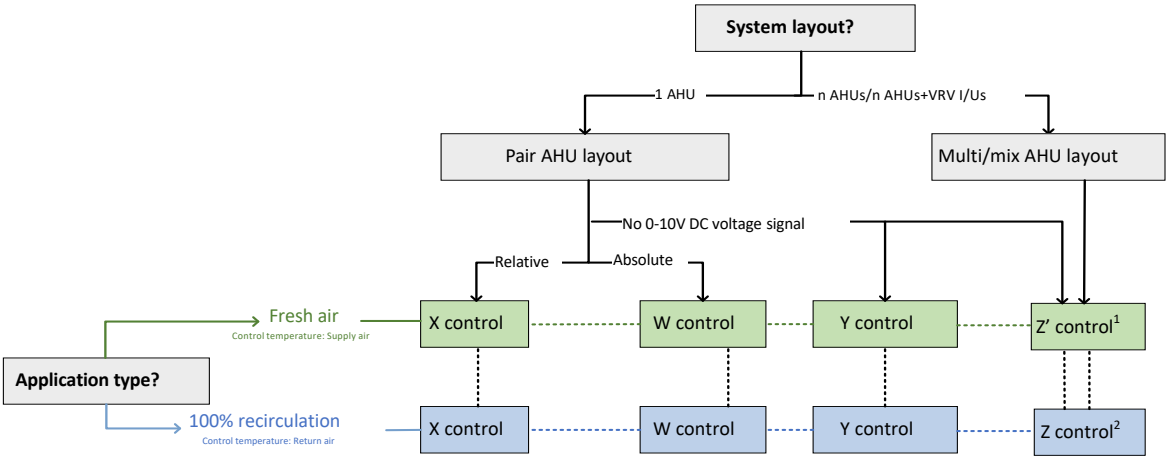
3. Control type decision matrix

Based on the system layout and application type, the matrix indicates the recommended control type for EKEACBVE.

Control type decision matrix



Note:
[1] Z' control is not intended for comfort applications.
[2] It is possible to use the 0-10V DC signal for setpoint selection as an alternative to the remote controller

4. EKEXVA capacity selection

4.1. Fresh air application

For fresh air applications, the required load for the AHU should be calculated at nominal indoor conditions: 20°C DB in heating, 27°C DB/19°C WB in cooling. The required EKEXVA capacity class can then be selected from the capacity table for fresh air applications:

EKEXVA				
	Allowed cooling capacity (kW)		Allowed hea ng capacity (kW)	
	Minimum	Maximum	Minimum	Maximum
50	5.0	6.2	5.6	7.0
63	6.3	7.8	7.1	8.8
80	7.9	9.9	8.9	11.1
100	10	13.1	11.2	14.7
125	13.2	15.4	14.8	17.3
140	15.5	21	17.4	23.6
200	21.1	24.6	23.7	27.7
250	24.7	30.8	27.8	34.7
300	30.9	36.9	34.8	41.5
350	37	44	41.6	49.5
400	44.1	49.5	49.6	55.7
450	49.6	55.4	55.8	62.4
500	55.5	61.6	62.5	69.3

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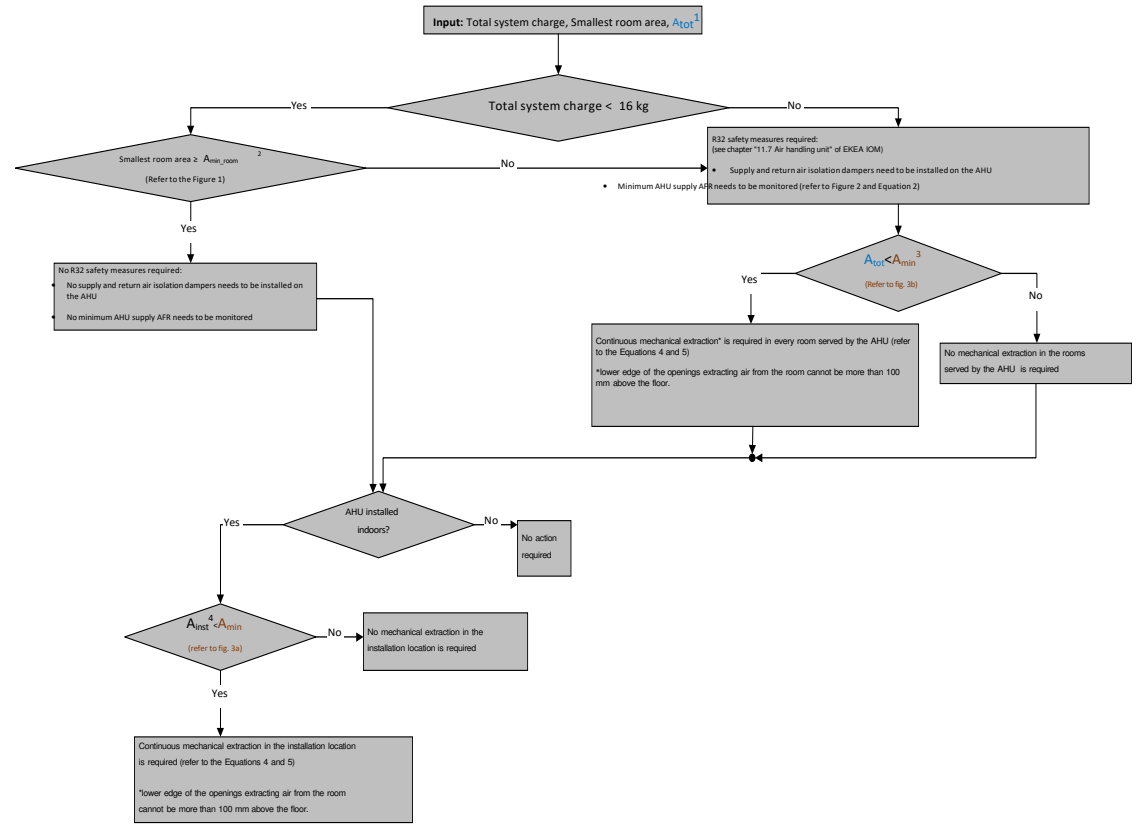
4.2. 100% recirculation application

For 100% recirculation applications, the calculation of the required load of the AHU should be done considering the temperature of the conditioned space. Based on this, the EKEXVA capacity class can be selected from the published capacity tables.

5. R32 safety requirements

To determine the necessary safety requirements for a R32 system, the flowchart below should be used. In the flowchart, references are made to other figures that are shown below.



Note:
[1] Total conditioned space area determined as the sum of the floor areas of all the spaces connected by ducts to the AHU.
Spaces where the airflow can be limited by zoning dampers, must NOT be included in the determination of Atot.
[2] Required minimum room area (A_{min_room} is directly related to the total system charge and is determined according to figure 1 or equation 1)
[3] Minimum A_{tot} or A_{inst} to prevent mechanical extraction (A_{tot} or A_{inst} is directly related to the total system refrigerant charge and is determined according to Figures 3b or 3a respectively)
[4] AHU installation space area

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3 Selection procedure

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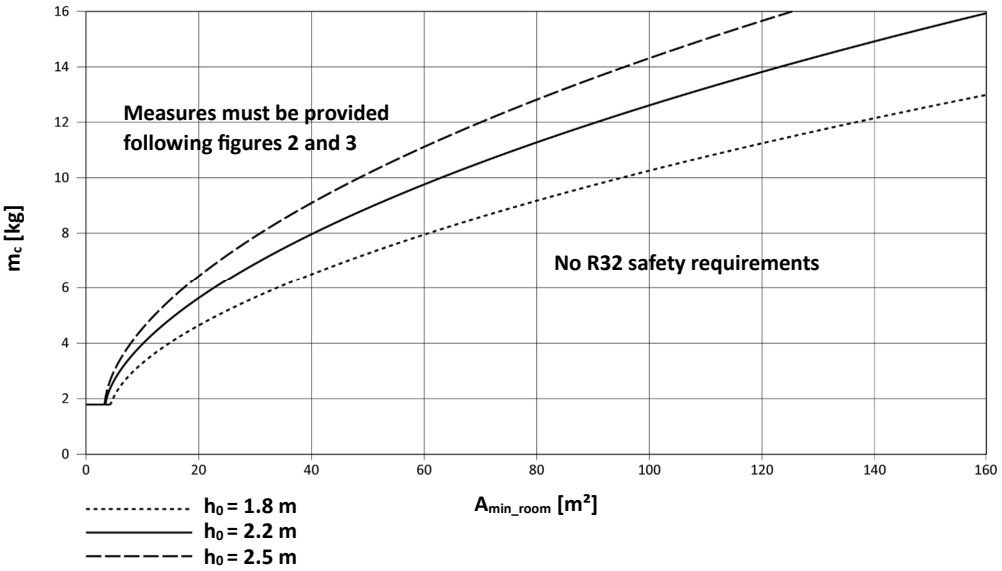
Figure 1: Requirements for spaces served by AHU ($m_c \leq 16$ kg)



$$A_{\min\_room} = \left(\frac{m_c}{2.5\cdot(LFL)^{\frac{5}{4}}\cdot h_0}\right)^2$$, but not less than $A_{\min\_room} = \frac{m_c}{50\%\cdot LFL\cdot h_0}$ (valid for m_c>1.84 kg) **(Equa#on 1)**

Symbols	Descrip#on
A_{min_room}	Required minimum room area
h_0	Release height, which is the vertical distance in meters from the floor to the point of release
LFL	Lower flammability limit = 0.307 kg/m³ for R32
m_c	Total refrigerant charge in the system

m_c [kg]	A_{min_room} [m²] (h_0 =1.8 m)	A_{min_room} [m²] (h_0 =2.2 m)	A_{min_room} [m²] (h_0 =2.5 m)
2	4.9	4.0	3.5
2.5	6.1	5.0	4.4
3	8.6	6.0	5.3
3.5	11.6	7.8	6.1
4	15.2	10.2	7.9
4.5	19.2	12.9	10.0
5	23.7	15.9	12.3
5.5	28.7	19.2	14.9
6	34.1	22.8	17.7
6.5	40.0	26.8	20.8
7	46.4	31.1	24.1
7.5	53.2	35.7	27.6
8	60.6	40.6	31.4

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mc [kg]	Amin_room [m²] (h0 =1.8 m)	Amin_room [m²] (h0 =2.2 m)	Amin_room [m²] (h0 =2.5 m)
8.5	68.4	45.8	35.5
9	76.6	51.3	39.8
9.5	85.4	57.2	44.3
10	94.6	63.4	49.1
10.5	104.3	69.8	54.1
11	114.5	76.6	59.4
11.5	125.1	83.8	64.9
12	136.2	91.2	70.6
12.5	147.8	99.0	76.6
13	159.9	107.0	82.9
13.5	172.4	115.4	89.4
14	185.4	124.1	96.1
14.5	198.9	133.1	103.1
15	212.8	142.5	110.4
15.5	227.2	152.1	117.8
16	242.1	162.1	125.5

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3 Selection procedure

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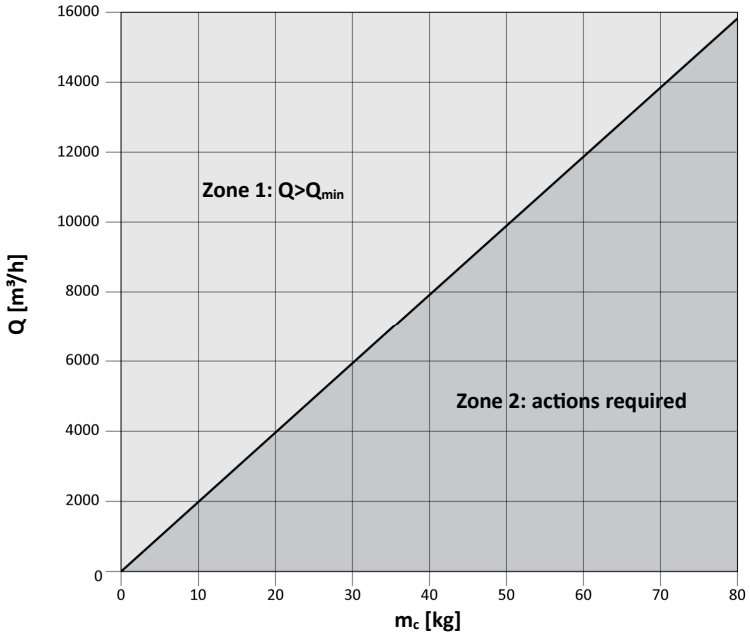
Figure 2: minimum circulation airflow



$$Q_{min} = \frac{60 \cdot m_c}{LFL} \quad (\boldsymbol{Equation\ 2})$$

Symbols	Description
Q [m³/h]	Circulation airflow rate
Q_{min}	Minimum circulation airflow rate
LFL	Lower flammability limit = 0.307 kg/m³ for R32
m_c	Total refrigerant charge in the system

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m_c [kg]	Q_{min} [m³/h]	m_c [kg]	Q_{min} [m³/h]	m_c [kg]	Q_{min} [m³/h]	m_c [kg]	Q_{min} [m³/h]
0	0.0	20	3908.8	40	7817.6	60	11726.4
0.5	97.7	20.5	4006.5	40.5	7915.3	60.5	11824.1
1	195.4	21	4104.2	41	8013.0	61	11921.8
1.5	293.2	21.5	4202.0	41.5	8110.7	61.5	12019.5
2	390.9	22	4299.7	42	8208.5	62	12117.3
2.5	488.6	22.5	4397.4	42.5	8306.2	62.5	12215.0
3	586.3	23	4495.1	43	8403.9	63	12312.7
3.5	684.0	23.5	4592.8	43.5	8501.6	63.5	12410.4
4	781.8	24	4690.6	44	8599.3	64	12508.1
4.5	879.5	24.5	4788.3	44.5	8697.1	64.5	12605.9
5	977.2	25	4886.0	45	8794.8	65	12703.6
5.5	1074.9	25.5	4983.7	45.5	8892.5	65.5	12801.3
6	1172.6	26	5081.4	46	8990.2	66	12899.0
6.5	1270.4	26.5	5179.2	46.5	9087.9	66.5	12996.7
7	1368.1	27	5276.9	47	9185.7	67	13094.5
7.5	1465.8	27.5	5374.6	47.5	9283.4	67.5	13192.2
8	1563.5	28	5472.3	48	9381.1	68	13289.9
8.5	1661.2	28.5	5570.0	48.5	9478.8	68.5	13387.6
9	1759.0	29	5667.8	49	9576.5	69	13485.3
9.5	1856.7	29.5	5765.5	49.5	9674.3	69.5	13583.1
10	1954.4	30	5863.2	50	9772.0	70	13680.8
10.5	2052.1	30.5	5960.9	50.5	9869.7	70.5	13778.5
11	2149.8	31	6058.6	51	9967.4	71	13876.2
11.5	2247.6	31.5	6156.4	51.5	10065.1	71.5	13973.9
12	2345.3	32	6254.1	52	10162.9	72	14071.7
12.5	2443.0	32.5	6351.8	52.5	10260.6	72.5	14169.4
13	2540.7	33	6449.5	53	10358.3	73	14267.1
13.5	2638.4	33.5	6547.2	53.5	10456.0	73.5	14364.8
14	2736.2	34	6645.0	54	10553.7	74	14462.5
14.5	2833.9	34.5	6742.7	54.5	10651.5	74.5	14560.3
15	2931.6	35	6840.4	55	10749.2	75	14658.0
15.5	3029.3	35.5	6938.1	55.5	10846.9	75.5	14755.7
16	3127.0	36	7035.8	56	10944.6	76	14853.4
16.5	3224.8	36.5	7133.6	56.5	11042.3	76.5	14951.1
17	3322.5	37	7231.3	57	11140.1	77	15048.9
17.5	3420.2	37.5	7329.0	57.5	11237.8	77.5	15146.6
18	3517.9	38	7426.7	58	11335.5	78	15244.3
18.5	3615.6	38.5	7524.4	58.5	11433.2	78.5	15342.0
19	3713.4	39	7622.1	59	11530.9	79	15439.7
19.5	3811.1	39.5	7719.9	59.5	11628.7	79.82	15600.0

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3 Selection procedure

3 - 1 Selection Procedure

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Figure 3a: Requirements for AHU installation location

(only applicable for indoor installations)

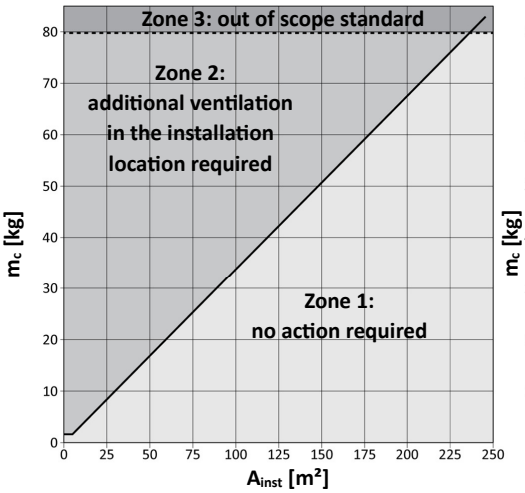
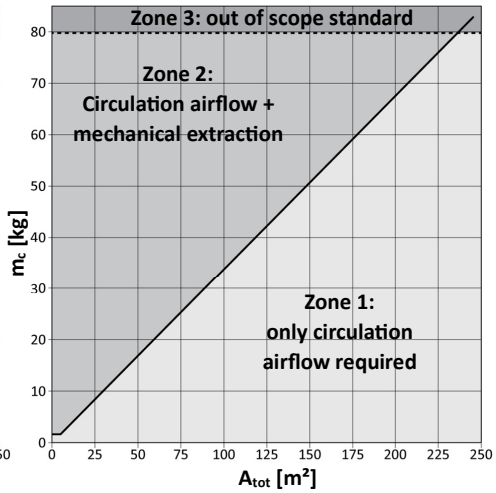


Figure 3b: Requirements for spaces served by AHU



———— $50\%LFL \cdot H \cdot (A_{tot}\ or\ A_{inst})$ (valid for mc > 1.84 kg) **(Equation 3)**

- - - - - - - - - - - - - - 260LFL

Symbols	Description
260LFL	Absolute maximum for the total refrigerant charge in the system
A_{inst}	Installation space area
A_{min}	Minimum A_{tot} or A_{inst} (based on total refrigerant charge) to prevent mechanical extraction
A_{tot}	Total conditioned space area A_{tot} is the sum of the floor areas of all the spaces connected by ducts to the air handling unit. Spaces where the airflow can be limited by zoning dampers, must NOT be included in the determination of A_{tot}
H	Height of the room = 2.2 m
LFL	Lower flammability limit = 0.307 kg/m³ for R32
m_c	Total refrigerant charge in the system

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3 Selection procedure

3 - 1 Selection Procedure

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A_{tot} or A_{inst} [m²]	m_c [kg]	A_{tot} or A_{inst} [m²]	m_c [kg]
6	2.0	125	42.2
10	3.4	130	43.9
15	5.1	135	45.6
20	6.8	140	47.3
25	8.4	145	49.0
30	10.1	150	50.7
35	11.8	155	52.3
40	13.5	160	54.0
45	15.2	165	55.7
50	16.9	170	57.4
55	18.6	175	59.1
60	20.3	180	60.8
65	22.0	185	62.5
70	23.6	190	64.2
75	25.3	195	65.9
80	27.0	200	67.5
85	28.7	205	69.2
90	30.4	210	70.9
95	32.1	215	72.6
100	33.8	220	74.3
105	35.5	225	76.0
110	37.1	230	77.7
115	38.8	235	79.4
120	40.5	236	79.7

Calculation of the minimum airflow rate (Q_{min}) for the mechanical extraction:

$$Q_{min} = \frac{m_c - m_{max}}{4 \cdot LFL} \cdot 2 \cdot 60$$ **(Equation 4)**

Where m_{max} is:

$$m_{max} = 50\% \cdot LFL \cdot H \cdot (A_{inst} \text{ or } A_{tot}) = 50\% \cdot 0.307 \cdot 2.2 \cdot (A_{inst} \text{ or } A_{tot})$$

Mechanical extraction shall be made to the outdoor or indoor space where the room area is larger than the minimum room area (EA_{min}), calculated using the following formula:

$$EA_{min} = \frac{(m_c - m_{max})}{CF \cdot LFL \cdot H} = \frac{(m_c - m_{max})}{25\% \cdot 0.307 \cdot 2.2}$$ **(Equation 5)**

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4 Capacity tables

4 - 1 Cooling Capacity Tables

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Cooling capacity table - Total capacity [kW]							
Capacity class	On-coil air temperature [°C]						
	14WB 20DB	16WB 23DB	18WB 26DB	19WB 27DB	20WB 28DB	22WB 30DB	24WB 32DB
50	3,8	4,5	5,2	5,6	5,9	6,0	6,2
63	4,8	5,7	6,6	7,1	7,5	7,7	7,8
80	6,1	7,2	8,4	9,0	9,5	9,7	9,9
100	7,6	9,0	10,5	11,2	11,8	12,1	12,3
125	9,5	11,3	13,1	14,0	14,8	15,1	15,4
140	10,8	12,9	15,0	16,0	16,9	17,3	17,6
200	15,1	18,0	21,0	22,4	23,6	24,2	24,6
250	18,9	22,5	26,2	28,0	29,5	30,2	30,8
300	22,6	26,9	31,3	33,5	35,3	36,1	36,9
350	27,0	32,2	37,4	40,0	42,1	43,1	44,0
400	30,4	36,2	42,1	45,0	47,4	48,5	49,5
450	34,0	40,5	47,2	50,4	53,1	54,3	55,4
500	37,8	45,0	52,4	56,0	59,0	60,4	61,6

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4 Capacity tables

4 - 2 Heating Capacity Tables

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Heating capacity table

Capacity class	On-coil air temperature [°C DB]						
	10	16	18	20	21	22	24
50	6,6	6,6	6,6	6,3	6,1	5,9	5,5
63	8,4	8,4	8,4	8,0	7,7	7,5	7,0
80	10,5	10,5	10,5	10,0	9,7	9,4	8,7
100	13,1	13,1	13,1	12,5	12,1	11,7	10,9
125	16,8	16,8	16,8	16,0	15,5	15,0	13,9
140	18,9	18,9	18,9	18,0	17,4	16,8	15,7
200	26,2	26,2	26,2	25,0	24,2	23,4	21,8
250	33,1	33,1	33,1	31,5	30,5	29,5	27,5
300	39,4	39,4	39,4	37,5	36,3	35,1	32,7
350	47,2	47,2	47,2	45,0	43,6	42,1	39,2
400	52,4	52,4	52,4	50,0	48,4	46,8	43,6
450	59,2	59,2	59,2	56,5	54,7	52,9	49,3
500	66,0	66,0	66,0	63,0	61,0	59,0	54,9

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4 Capacity tables

4 - 3 Air handling unit heat exchanger volume limitations

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Capacity class	Heat exchanger volume [dm³]			
	General limits		·65· % ≤ CR < ·75· % (only for pair and multi applications)	
	Minimum	Maximum	Minimum	Maximum
50	0,95	1,65	1,09	1,65
63	1,02	2,08	1,18	2,08
80	1,42	2,64	1,64	2,64
100	1,51	3,3	1,74	3,3
125	1,98	4,12	2,29	4,12
140	2,54	4,62	2,94	4,62
200	3,02	6,6	3,49	6,6
250	3,97	8,25	4,58	8,25
300	4,53	9,9	5,23	9,9
350	5,48	11,55	6,32	11,55
400	6,04	13,2	6,97	13,2
450	6,99	14,85	8,07	14,85
500	7,55	16,5	8,72	16,5

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5 Dimensional drawings

5 - 1 Dimensional Drawings

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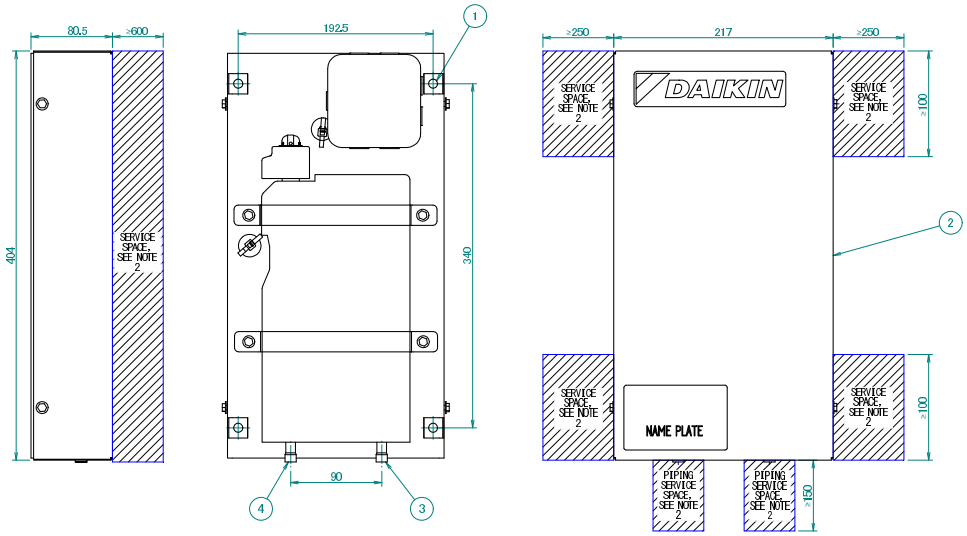
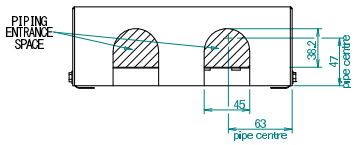


NOTES :

1. INSTALLATION:
   - MAKE SURE THAT THE EXPANSION VALVE KIT IS INSTALLED VERTICALLY.
   - THE EXPANSION VALVE KIT CAN BE INSTALLED INSIDE OR OUTSIDE.
   - DO NOT INSTALL THE EXPANSION VALVE KIT IN OR ON THE OUTDOOR UNIT.
   - DO NOT PUT THE EXPANSION VALVE KIT IN DIRECT SUNLIGHT. DIRECT SUNLIGHT WILL INCREASE THE TEMPERATURE INSIDE THE EXPANSION VALVE KIT AND MAY REDUCE ITS LIFETIME AND INFLUENCE ITS OPERATION.
   - CHOOSE A FLAT AND STRONG MOUNTING SURFACE.
2. SERVICE SPACE:
   - KEEP THE SPACE FREE FOR FUTURE MAINTENANCE.



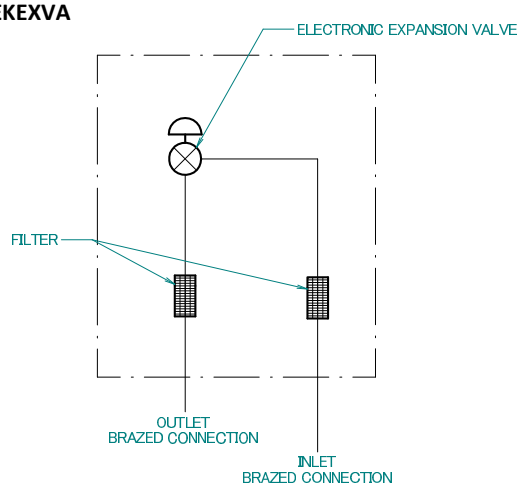
ITEM	PART NAME
1	4 HOLES TO FIX THE VALVE KIT
2	VALVE KIT BOX LID
3	LIQUID PIPING FROM OUTDOOR UNIT
4	LIQUID PIPING TO AIR HANDLING UNIT

3D148529A

6 Piping diagrams

6 - 1 Piping Diagrams

EKEXVA



EKEXVA	Liquid pipe (mm)
50	Ø6.4
63	Ø6.4
80	Ø6.4
100	Ø9.5
125	Ø9.5
140	Ø9.5
200	Ø9.5
250	Ø9.5
300	Ø12.7
350	Ø12.7
400	Ø12.7
450	Ø12.7
500	Ø12.7

NOTES :

1. FOR THE HEAT EXCHANGER OF THE AIR HANDLING UNIT, RESPECT THE FOLLOWING PIPE SIZES.
   GAS PIPE Ø AND LIQUID PIPE Ø ARE IN MM.

Capacity index	R410A		R32	
	gas pipe Ø	liquid pipe Ø	gas pipe Ø	liquid pipe Ø
50	12,7	6,4	12,7	6,4
63	15,9	9,5	12,7	6,4
80	15,9	9,5	12,7	6,4
100	15,9	9,5	15,9	9,5
125	15,9	9,5	15,9	9,5
140	15,9	9,5	15,9	9,5
200	19,1	9,5	19,1	9,5
250	22,2	9,5	19,1	9,5
300	28,6	12,7	22,2	12,7
350	28,6	12,7	22,2	12,7
400	28,6	12,7	28,6	12,7
450	28,6	15,9	28,6	12,7
500	28,6	15,9	28,6	12,7

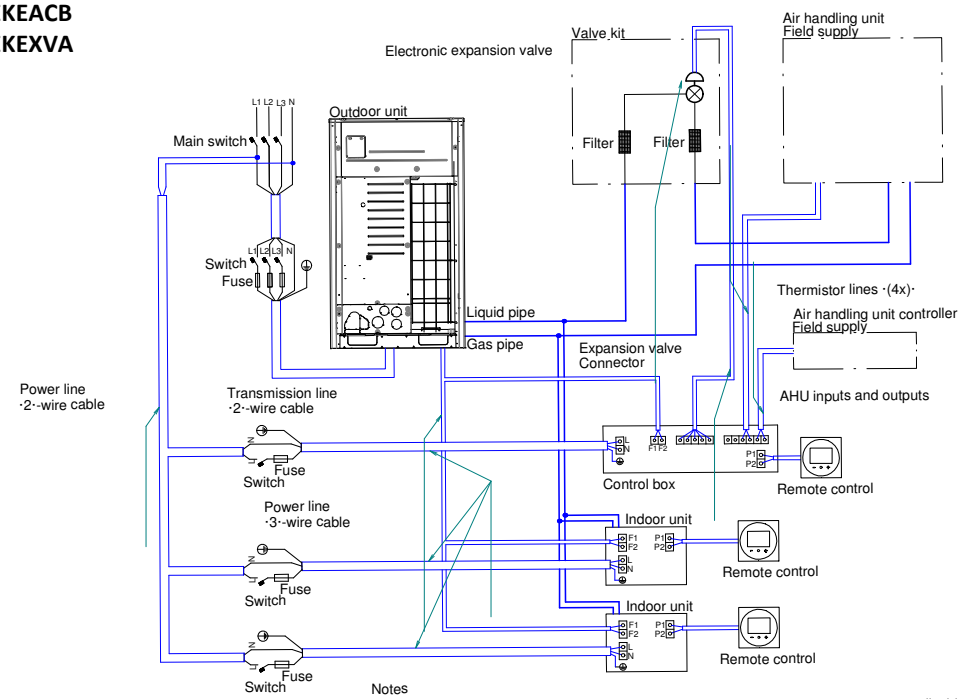
2. THE AIR HANDLING UNIT NEEDS TO HAVE A HEAT EXCHANGER WITH 2 CONNECTIONS:
   - 1 GAS CONNECTION
   - 1 LIQUID CONNECTION

3D148530

7 External connection diagrams

7 - 1 External Connection Diagrams

EKEACB
EKEXVA



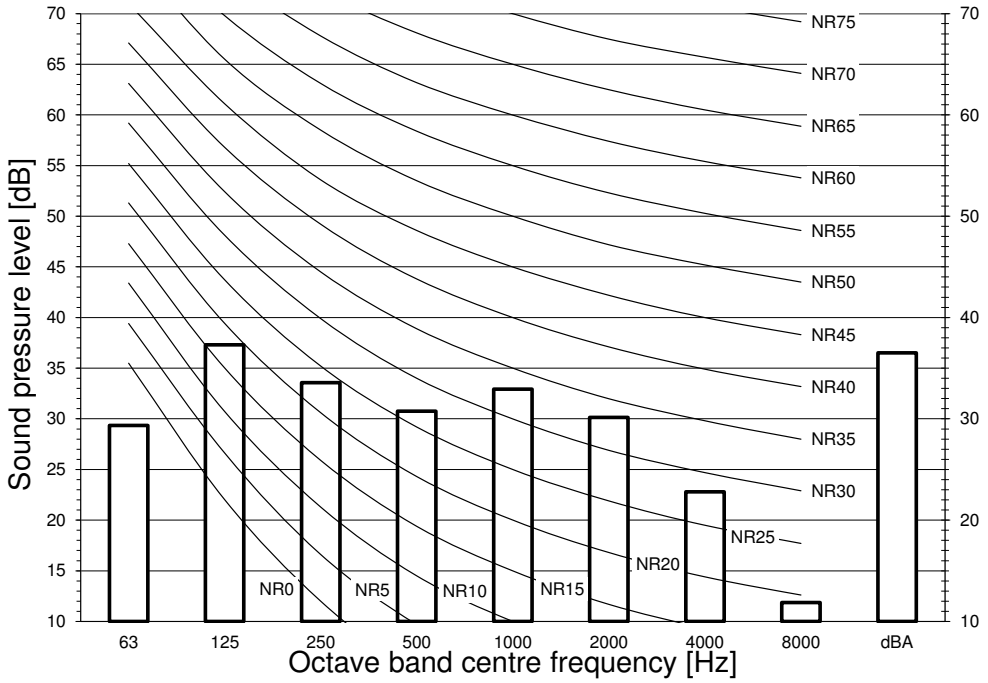
Notes
1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised electrician.
6. Unit has to be grounded in compliance with the applicable legislation.
7. The wiring shown is a general points-of-connection guide and is not intended to include all details for a specific installation.
8. Make sure to install the switch and the fuse to the power line of each equipement.
9. Install a main switch to control the multiple power sources that the various components of the system make use of.
10. For detailed control box side connection, see control box manual and wiring diagram.
11. For detailed pipe and wire connections and limitations, refer to the manual of ·control box· and the connected outdoor unit.

1D149401

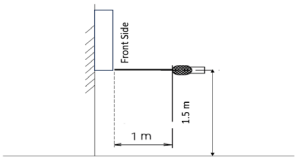
8 Sound data

8 - 1 Sound Pressure Spectrum - Cooling

EKEXV50A

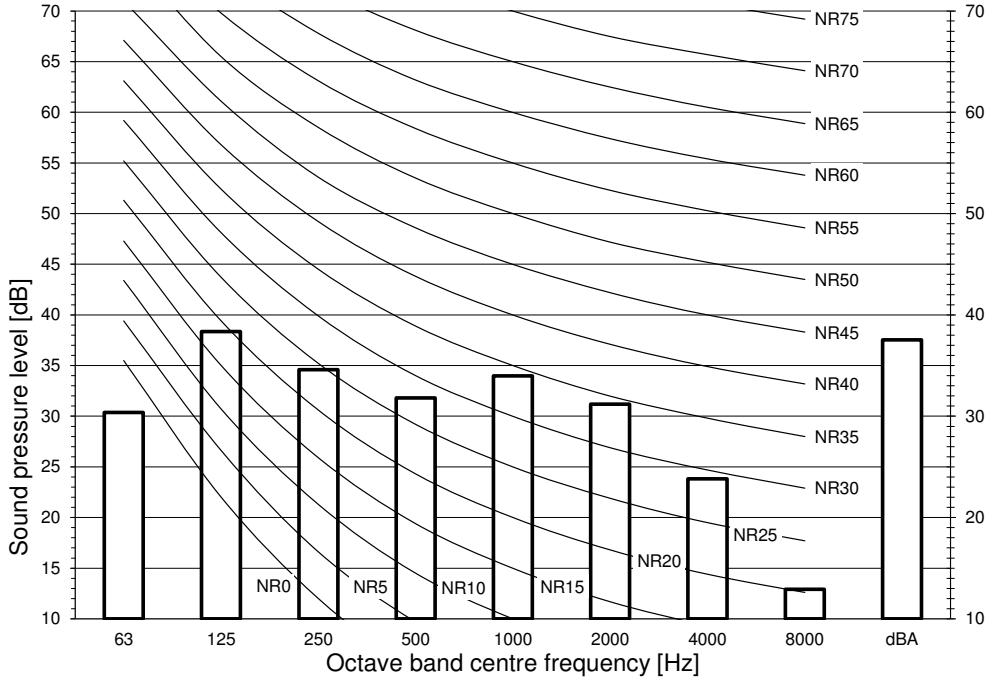


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



4D149464

EKEXV63A



Notes
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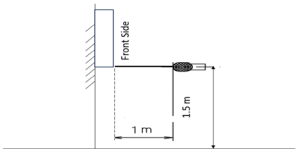
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

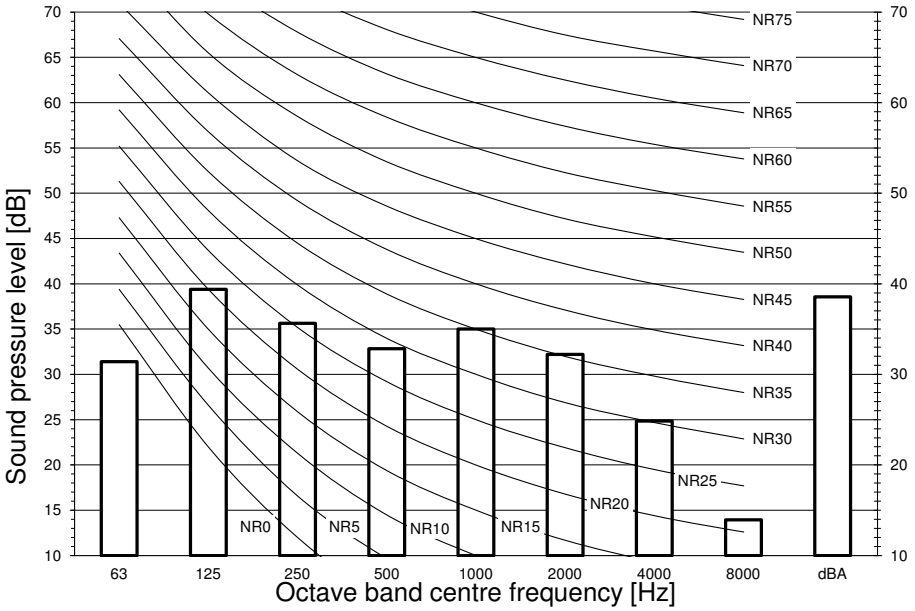


4D149465

8 Sound data

8 - 1 Sound Pressure Spectrum - Cooling

EKEXV80A



Notes
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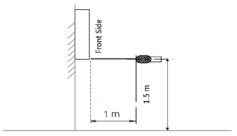
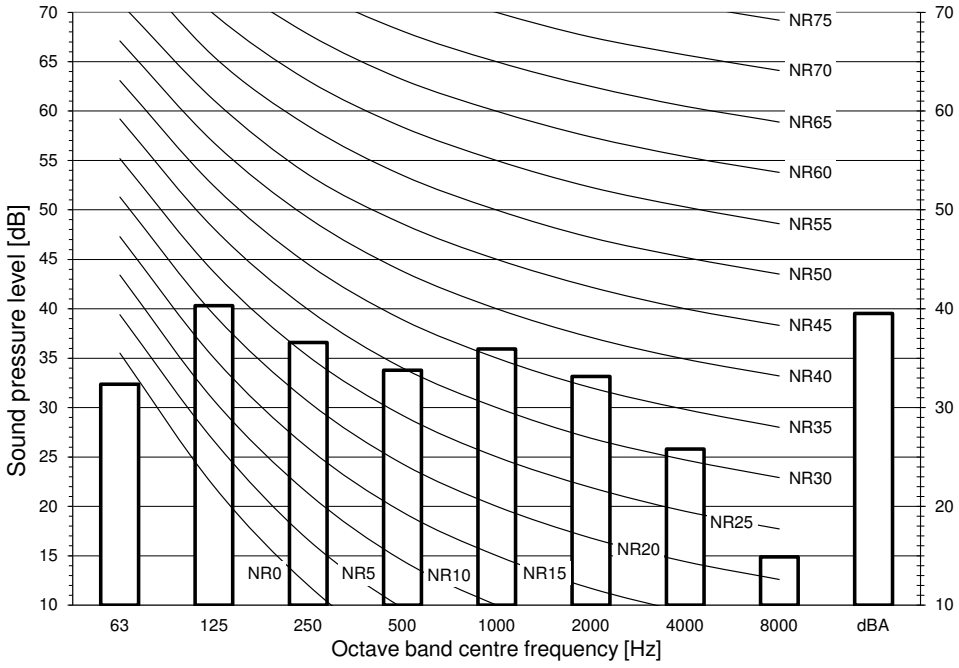
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



4D149466

EKEXV100A



Notes
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- dBA = A-weighted sound pressure level (A scale according to IEC).
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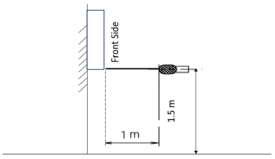
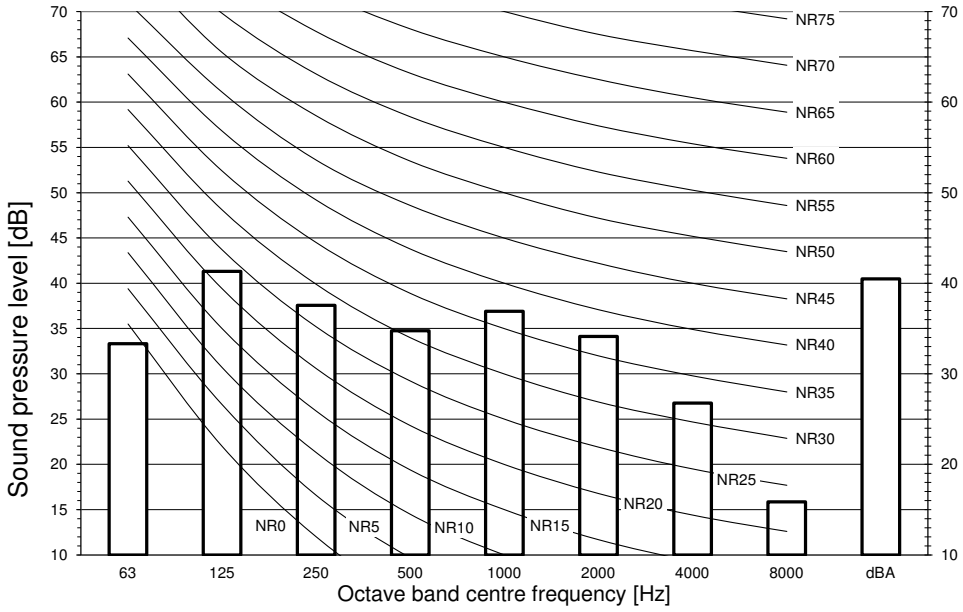


4D149467

8 Sound data

8 - 1 Sound Pressure Spectrum - Cooling

EKEXV125A



Notes
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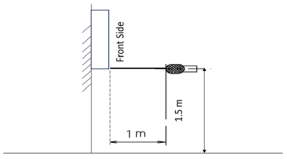
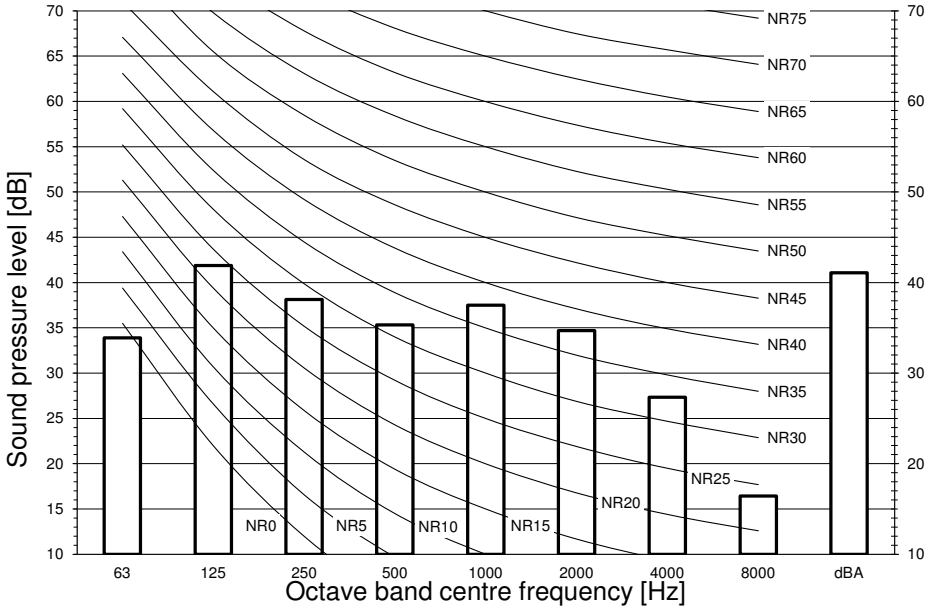
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



4D149468

EKEXV140A



Notes
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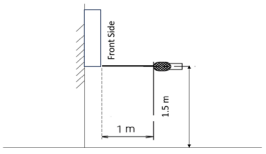
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

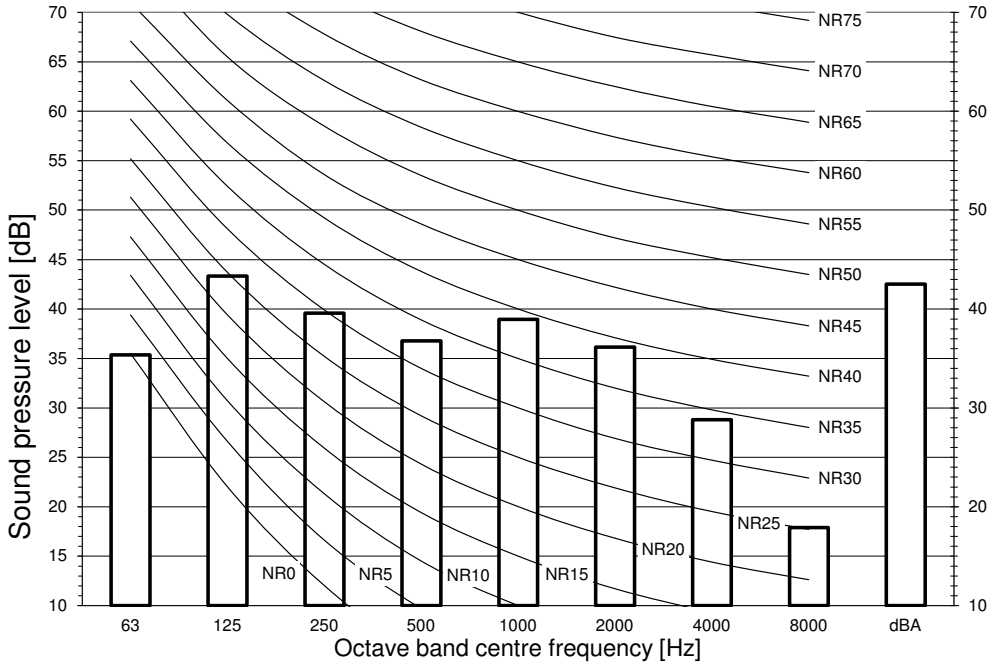


4D149469

8 Sound data

8 - 1 Sound Pressure Spectrum - Cooling

EKEXV200A



Notes
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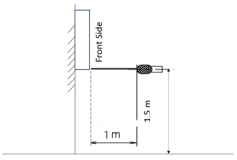
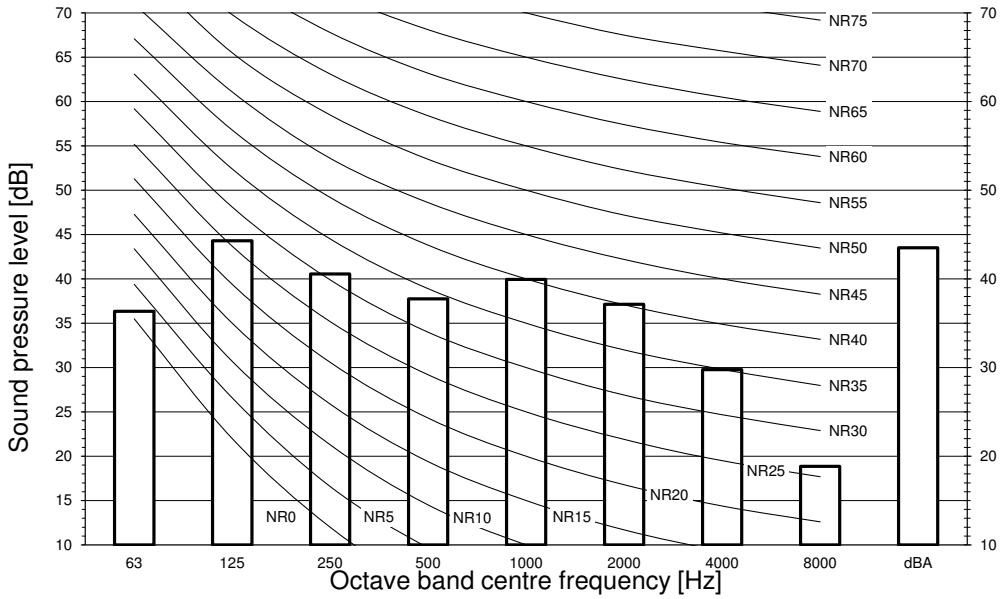
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



4D149470

EKEXV250A



Notes
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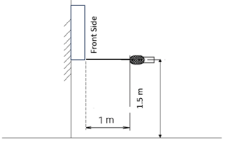
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

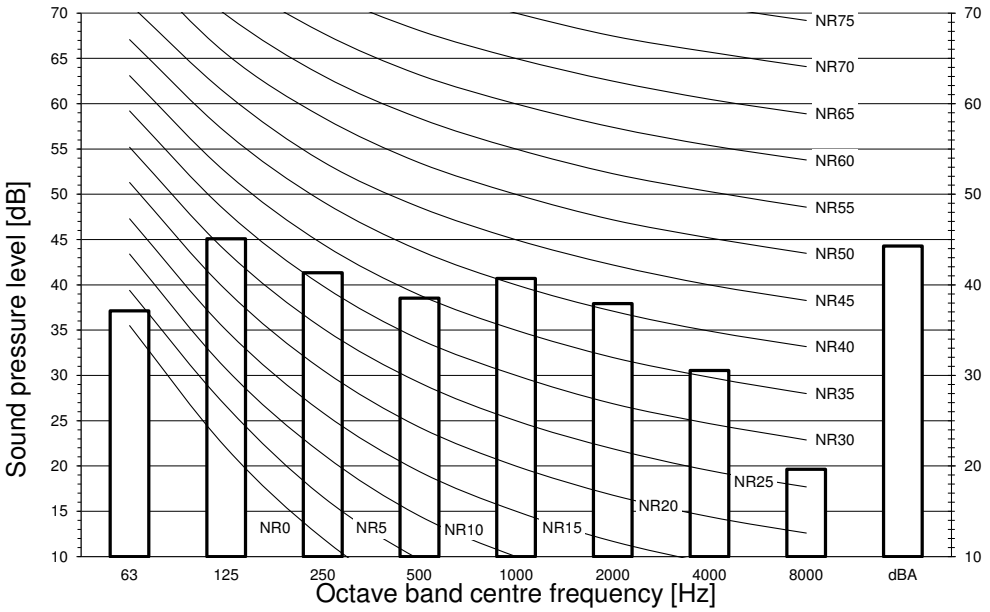


4D149471

8 Sound data

8 - 1 Sound Pressure Spectrum - Cooling

EKEXV300A



Notes
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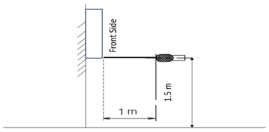
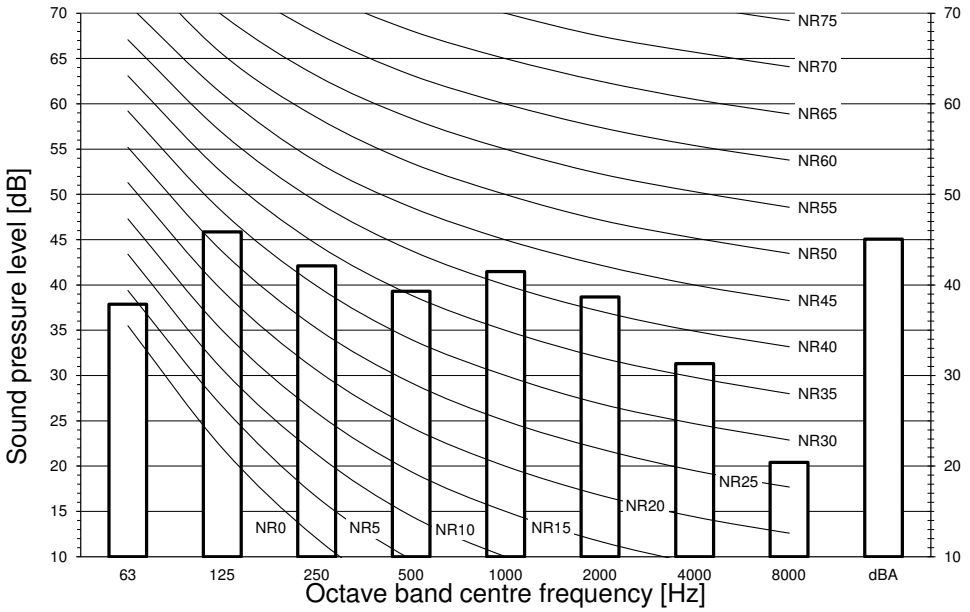
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



4D149472

EKEXV350A



Notes
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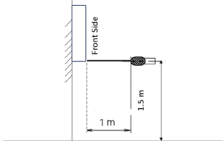
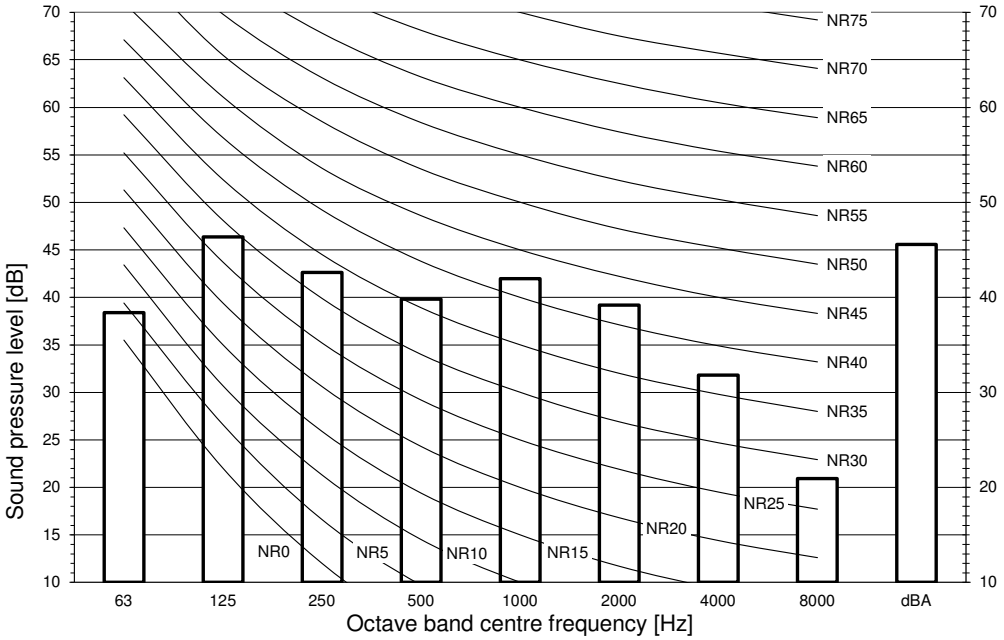


4D149473

8 Sound data

8 - 1 Sound Pressure Spectrum - Cooling

EKEXV400A



Notes
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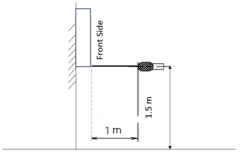
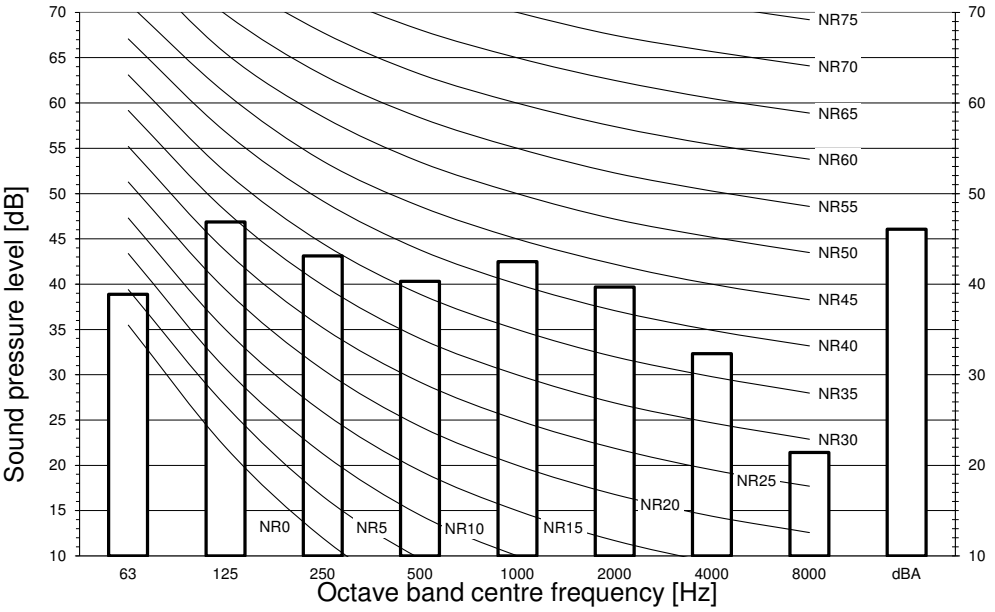
- Reference acoustic pressure 0 dB = 20 µPa



4D149474

EKEXV450A



Notes
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- dBA = A-weighted sound pressure level (A scale according to IEC).
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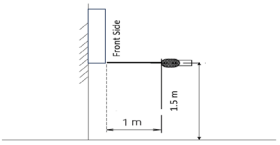
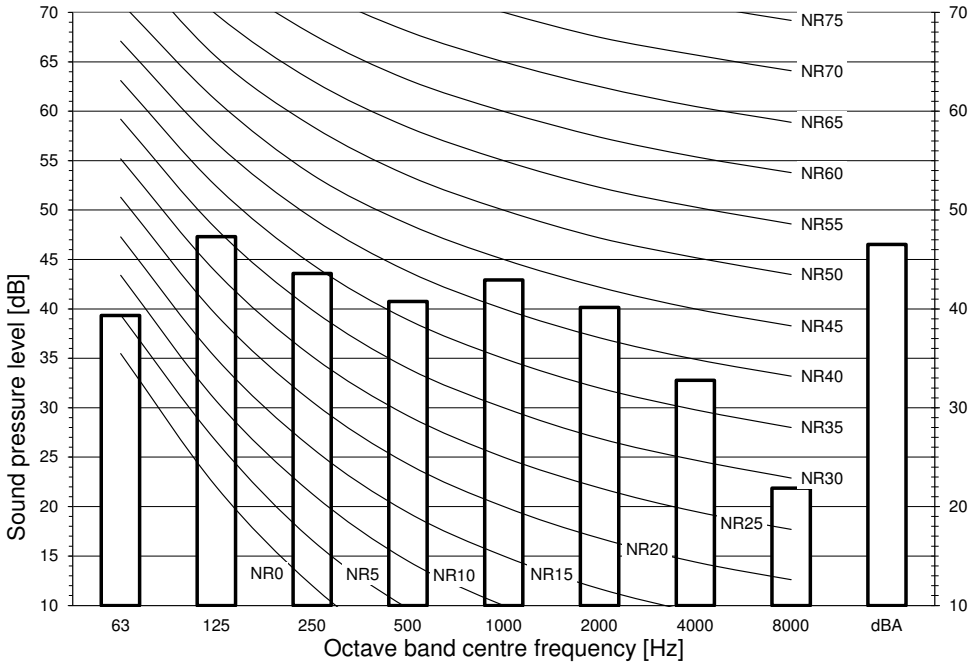


4D149475

8 Sound data

8 - 1 Sound Pressure Spectrum - Cooling

EKEXV500A



Notes
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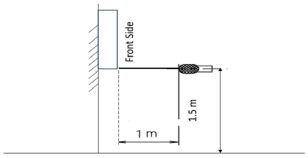
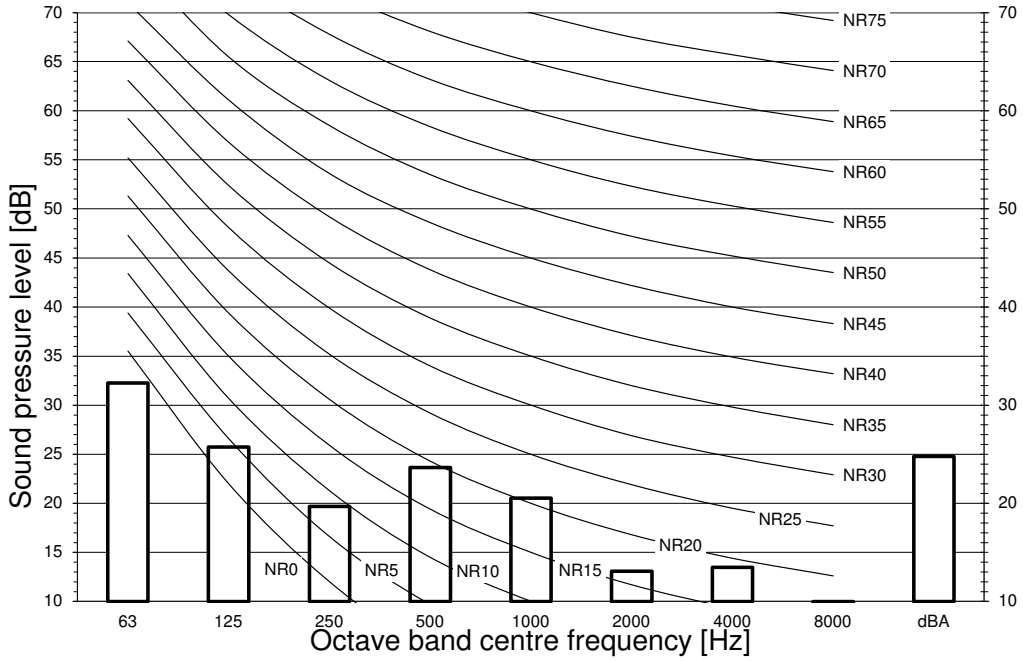


4D149476

8 Sound data

8 - 2 Sound Pressure Spectrum - Heating

EKEXV50A



Notes
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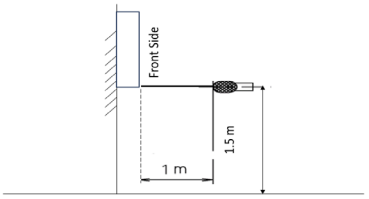
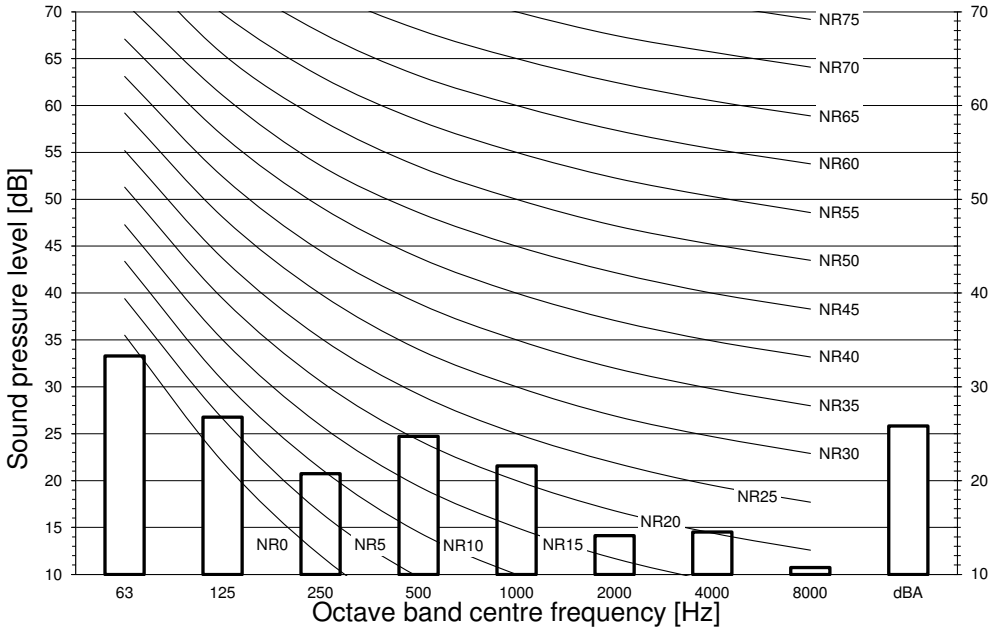


4D149451

EKEXV63A



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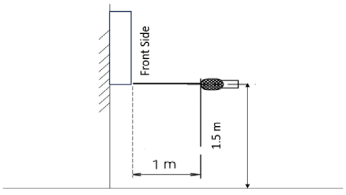
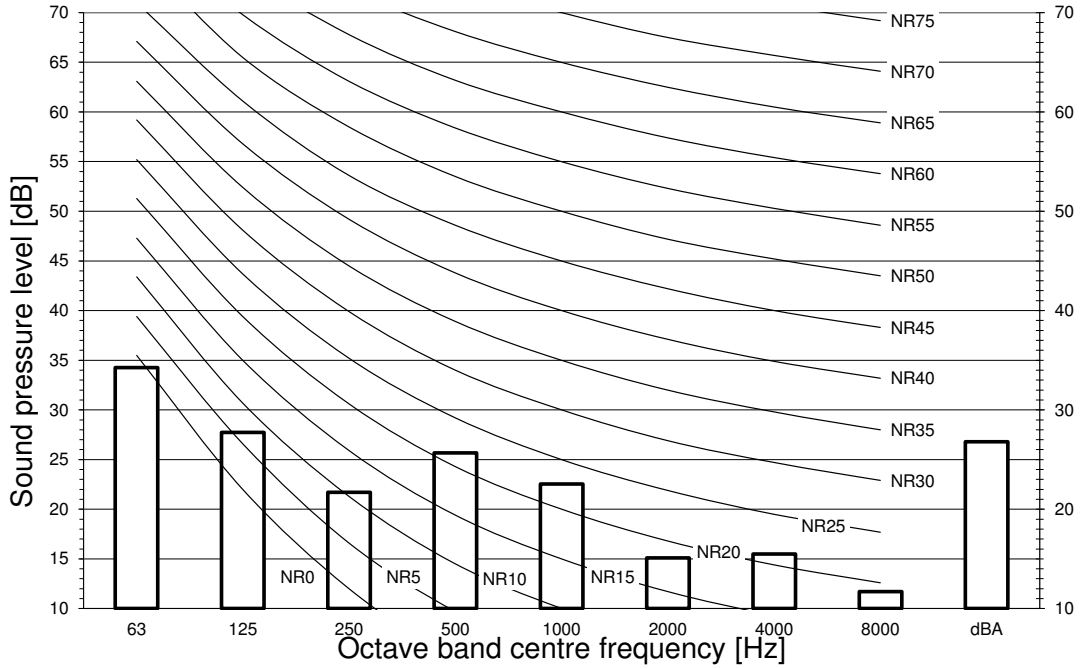


4D149452

8 Sound data

8 - 2 Sound Pressure Spectrum - Heating

EKEXV80A



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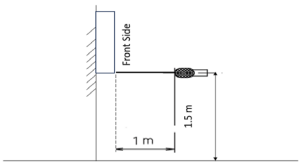
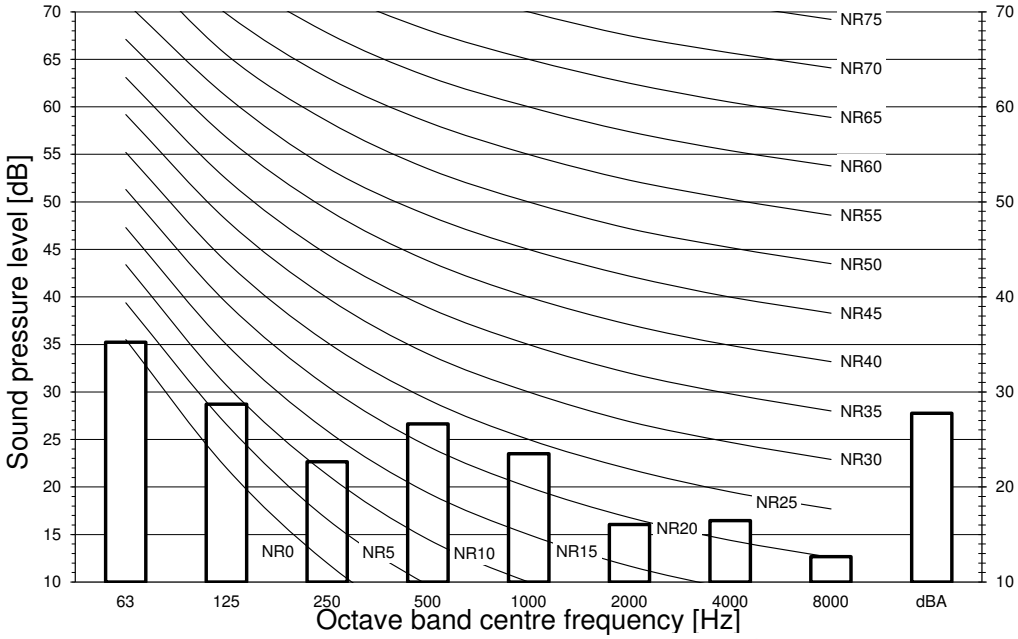


4D149453

EKEXV100A



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- dBA = A-weighted sound pressure level (A scale according to IEC).
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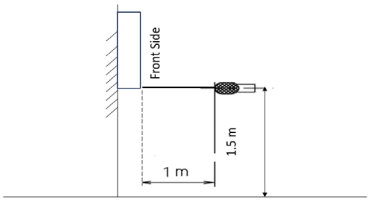
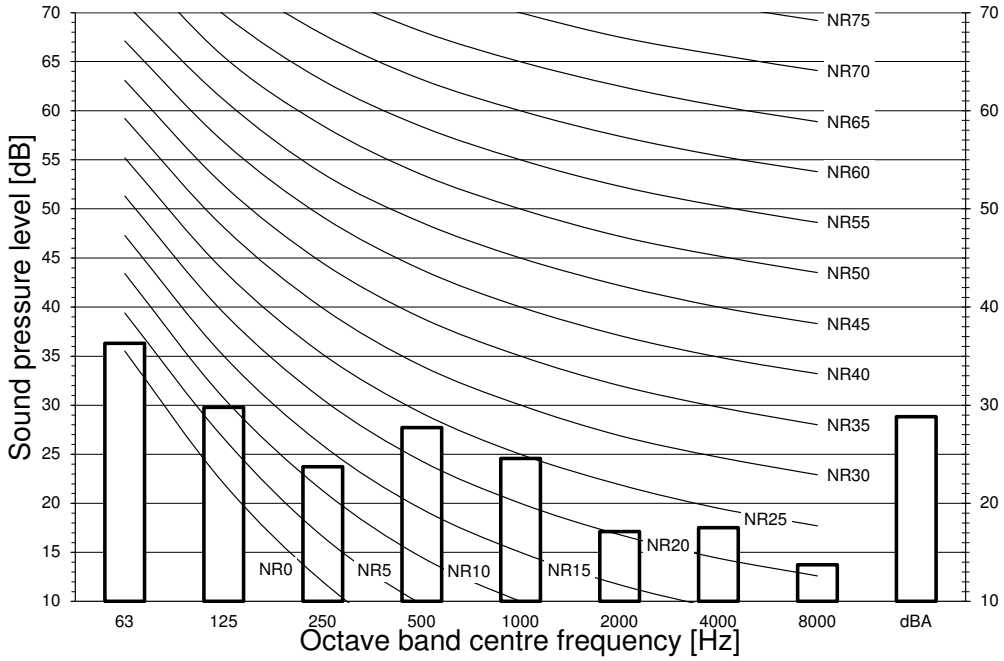


4D149454

8 Sound data

8 - 2 Sound Pressure Spectrum - Heating

EKEXV125A



Notes
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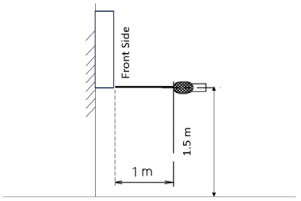
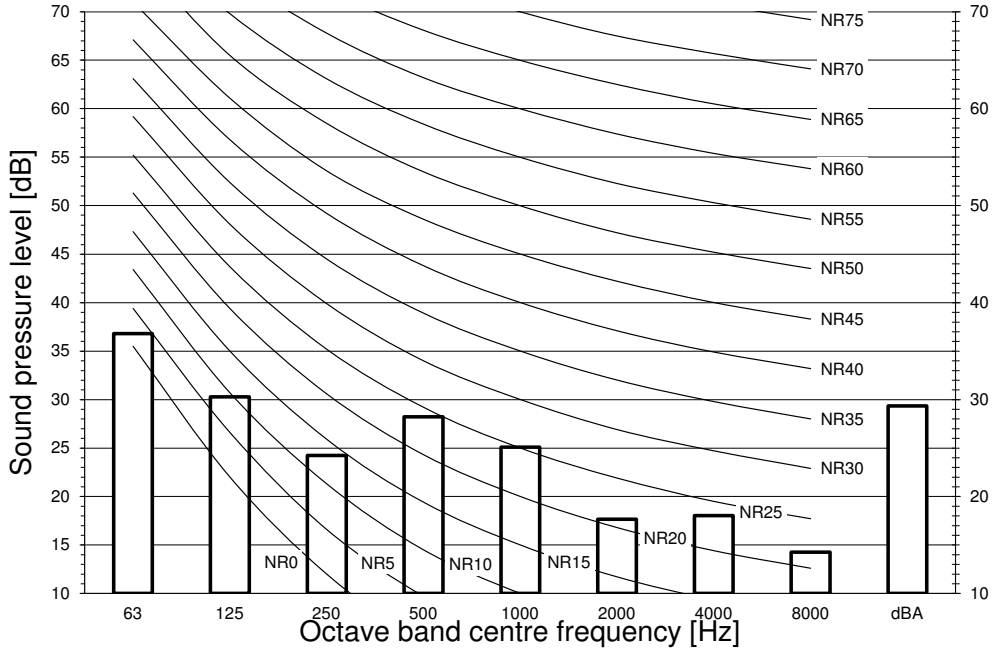
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



4D149455

EKEXV140A



Notes
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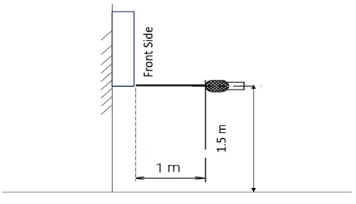
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

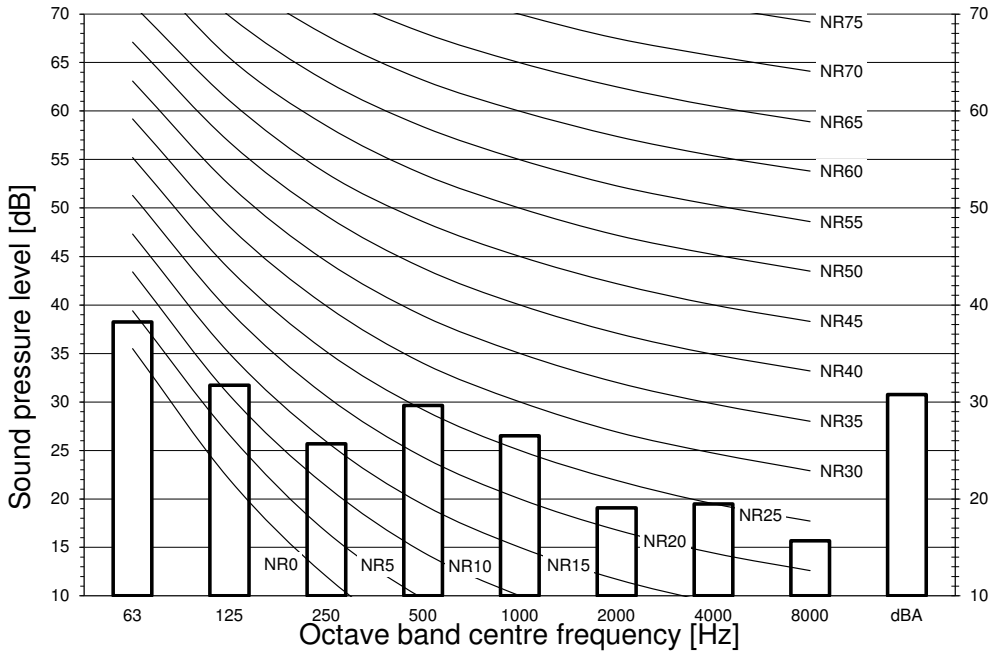


4D149456

8 Sound data

8 - 2 Sound Pressure Spectrum - Heating

EKEXV200A



Notes
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- dBA = A-weighted sound pressure level (A scale according to IEC).
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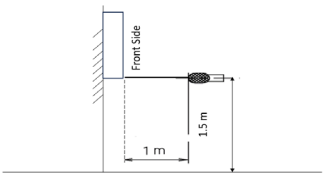
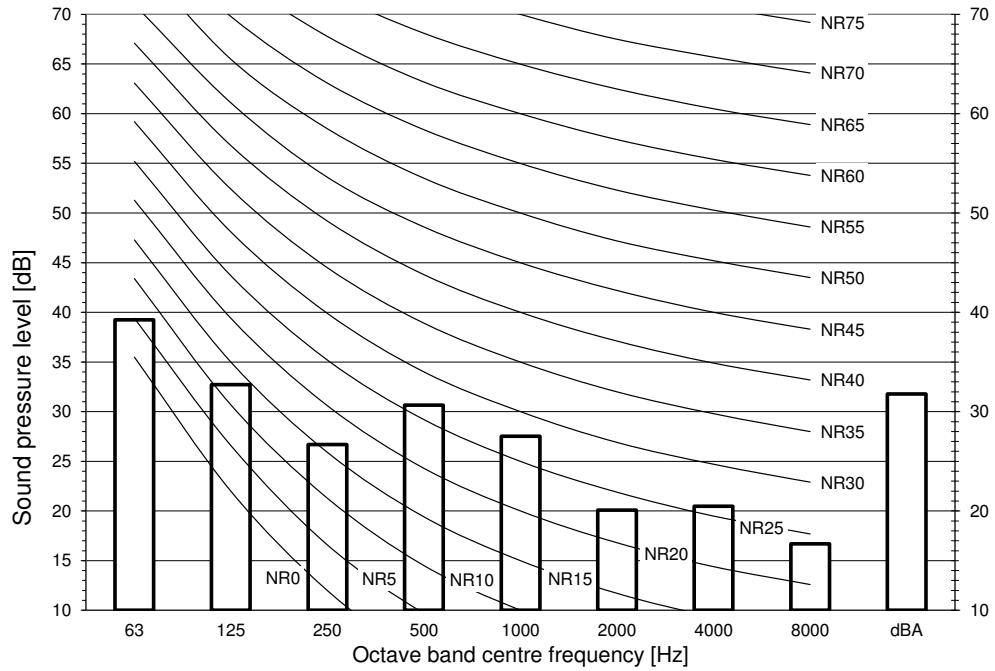
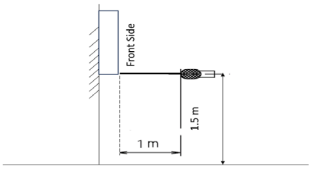


4D149457

EKEXV250A



Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

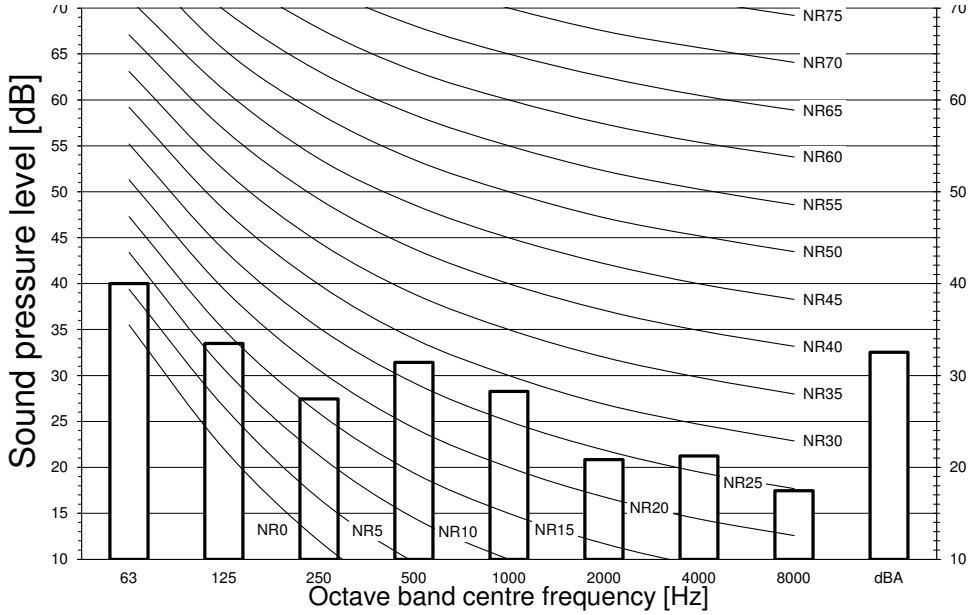


4D149458

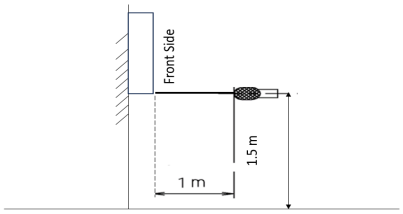
8 Sound data

8 - 2 Sound Pressure Spectrum - Heating

EKEXV300A

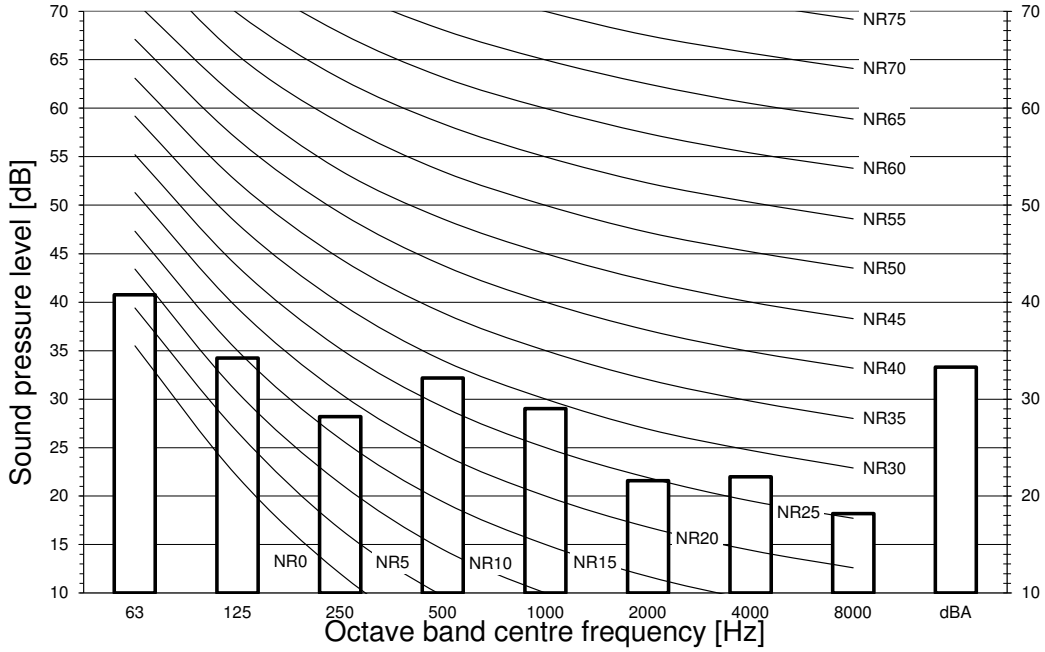


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



4D149459

EKEXV350A



Notes
- Data is valid at free field condition.
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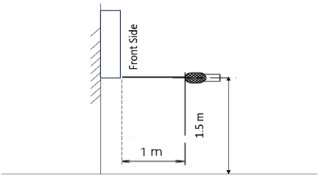
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

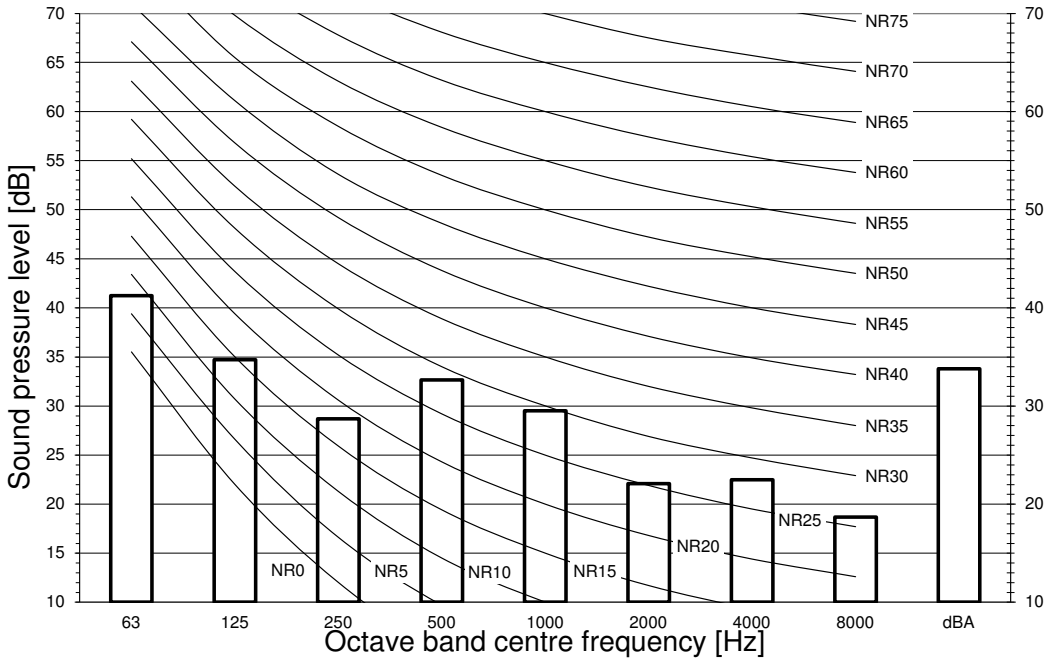


4D149460

8 Sound data

8 - 2 Sound Pressure Spectrum - Heating

EKEXV400A



Notes

- Data is valid at free field condition.
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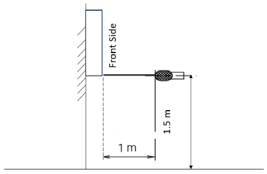
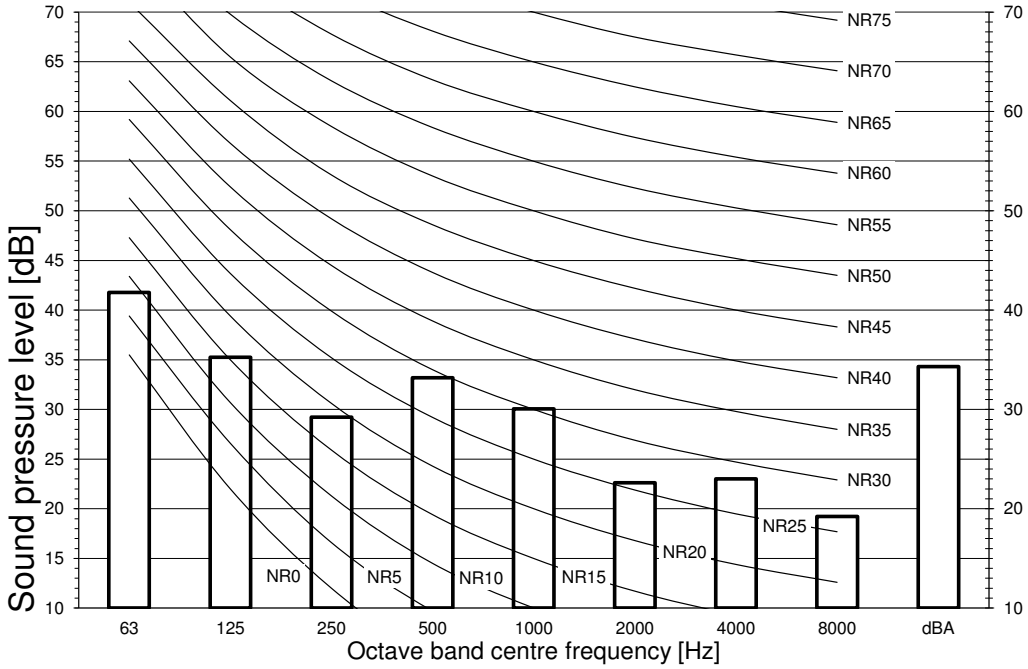
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



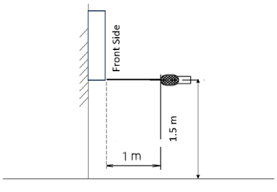
4D149461

EKEXV450A



Notes

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

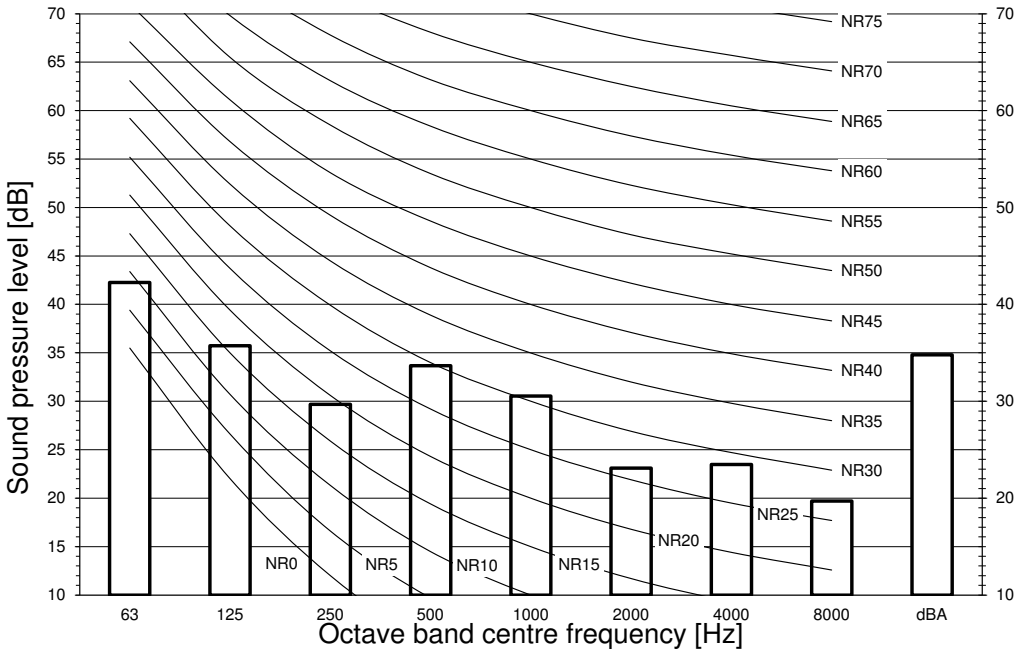


4D149462

8 Sound data

8 - 2 Sound Pressure Spectrum - Heating

EKEXV500A



Notes
- Data is valid at free field condition.
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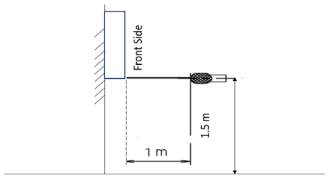
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



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EEDEN23 11/2023