

Air Conditioning
Technical Data

AZQS-B(8)V1



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AZQS-B(8)V1

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1 Features

Ideal solution for busy environments and small shops

- Daikin outdoor units are neat, sturdy and can easily be mounted on a roof or terrace or simply placed against an outside wall
- With a gas cooled PCB reliable cooling is guaranteed as it is not influenced by ambient temperature
- Outdoor units are fitted with either a swing or scroll compressor, renowned for low noise and high energy efficiency
- Exclusively offered for pair applications (capacity from 71 up to 140)
- Units optimized for seasonal efficiency give an indication on how efficient an air conditioner operates over an entire heating or cooling season.



Inverter



Auto cooling-
heating
changeover

2 Specifications

2-1 Capacity and Power input				ABQ71C/AZQS71BV1	ABQ100C/AZQS100B8V1	ABQ125C/AZQS125B8V1	ABQ140C/AZQS140B8V1	
Indoor unit				ABQ71C	ABQ100C	ABQ125C	ABQ140C	
Outdoor unit				AZQS71BV1	AZQS100B8V1	AZQS125B8V1	AZQS140B8V1	
Cooling capacity	Nom.		kW	6.8	9.5	12.1	13.0	
Heating capacity	Nom.		kW	7.5	10.8	13.5	15.5	
Power input	Cooling	Nom.	kW	2.33	3.63	4.31	4.32	
	Heating	Nom.	kW	2.13	3.16	3.96	4.55	
Seasonal efficiency (according to EN14825)	Cooling	Energy efficiency class		B		-		
		Pdesign	kW	6.80	9.50	-		
		SEER		4.65		-		
		Annual energy consumption	kWh	512	716	-		
	Heating (Average climate)	Energy efficiency class		A		-		
		Pdesign	kW	5.65	6.78	-		
		SCOP/A		3.80		-		
		Annual energy consumption	kWh	2,082	2,498	-		
Nominal efficiency	EER			2.91	2.62	2.81	3.01	
	COP			3.51	3.42	3.41		
	Annual energy consumption			kWh	1,165 (1)	1,813 (1)	2,153 (1)	2,159 (1)
	Energy labeling Directive	Cooling		C	D		C	
Heating		B						

Notes

(1) Contains fluorinated greenhouse gases

EER/COP according to Eurovent 2012, for use outside EU only

Nominal efficiency: cooling at 35°/27° nominal load, heating at 7°/20° nominal load

PED: assembly = category I : excluded from scope of PED due to article 1, item 3.6 of 97/23/EC

Minimum Ssc (=Short-circuit power) value: Equipment complying with EN 61000-3-2

See separate drawing for electrical data

2-2 Capacity and Power input				AHQ71C/AZQS71BV1	AHQ100C/AZQS100B8V1	AHQ125C/AZQS125B8V1	AHQ140C/AZQS140B8V1	
Indoor unit				AHQ71C	AHQ100C	AHQ125C	AHQ140C	
Outdoor unit				AZQS71BV1	AZQS100B8V1	AZQS125B8V1	AZQS140B8V1	
Cooling capacity	Nom.		kW	6.8	9.5	12.1	13.0	
Heating capacity	Nom.		kW	7.5	10.8	13.5	15.5	
Power input	Cooling	Nom.	kW	2.24	3.62	4.60	4.32	
	Heating	Nom.	kW	2.46	3.17	3.74	4.55	
Seasonal efficiency (according to EN14825)	Cooling	Energy efficiency class		B		-		
		Pdesign	kW	6.80	9.50	-		
		SEER		4.65		4.60		-
		Annual energy consumption	kWh	511.85	723	-		
	Heating (Average climate)	Energy efficiency class		A		-		
		Pdesign	kW	6.33	7.60	-		
		SCOP/A		3.80		-		
		Annual energy consumption	kWh	2,332.26	2,800	-		
Nominal efficiency	EER			3.03	2.62	2.63	3.01	
	COP			3.05	3.41	3.61	3.41	
	Annual energy consumption			kWh	1,120 (1)	1,810 (1)	2,300 (1)	2,159 (1)
	Energy labeling Directive	Cooling		B	D		B	
Heating		D	B	A	B			

2 Specifications

Notes

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Minimum Ssc (=Short-circuit power) value: Equipment complying with EN 61000-3-2

See separate drawing for electrical data

2-3 Capacity and Power input				ADEQ100C/AZQS100B8V1		ADEQ125C/AZQS125B8V1		
Indoor unit				ADEQ100C		ADEQ125C		
Outdoor unit				AZQS100B8V1		AZQS125B8V1		
Cooling capacity	Nom.		kW	9.50 (1)		12.1 (1)		
Heating capacity	Nom.		kW	10.8 (1)		13.5 (1)		
Power input	Cooling	Nom.		kW	2.96		3.89	
	Heating	Nom.		kW	2.99		3.91	
Seasonal efficiency (according to EN14825)	Cooling	Energy efficiency class		A		-		
		Pdesign	kW		9.50		-	
		SEER		5.10		-		
		Annual energy consumption	kWh		652		-	
	Heating (Average climate)	Energy efficiency class		A		-		
		Pdesign	kW		7.60		-	
		SCOP/A		3.81		-		
		Annual energy consumption	kWh		2,793		-	
Eurovent	Sound power level outdoor	Cooling	Nom.	dBA	70		-	
	Sound power level indoor	Cooling	Nom.	dBA	58		-	

Notes

(1) Nominal efficiency: cooling at 35°/27° nominal load, heating at 7°/20° nominal load

EER/COP according to Eurovent 2012, for use outside EU only

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Minimum Ssc (=Short-circuit power) value: Equipment complying with EN 61000-3-2

See separate drawing for electrical data

Contains fluorinated greenhouse gases

2-4 Technical Specifications				AZQS71B8V1	AZQS100B8V1	AZQS125B8V1	AZQS140B8V1
Capacity control	Method			Inverter controlled			
Casing	Colour			Ivory white			
	Material			Painted galvanized steel plate			
Dimensions	Unit	Height	mm	770	990		1,430
		Width	mm	900	940		
		Depth	mm	320			
	Packed unit	Height	mm	900	1,170		1,610
		Width	mm	980	1,015		
		Depth	mm	420	422		
Weight	Unit		kg	67	72.8	74.3	94.9
	Packed unit		kg	71	81.3	82.8	104.4

2 Specifications

2-4 Technical Specifications				AZQS71BV1	AZQS100B8V1	AZQS125B8V1	AZQS140B8V1	
Heat exchanger	Length		mm	857		-		
	Rows	Quantity		2		-		
	Fin pitch		mm	1.4		-		
	Passes	Quantity		8		-		
	Face area		m ²	0.641		-		
	Stages	Quantity		34		-		
	Empty tubeplate hole	Quantity		0		-		
	Tube type				Hi-XSS (1)		-	
	Fin	Type			WF fin			
	Treatment			Anti-corrosion treatment (PE)				
Compressor	Quantity			1				
	Type			Hermetically sealed swing compressor				
	Output		W	1,700.0		-		
	Starting method			Inverter driven		-		
Fan	Type			Propeller fan				
	Discharge direction			Horizontal				
	Quantity			1		2		
	Air flow rate	Cooling	Nom.	m ³ /min	52.0	76	77	83
			Moderate	m ³ /min	-	55		-
		Heating	Nom.	m ³ /min	48.0	83		62
Moderate			m ³ /min	-	55		-	
Fan motor	Quantity			1		2		
	Model			KFD-325-70-8A	Brushless DC motor			
	Output		W	70	200	94		
	Drive			Direct drive				
	Speed	Cooling	Super low	rpm	-			
			Heating	Super low	rpm	-		
Sound power level	Cooling		dBA	64	70	71	70	
	Heating		dBA	-				
Sound pressure level	Cooling	Nom.	dBA	48	53	54	53	
	Heating	Nom.	dBA	50	57	58	54	
	Night quiet mode	Level 1	dBA	43	49			
Operation range	Cooling	Ambient	Min.	°CDB	-5			
			Max.	°CDB	46			
	Heating	Ambient	Min.	°CWB	-15			
			Max.	°CWB	15.5			
Refrigerant	Type			R-410A				
	Charge		kg	2.75	2.9	4.0		
			TCO ₂ eq	5.7	6.1	8.4		
	Control			Expansion valve (electronic type)				
	GWP			2,087.5				
	Circuits	Quantity		1				

2 Specifications

2

2-4 Technical Specifications				AZQS71BV1	AZQS100B8V1	AZQS125B8V1	AZQS140B8V1
Piping connections	Liquid	Quantity		1			
		Type		Flare connection			
		OD	mm	9.52			
	Gas	Quantity		1			
		Type		Flare connection			
		OD	mm	15.9			
	Drain	Quantity		3	5		
		Type		Hole			
		ID	mm	-			
		OD	mm	26			
	Piping length	OU - IU	Min.	m	5		
			Max.	m	50		
		System	Equivalent	m	70		
Chargel ess			m	30			
Additional refrigerant charge			kg/m	See installation manual			
Level difference	IU - OU	Max.	m	30.0			
	IU - IU	Max.	m	-	0.5		
Heat insulation			Both liquid and gas pipes				
Refrigerant oil	Type		FVC50K				
	Charged volume		l	0.75	0.9	1.35	
Defrost method			Pressure equalising	Reversed cycle			
Defrost control			Sensor for outdoor heat exchanger temperature				
Safety devices	Item	01	High pressure switch				
		02	Fan motor thermal protection	Low pressure switch			
		03	Fuse	Fan motor thermal protection			
		04	-	Fuse			

Standard Accessories : Tie-wraps; Quantity : 2;

Standard Accessories : Installation manual; Quantity : 1;

2-5 Electrical Specifications				AZQS71BV1	AZQS100B8V1	AZQS125B8V1	AZQS140B8V1
Power supply	Name		V1				
	Phase		1~				
	Frequency		Hz	50			
	Voltage		V	220-240			
	Voltage range	Min.	%	-10	198		
Max.		%	10	264			
Current - 50Hz	Maximum fuse amps (MFA)		A	-			
Current	Nominal running current (RLA)	Cooling	A	16.20	-		
	Zmax	List	Complies to EN61000-3-11				
	Recommended fuses		A	20	32	40	
Current - 60Hz	Maximum fuse amps (MFA)		A	-			
Wiring connections	For power supply	Remark		See installation manual outdoor unit			
	For connection with indoor	Remark		See installation manual outdoor unit			
Power supply intake			Outdoor unit only				

2 Specifications

Notes

(1) EER/COP according to Eurovent 2012, for use outside EU only

PED: assembly = category I : excluded from scope of PED due to article 1, item 3.6 of 97/23/EC

Minimum Ssc (=Short-circuit power) value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current $\geq 16A$ and $\leq 75A$ per phase

RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB

MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

Contains fluorinated greenhouse gases

See separate drawing for electrical data

Short-circuit power

Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series

Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, Eurovent certified

3 Electrical data

3 - 1 Electrical Data

AZQS-B(8)V1

Indoor	Outdoor	Hz	Power supply	Voltage range	Compressor				OFM			IFM		
					MCA	TOCA	MFA	MSC	RLA	KW	FLA	kWh	FLA	
A8071C	A2S71B(V)	50Hz	220-240V	Min. 198V Max. 264V	18.5	20	—	16.2	0.07	0.3	0.128	0.06		
A8071C	A2S71B(V)				19.8	20	—	16.2	0.07	0.3	0.098	0.15		
A8171C	A2S71B(V)				19.2	20	—	16.2	0.07	0.3	0.108	0.8		
F2207F	A2S71B(V)				18.7	20	—	16.2	0.07	0.3	0.058	0.4		
A8100C	A2S100B(V)				25.9	32	—	24.4	0.2	0.6	0.199	0.9		
A8100C	A2S100B(V)				26.8	32	—	24.4	0.2	0.6	0.177	1.0		
A8100C	A2S100B(V)				26.4	32	—	24.4	0.2	0.6	0.184	1.0		
F2207F	A2S100B(V)				26.4	32	—	24.4	0.2	0.6	0.111	0.7		
A8125C	A2S125B(V)				31.5	32	—	24.4	0.2	0.6	0.413	3.16		
A8125C	A2S125B(V)				29.4	32	—	24.4	0.2	0.6	0.187	1.5		
A8125C	A2S125B(V)				29.9	32	—	24.4	0.2	0.6	0.262	1.1		
F2207F	A2S125B(V)				28.8	32	—	24.4	0.2	0.6	0.168	1.0		
A8140C	A2S140B(V)				35.9	40	—	24.2	0.094+0.094	0.4+0.4	0.584	4.25		
A8140C	A2S140B(V)				31.7	32	—	24.2	0.094+0.094	0.4+0.4	0.318	2.52		
F2207F	A2S140B(V)				26.8	32	—	24.2	0.094+0.094	0.4+0.4	0.168	1.0		
A8100C	A2S100B(V)				14.3	16	—	11.4	0.2	0.6	0.159	0.9		
A8100C	A2S100B(V)				14.6	16	—	11.4	0.2	0.6	0.149	1.12		
F2207F	A2S100B(V)				13.1	16	—	11.4	0.2	0.6	0.113	0.7		
A8125C	A2S125B(V)				17.2	20	—	11.4	0.2	0.6	0.413	3.16		
A8125C	A2S125B(V)				14.6	16	—	11.4	0.2	0.6	0.282	1.10		
F2207F	A2S125B(V)				14.3	16	—	11.4	0.2	0.6	0.168	1.0		
A8140C	A2S140B(V)				21.8	25	—	14.2	0.094+0.094	0.4+0.4	0.584	4.25		
A8140C	A2S140B(V)				18.7	20	—	14.2	0.094+0.094	0.4+0.4	0.318	2.52		
F2207F	A2S140B(V)				17.3	20	—	14.2	0.094+0.094	0.4+0.4	0.168	1.0		

Symbols

MCA: Minimum Circuit Amps, (A)
TOCA: Total Over-current Amps, (A)

Symbols

- MCA: Minimum Circuit Amperes [A]
- TOCA: Total overcurrent amps [A]
- MFA: Maximum Fuse Amperes [A]
- MSC: Maximum current of the starting compressor [A]
- RLA: Rated load amps [A]
- OFM: Outdoor fan motor
- IFM: Indoor fan motor
- FLA: Full load amps
- KW: Fan motor rated output [kW]

Notes

1. The RLA is based on the following conditions.
Cooling
Indoor temperature 27.0°C DB / 19.0°C WB
Outdoor temperature 35.0°C DB
Heating
Indoor temperature 20.0°C DB
Outdoor temperature 7.0°C DB / 6.0°C WB
2. TOCA is the total value of each overcurrent set.
3. Voltage range
The units are suitable for use with electrical systems in which the voltage supplied to the unit terminals is not below or above the listed range limits.
4. The maximum allowable voltage that is unbalanced between phases is 2%.
5. MCA is the maximum input current.
The capacity of the MFA must be greater than that of the MCA.
Select the MFA according to the table.
The next lower standard fuse rating is minimum 15 ampere.
6. Select the wire size according to the MCA.
7. MFA is used to select the circuit breaker and the ground fault circuit interruptor.
Earth leakage circuit breaker _____

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4 Options

4 - 1 Options

AZQS-B(8)V1

Option	Option kit	
		AZQS71B2V1B
		AZQS125B8V1B
		AZQS140B8V1B
Demand adaptor kit	KRP58M51	SB.KRP58M51

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5 Combination table

5 - 1 Combination Table

AZQS-B(8)V1
AZQS-BY1

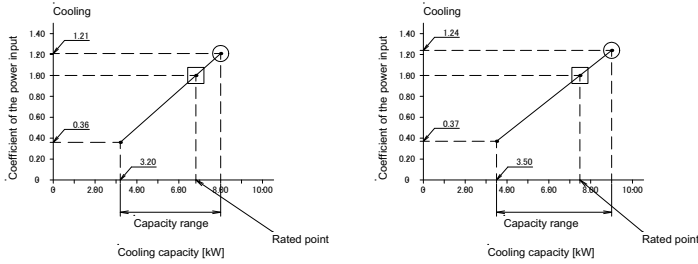
Sky Air Model	4-way blow cassette				Duct				Ceiling-suspended			
	ACQ71DV1	ACQ100DV1	ACQ125DV1	ACQ140DV1	ABQ71CV1	ABQ100CV1	ABQ125CV1	ABQ140CV1	AHQ71CV1	AHQ100CV1	AHQ125CV1	AHQ140CV1
AZQS71B2V1B	P				P				P			
AZQS100B8V1B		P				P				P		
AZQS125B8V1B			P				P				P	
AZQS140B8V1B				P				P				P
AZQS100B7Y1B		P				P				P		
AZQS125B7Y1B			P				P				P	
AZQS140B7Y1B				P				P				P

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6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

AZQS71B(8)V1



Symbols
 AFR: Air flow rate [m³/min]
 BF: Bypass factor
 EWB: Entering wet-bulb temperature (°C WB)
 EDB: Entering dry-bulb temperature (°C DB)
 TC: Maximum total cooling/heating capacity [kW]
 SHC: Sensible heat capacity [kW]
 PI: Power input [kW]
 compressor + indoor and outdoor fan motors
 CPI: Coefficient of the power input
 WB: Wet-bulb temperature [°C WB]
 DB: Dry-bulb temperature [°C DB]

Caution
 TC and SHC are shown by kW

Indoor		Outdoor temperature [°C DB]											
		25			30			35			40		
°C WB	°C DB	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
16.0	22	7.29	4.95	0.92	7.28	4.99	1.08	7.50	5.21	1.20	7.20	5.06	1.32
18.0	25	8.37	5.43	1.00	8.11	5.32	1.11	7.83	5.19	1.21	7.52	5.04	1.34
19.0	27	8.54	5.41	1.01	8.28	5.31	1.11	8.00	5.18	1.21	7.68	5.03	1.34
19.5	27	8.63	5.40	1.01	8.37	5.30	1.11	8.08	5.17	1.21	7.76	5.03	1.34
22.0	30	9.07	5.33	1.03	8.80	5.23	1.12	8.51	5.12	1.22	8.18	4.97	1.35
24.0	32	9.43	5.25	1.03	9.15	5.16	1.13	8.85	5.05	1.23	8.51	4.90	1.36

Indoor		Outdoor temperature [°C WB]											
		-15		-10		-5		0		6		10	
°C DB	°C WB	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
16	16	5.14	0.89	5.68	0.94	6.22	0.98	6.75	1.03	9.02	1.08	9.72	1.13
18	18	5.14	0.92	5.67	0.97	6.21	1.02	6.74	1.07	9.01	1.12	9.70	1.18
20	20	5.13	0.95	5.67	1.01	6.20	1.06	6.73	1.11	9.00	1.17	9.69	1.23
21	21	5.13	0.98	5.66	1.03	6.20	1.08	6.73	1.13	9.00	1.19	9.69	1.25
22	22	5.12	0.99	5.66	1.04	6.19	1.10	6.73	1.15	8.99	1.22	9.68	1.28
24	24	5.12	1.03	5.65	1.09	6.19	1.14	6.72	1.20	8.98	1.26	9.66	1.32

- Notes**
- The ratings shown are net capacities which include a deduction for indoor fan motor heat.
 - On the figure the ○ mark shows the maximum at standard conditions.
On the figure the □ mark shows the rated capacity and rated coefficient of the power input. However the maximum capacity is not guaranteed except at standard conditions.
 - SHC is based on indoor EWB and EDB.
SHC for other dry bulb temperature = SHC + SHC'.
SHC' = SHC correction for other dry bulb. = 0.02 x AFR (m³/min) x (1-BF) x (DB' - EDB).
 - The capacities are based on the following conditions:
Outdoor air: 85% RH.
However, the condition rated capacity in heating is 7 °C DB / 6 °C WB.
Corresponding refrigerant piping length: 5.0 m
Level difference: 0 m
 - The coefficient of the power input is the percentage when the rated value is defined as 1.00.
 - The value contains less than 5% error according to indoor unit type.
 - The heating performance includes the drop due to frost formation.

- The air flow rate and bypass factor are mentioned in the table.
Pair

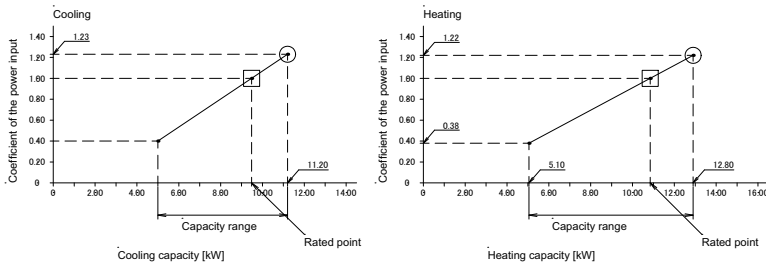
	ABC71C	ADEC71C	AHC71C	FCOG-F
AFR	18.3	18.0	23.8	21.5
(BF)	(0.233)	(0.083)	(0.212)	(0.140)

- The rated power input for each model is mentioned in the table below.
Pair

	ABC71C	ADEC71C	AHC71C	FCOG-F
Cooling	2.33	2.12	2.22	2.19
Heating	2.13	2.08	2.46	2.08

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AZQS100B(8)V1



Symbols
 AFR: Air flow rate [m³/min]
 BF: Bypass factor
 EWB: Entering wet-bulb temperature (°C WB)
 EDB: Entering dry-bulb temperature (°C DB)
 TC: Maximum total cooling/heating capacity [kW]
 SHC: Sensible heat capacity [kW]
 PI: Power input [kW]
 compressor + indoor and outdoor fan motors
 CPI: Coefficient of the power input
 WB: Wet-bulb temperature [°C WB]
 DB: Dry-bulb temperature [°C DB]

Caution
 TC and SHC are shown by kW

Indoor		Outdoor temperature [°C DB]											
		25			30			35			40		
°C WB	°C DB	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
16.0	22	11.2	7.61	1.01	10.8	7.44	1.11	10.5	7.29	1.22	10.1	7.09	1.32
18.0	25	11.8	7.59	1.01	11.4	7.49	1.12	11.0	7.27	1.23	10.5	7.09	1.33
19.0	27	12.0	7.57	1.02	11.6	7.44	1.12	11.2	7.26	1.23	10.8	7.04	1.33
19.5	27	12.1	7.59	1.02	11.7	7.37	1.13	11.4	7.34	1.23	10.9	7.04	1.34
22.0	30	12.8	7.52	1.02	12.4	7.36	1.13	11.9	7.16	1.24	11.5	7.03	1.35
24.0	32	13.3	7.42	1.03	12.9	7.27	1.14	12.4	7.06	1.25	12.0	6.91	1.36

Indoor		Outdoor temperature [°C WB]											
		-15		-10		-5		0		6		10	
°C DB	°C WB	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
16	16	8.58	0.93	9.45	0.99	10.1	1.02	10.4	1.05	12.8	1.12	13.8	1.18
18	18	8.57	0.97	9.44	1.02	10.0	1.07	10.3	1.10	12.8	1.12	13.8	1.23
20	20	8.56	1.01	9.43	1.07	10.0	1.11	10.3	1.14	12.8	1.12	13.8	1.28
21	21	8.56	1.03	9.42	1.09	10.0	1.13	10.3	1.16	12.8	1.12	13.8	1.30
22	22	8.55	1.04	9.42	1.10	10.0	1.14	10.3	1.18	12.8	1.12	13.8	1.33
24	24	8.54	1.09	9.41	1.15	10.0	1.19	10.3	1.23	12.8	1.11	13.8	1.38

- Notes**
- The ratings shown are net capacities which include a deduction for indoor fan motor heat.
 - On the figure the ○ mark shows the maximum at standard conditions.
On the figure the □ mark shows the rated capacity and rated coefficient of the power input. However the maximum capacity is not guaranteed except at standard conditions.
 - SHC is based on indoor EWB and EDB.
SHC for other dry bulb temperature = SHC + SHC'.
SHC' = SHC correction for other dry bulb. = 0.02 x AFR (m³/min) x (1-BF) x (DB' - EDB).
 - The capacities are based on the following conditions:
Outdoor air: 85% RH.
However, the condition rated capacity in heating is 7 °C DB / 6 °C WB.
Corresponding refrigerant piping length: 5.0 m
Level difference: 0 m
 - The coefficient of the power input is the percentage when the rated value is defined as 1.00.
 - The value contains less than 5% error according to indoor unit type.
 - The heating performance includes the drop due to frost formation.

- The air flow rate and bypass factor are mentioned in the table.
Pair

	ABC100C	ADEC100C	AHC100C	FCOG100F
AFR	22.7	29.0	31.1	32.0
(BF)	(0.175)	(0.083)	(0.124)	(0.17)

- The rated power input for each model is mentioned in the table below.
Pair

	ABC100C	ADEC100C	AHC100C	FCOG100F
Cooling	3.62	2.96	3.62	2.96
Heating	3.16	2.99	3.17	3.09

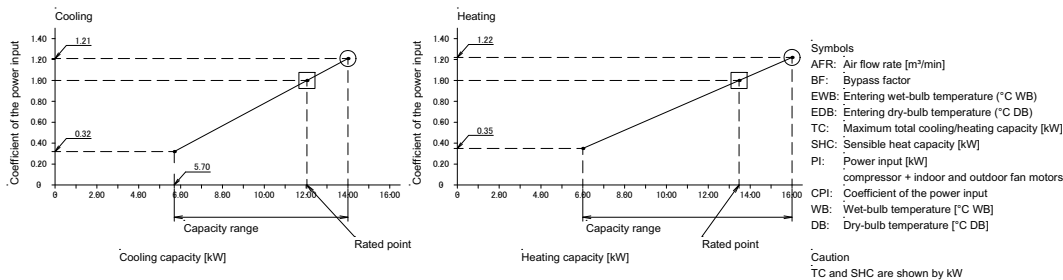
3D081255H

6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

6

AZQS125B(8)V1



Indoor	Outdoor temperature [°C DB]												
	25			30			35			40			
	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	
16.0	22	14.1	9.54	0.99	13.6	9.30	1.09	13.1	9.12	1.19	12.6	8.78	1.29
18.0	25	14.7	9.50	0.99	14.2	9.32	1.09	13.7	9.09	1.20	13.2	8.83	1.31
19.0	27	15.0	9.52	1.00	14.5	9.34	1.10	14.0	9.06	1.20	13.5	8.87	1.31
19.5	27	15.2	9.52	1.00	14.7	9.26	1.11	14.2	9.08	1.20	13.6	8.81	1.31
22.0	30	16.0	9.39	1.00	15.5	9.14	1.11	14.9	8.95	1.21	14.4	8.74	1.32
24.0	32	16.7	9.31	1.01	16.1	9.09	1.12	15.5	8.83	1.23	15.0	8.63	1.33

Indoor	Outdoor temperature [°C WB]											
	-15		-10		-5		0		6		10	
	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
16	10.7	0.93	11.8	0.99	12.6	1.02	13.0	1.05	16.0	1.12	17.3	1.18
18	10.7	0.97	11.8	1.02	12.5	1.07	12.9	1.10	16.0	1.17	17.3	1.23
20	10.7	1.01	11.8	1.07	12.5	1.11	12.9	1.14	16.0	1.22	17.3	1.28
21	10.7	1.03	11.8	1.09	12.5	1.13	12.9	1.16	16.0	1.24	17.3	1.31
22	10.7	1.04	11.8	1.10	12.5	1.14	12.9	1.18	16.0	1.27	17.3	1.33
24	10.7	1.09	11.8	1.15	12.5	1.19	12.9	1.23	16.0	1.31	17.3	1.38

- Notes
- The ratings shown are net capacities which include a deduction for indoor fan motor heat.
 - On the figure the \odot mark shows the maximum at standard conditions.
On the figure the \square mark shows the rated capacity and rated coefficient of the power input.
However the maximum capacity is not guaranteed except at standard conditions.
 - SHC is based on indoor EWB and EDB.
SHC for other dry bulb temperature = SHC + SHC*.
SHC* = SHC correction for other dry bulb. = $0.02 \times \text{AFR} (\text{m}^3/\text{min}) \times (1-\text{BF}) \times (\text{DB}^* - \text{EDB})$.
 - The capacities are based on the following conditions:
Outdoor air: 85% RH.
However, the condition rated capacity in heating is -7 °C DB / -6 °C WB.
Corresponding refrigerant piping length: 5.0 m
Level difference: 0 m
 - The coefficient of the power input is the percentage when the rated value is defined as 1.00.
 - The value contains less than 5% error according to indoor unit type.
 - The heating performance includes the drop due to frost formation.

- The air flow rate and bypass factor are mentioned in the table.
Pair

	ABQ125C	ADEQ125C	AHQ125CV1	FCQ125F
AFR	405	340	344	330
(BF)	(0.157)	(0.080)	(0.123)	(0.210)

- The rated power input for each model is mentioned in the table below.
Pair

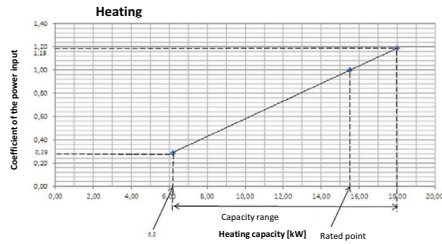
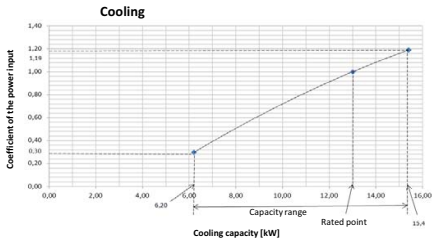
	ABQ125C	ADEQ125C	AHQ125C	FCQ125F
Cooling	4.30	3.89	4.60	3.90
Heating	3.96	3.91	3.74	3.96

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6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

AZQS140B8V1
AZQS140BV1



Symbols
 AFR: Air flow rate (m³/min)
 BF: Bypass factor
 EWB: Entering wet-bulb temperature (°C WB)
 EDB: Entering dry-bulb temperature (°C DB)
 TC: Maximum total cooling/heating capacity (kW)
 SHC: Sensible heat capacity (kW)
 CPI: Coefficient of the power input
 FI: Power input (kW)
 compressor + indoor and outdoor fan motors

Cooling

Indoor		Outdoor temperature [°C DB]											
		25			30			35			40		
°C WB	°C DB	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
16.0	22	15.5	10.47	0.98	14.9	10.25	1.06	14.4	10.03	1.18	13.9	9.69	1.28
18.0	25	16.2	10.85	0.98	15.6	10.21	1.09	15.1	10.01	1.19	14.5	9.71	1.30
19.5	27	16.6	10.43	0.99	16.0	10.18	1.09	15.4	9.98	1.19	14.8	9.76	1.30
19.5	27	16.7	10.49	0.99	16.1	10.16	1.10	15.6	10.00	1.19	15.0	9.96	1.30
22.0	30	17.6	10.37	0.99	17.0	10.15	1.10	16.4	9.83	1.21	15.8	9.80	1.31
24.0	32	18.4	10.20	1.00	17.7	10.00	1.11	17.0	9.67	1.22	16.4	9.47	1.32

Heating

Indoor		Outdoor temperature [°C WB]											
		-15.0		-10.0		-5.0		0.0		6.0		10.0	
°C WB	°C DB	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
16	11.6	0.91	12.7	0.97	13.6	1.00	13.9	1.03	18.0	1.09	19.4	1.16	1.16
18	11.6	0.95	12.7	1.00	13.6	1.04	13.9	1.07	18.0	1.14	19.4	1.21	1.21
20	11.6	0.99	12.7	1.05	13.5	1.09	13.9	1.11	18.0	1.19	19.4	1.25	1.25
21	11.6	1.00	12.7	1.06	13.5	1.11	13.9	1.13	18.0	1.21	19.4	1.28	1.28
22	11.5	1.02	12.7	1.08	13.5	1.12	13.9	1.16	18.0	1.24	19.4	1.30	1.30
24	11.5	1.07	12.6	1.12	13.5	1.17	13.9	1.20	18.0	1.29	19.4	1.35	1.35

Notes

- The ratings shown are net capacities which include a deduction for indoor fan motor heat.
- = Maximum at standard conditions
= Rated capacity and rated coefficient of the power input
The maximum capacity is not guaranteed except at standard conditions.
- SHC is based on indoor units 5WB & 6DB.
SHC for other dry-bulb temperatures = SHC + SHC*
SHC* = SHC correction for other dry-bulb temperatures
= 0.02 x AFR (m³/min) x (1-BF) x (DB* - EDB)
- The capacities are based on the following conditions:
Outdoor air: 85% RH
However, the outdoor ambient condition of the rated capacity during heating operation is 7°C DB / 6°C WB.
Corresponding refrigerant piping length: 5.0 m
Level difference: 0m
- CPI is a percentage value compared to the rated value which is 1.00.
- The error rate for this value is less than 5% and depends on the indoor unit type.
- The heating performance takes into account the drop that occurs during defrost operation.
- The air flow rate and bypass factor are mentioned in the table.

9. The rated power input for each model is mentioned in the table below.

Pair	ABQ140CV1	AHQ140CV1	ACQ140DV1
AFR	48.7	43.9	34.0
BF	(0.15)	(0.157)	(0.10)

Pair	ABQ140CV1	AHQ140CV1	ACQ140DV1
Cooling	4.32	4.32	4.05
Heating	4.55	4.55	4.29

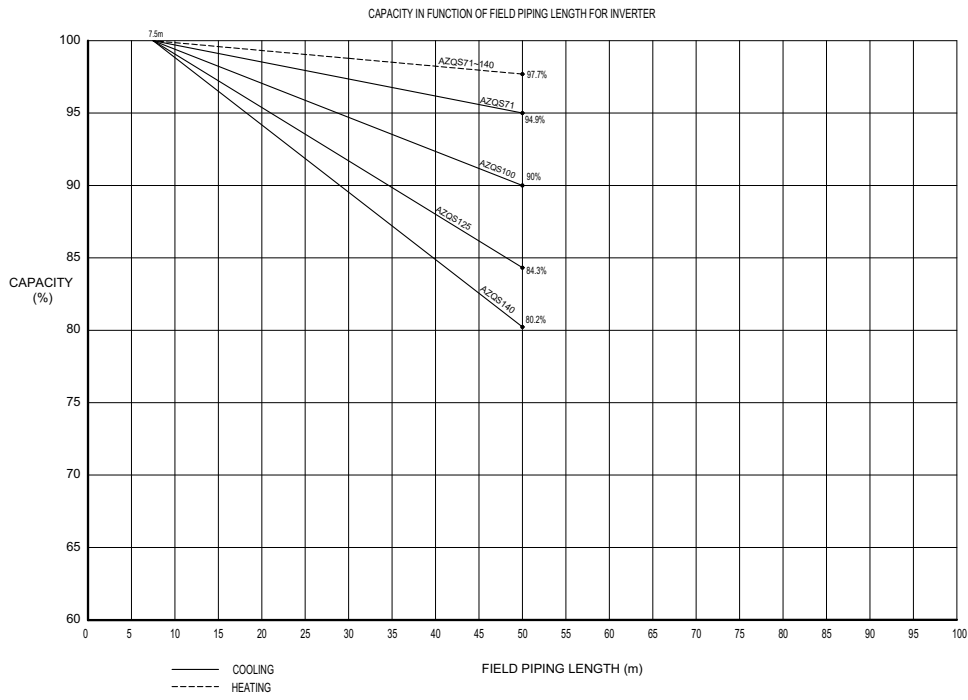
3D081257-D

6 Capacity tables

6 - 2 Capacity Correction Factor

6

AZQS-B (8) V1
AZQS-BY1



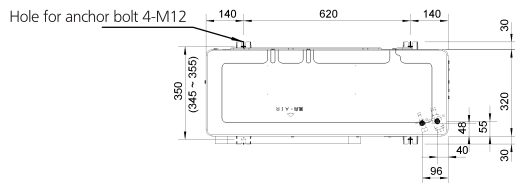
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7 Dimensional drawings

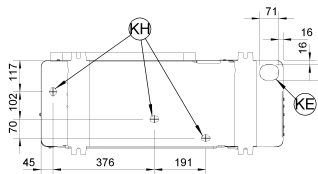
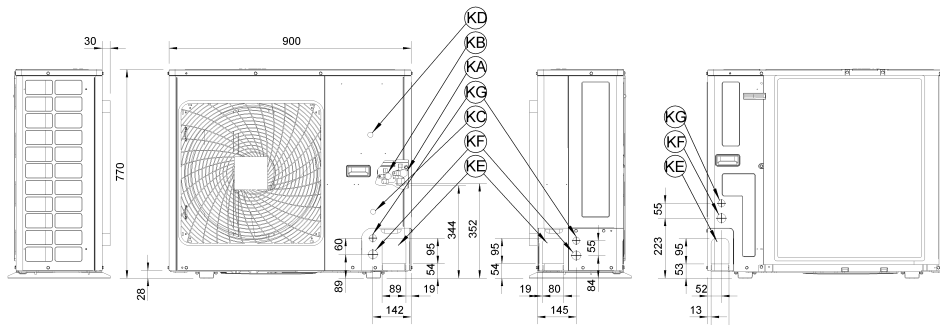
7 - 1 Dimensional Drawings

AZQS71B2V1

unit (mm)

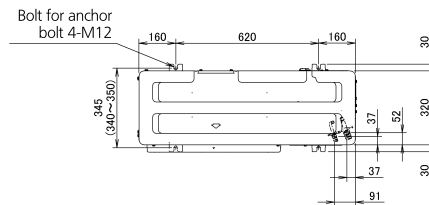


- KA Gas pipe connection ϕ 15.9 flare
- KB Liquid pipe connection - ϕ 9.5 flare
- KC Service port (in the unit)
- KD Grounding terminal M5 (in switch box)
- KE Refrigerant piping intake
- KF Power supply wiring intake (knock hole ϕ 34)
- KG Control wiring intake (knock hole ϕ 27)
- KH Drain outlet

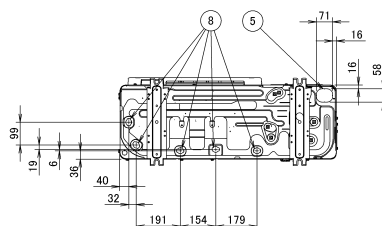
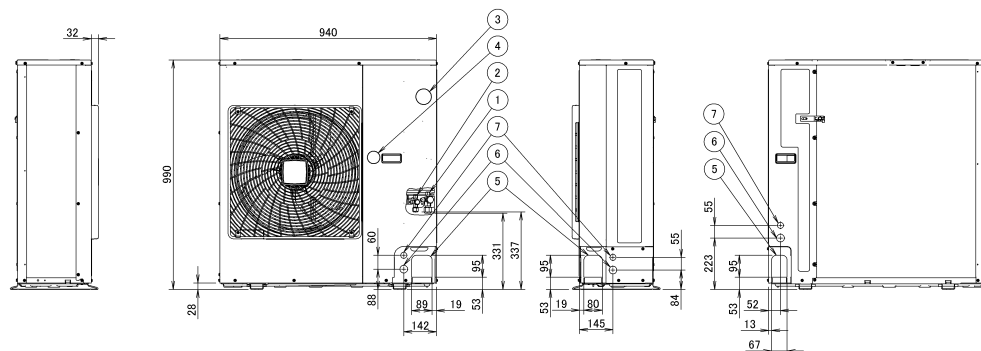


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AZQS100-125B8V1



- 1 Gas pipe connection ϕ 15.9 flare
- 2 Liquid pipe connection - ϕ 9.5 flare
- 3 Service port (in the unit)
- 4 Grounding terminal M5 (in switch box)
- 5 Refrigerant piping intake
- 6 Power supply wiring intake (knock out hole ϕ 34)
- 7 Control wiring intake (Knock out hole ϕ 27)
- 8 Drain outlet



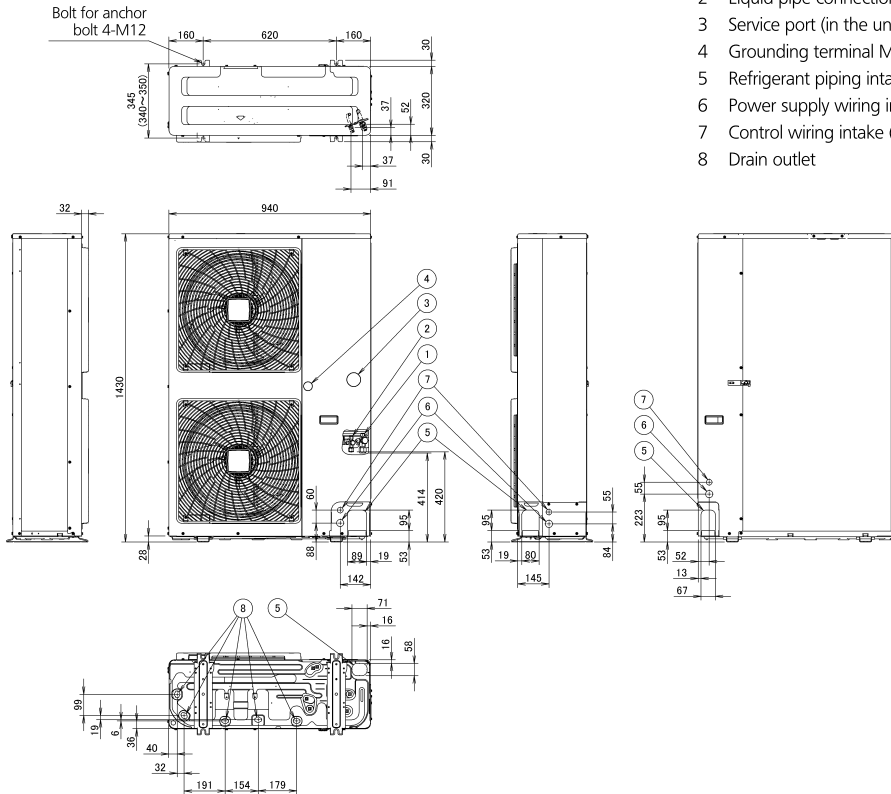
3D076345

7 Dimensional drawings

7 - 1 Dimensional Drawings

7

AZQS140B8V1



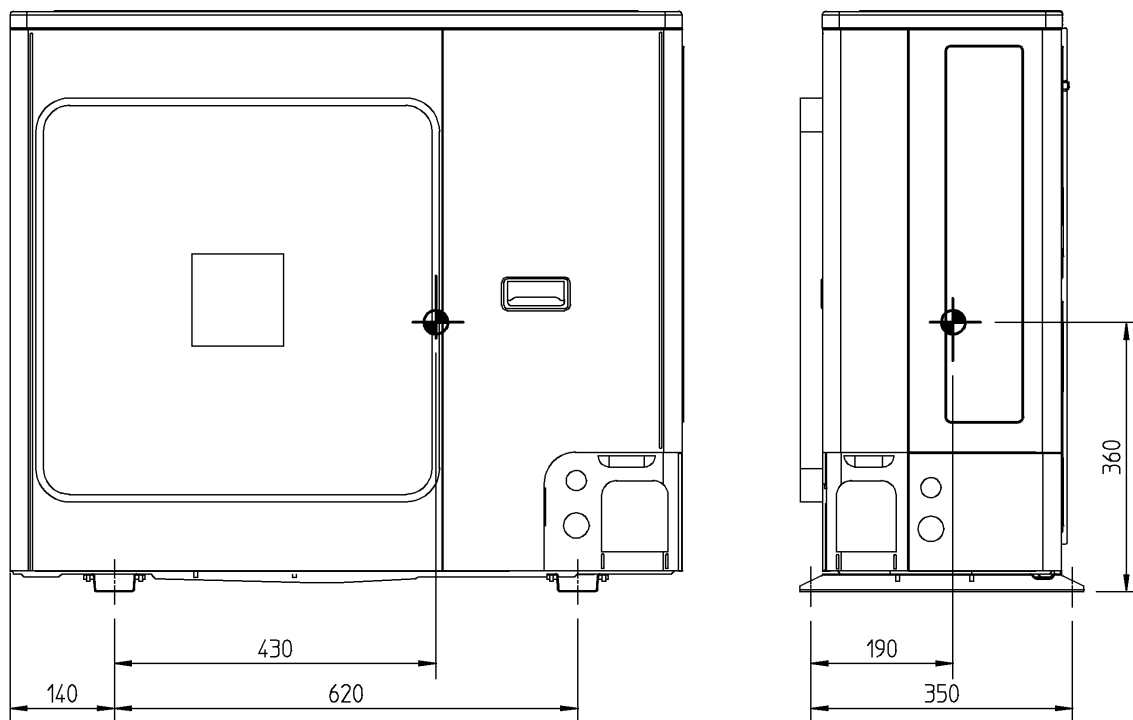
- 1 Gas pipe connection ϕ 15.9 flare
- 2 Liquid pipe connection - ϕ 9.5 flare
- 3 Service port (in the unit)
- 4 Grounding terminal M5 (in switch box)
- 5 Refrigerant piping intake
- 6 Power supply wiring intake (knock out hole ϕ 34)
- 7 Control wiring intake (Knock out hole ϕ 27)
- 8 Drain outlet

3D076346

8 Centre of gravity

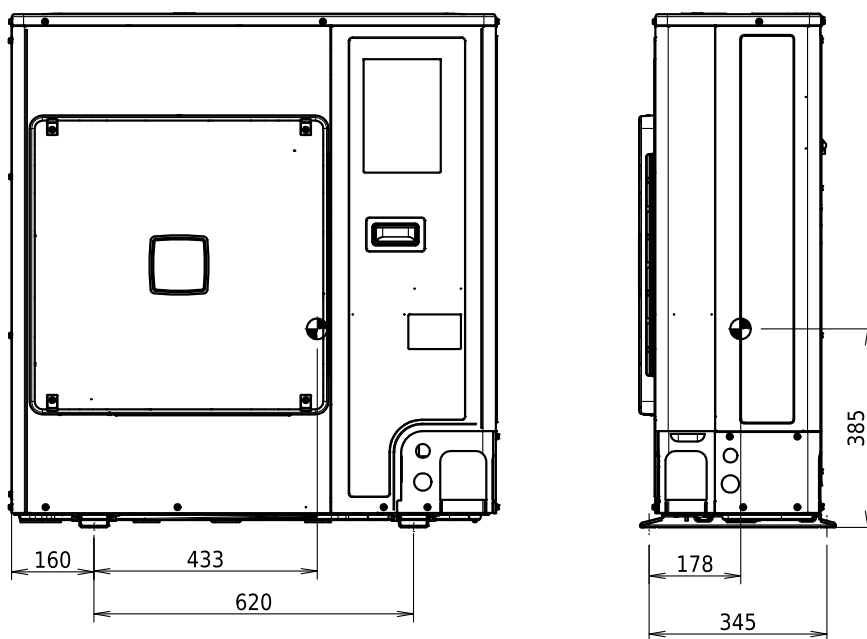
8 - 1 Centre of Gravity

AZQS71B2V1



4TW30469-3

AZQS100B8V1



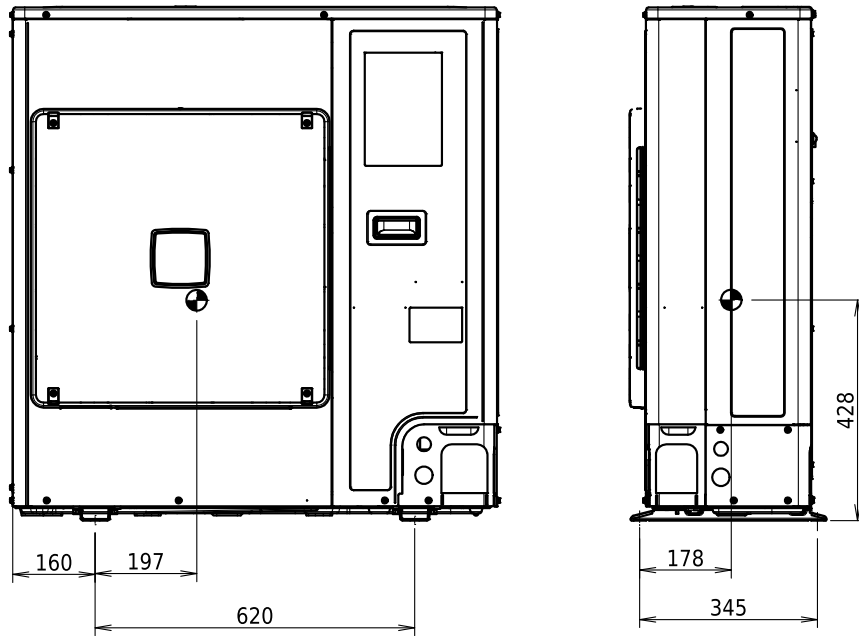
4D090895

8 Centre of gravity

8 - 1 Centre of Gravity

8

AZQS125B8V1

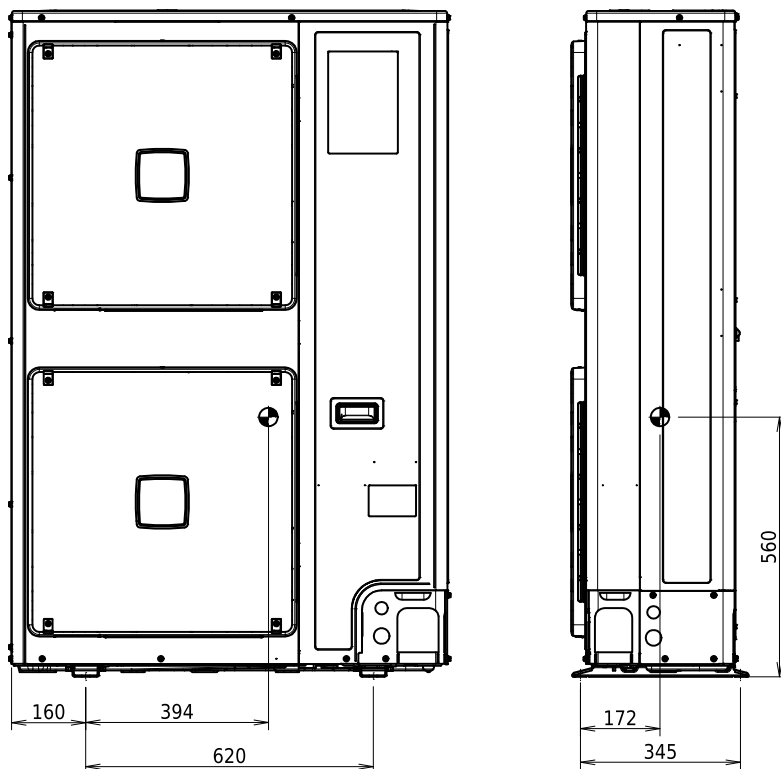


4D090896

8 Centre of gravity

8 - 1 Centre of Gravity

AZQS140B8V1



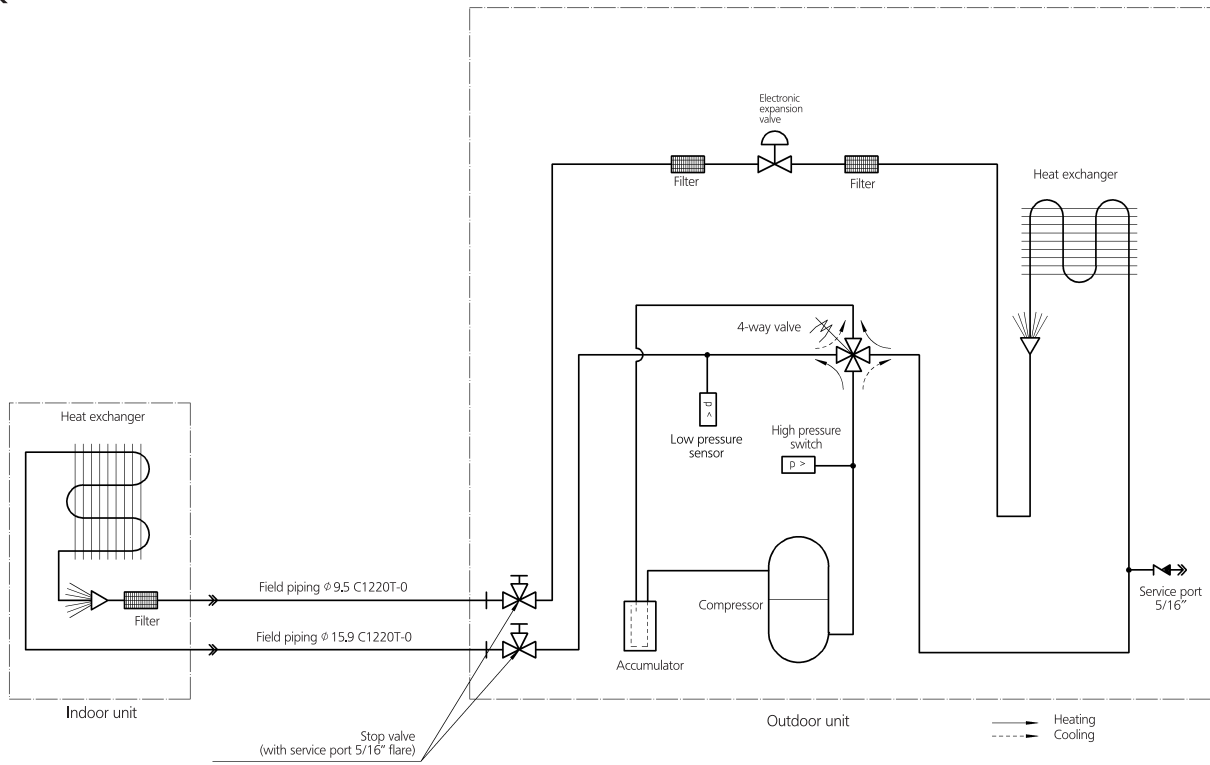
4D090897

9 Piping diagrams

9 - 1 Piping Diagrams

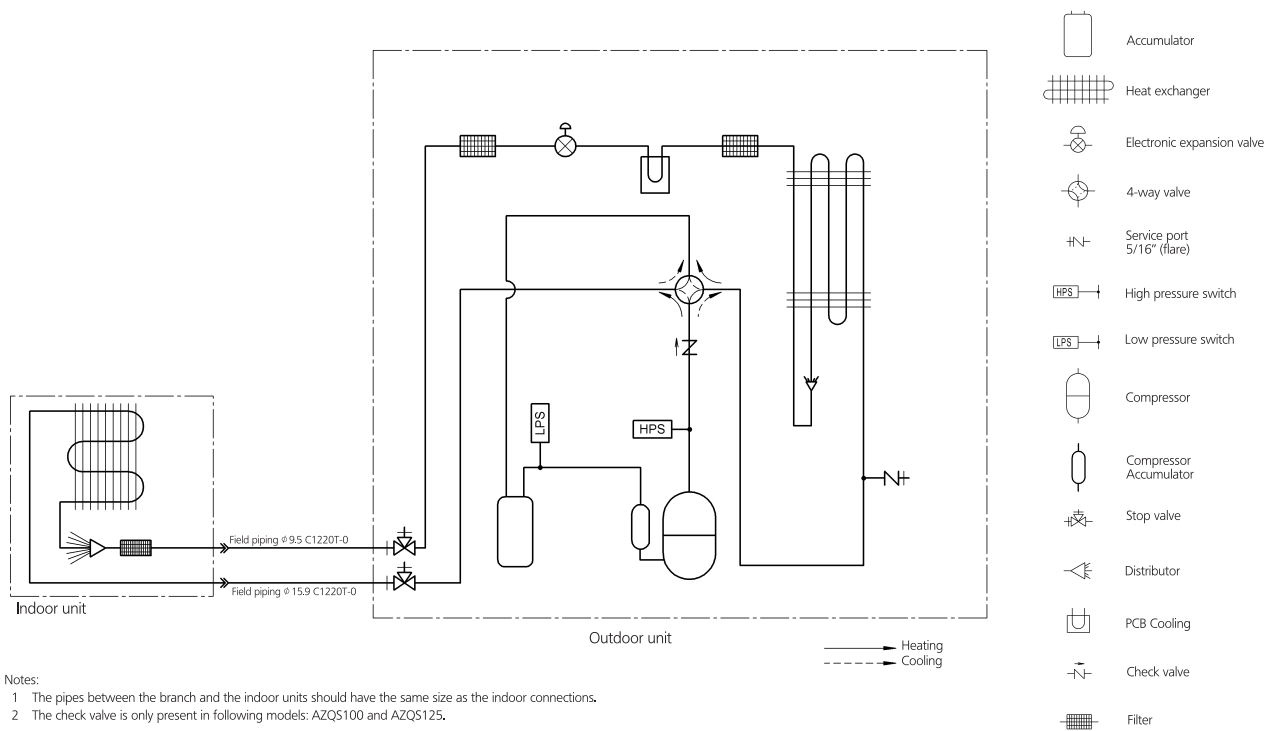
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AZQS71B2V1



3TW29165-1

AZQS100-140B8V1



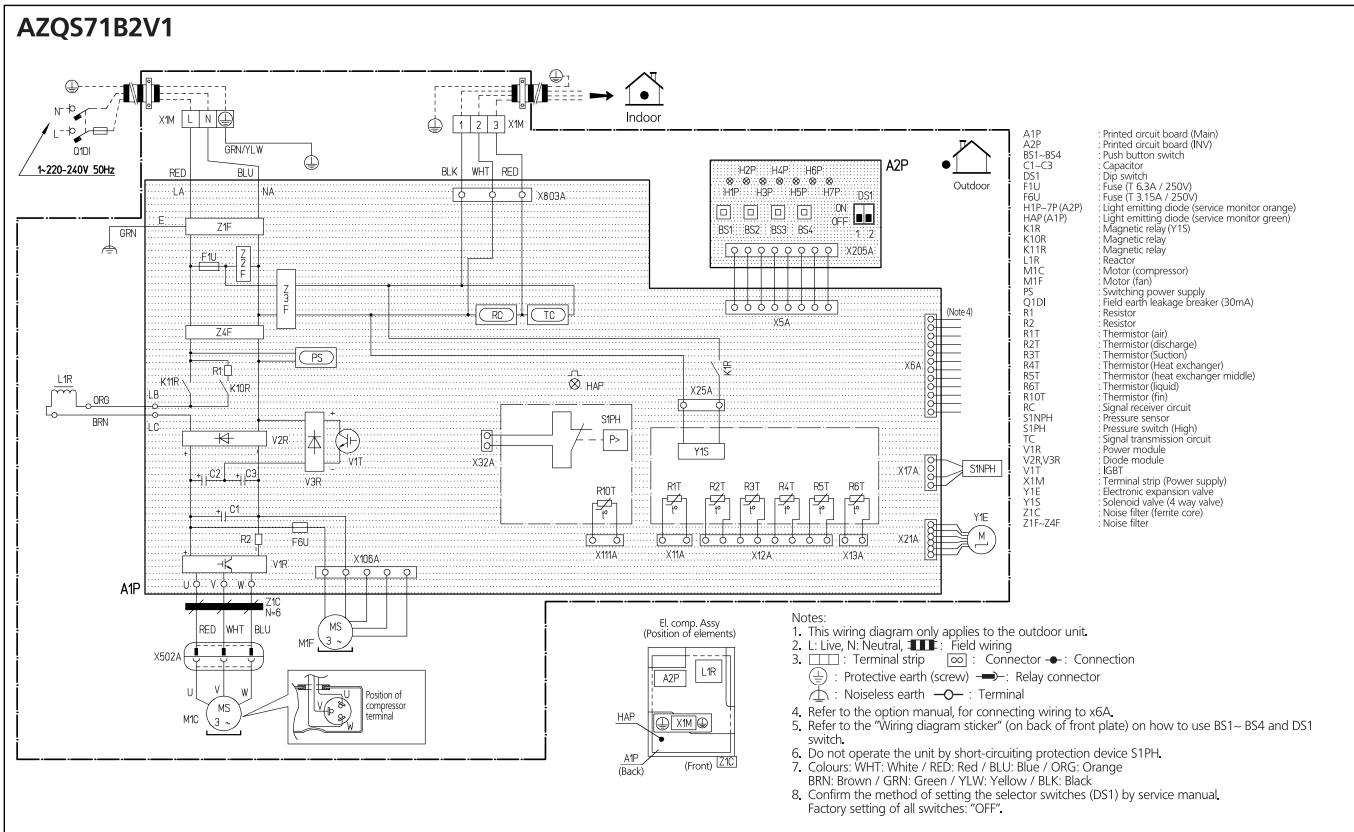
Notes:

- 1 The pipes between the branch and the indoor units should have the same size as the indoor connections.
- 2 The check valve is only present in following models: AZQS100 and AZQS125.

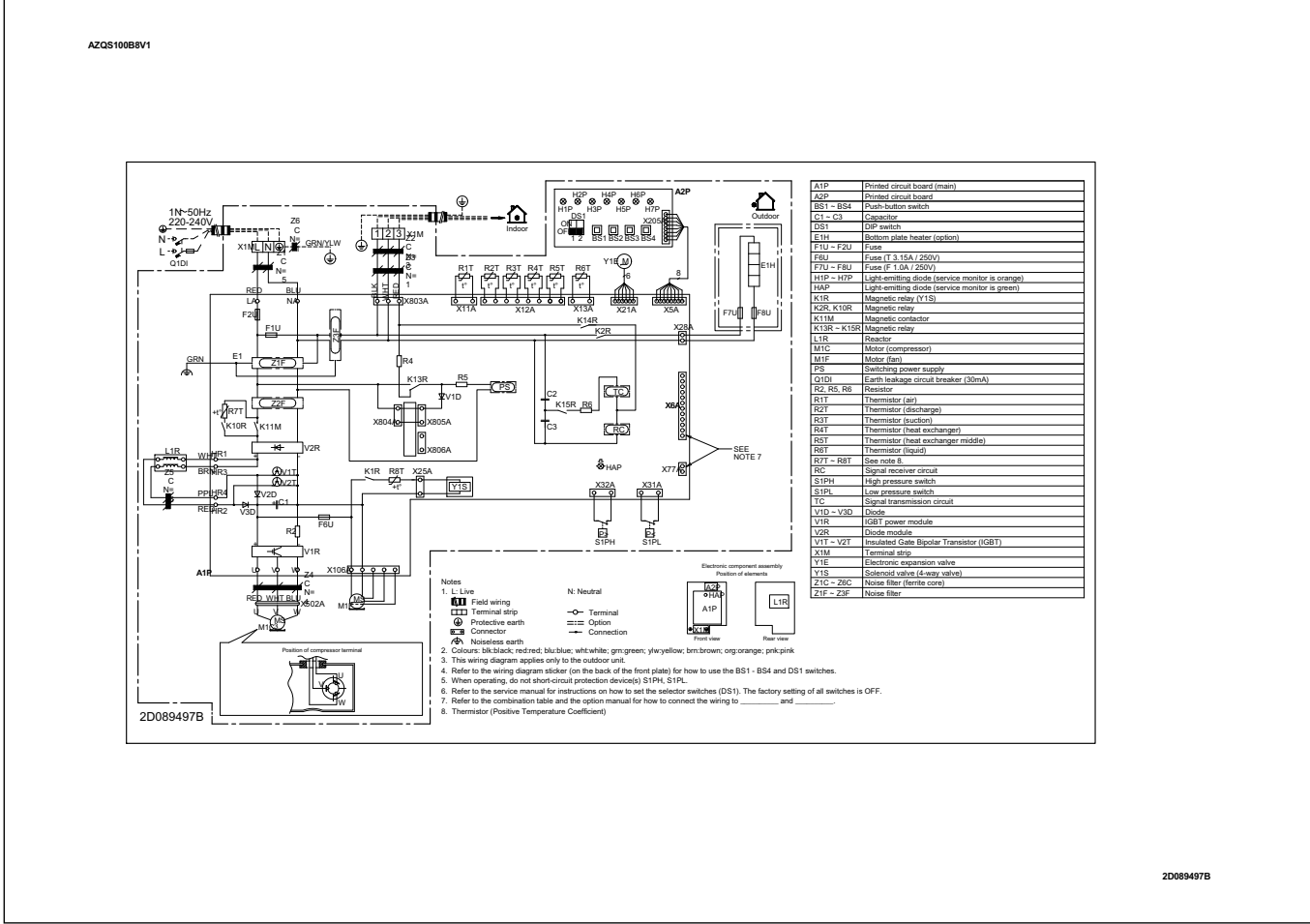
3D090344

10 Wiring diagrams

10 - 1 Wiring Diagrams - Single Phase



2TW30466-1B



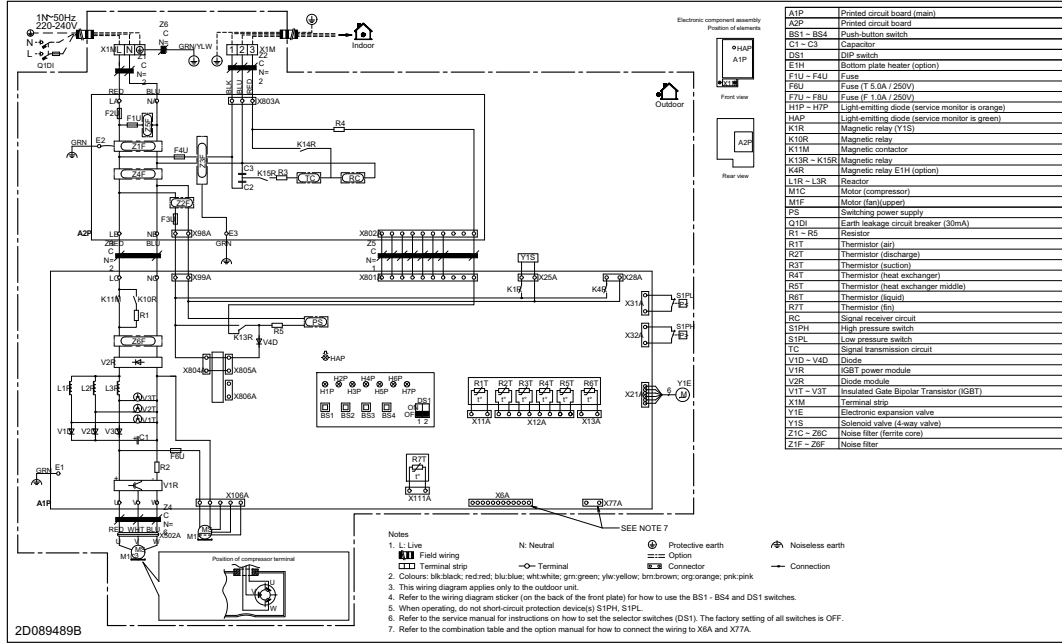
2D089497B

10 Wiring diagrams

10 - 1 Wiring Diagrams - Single Phase

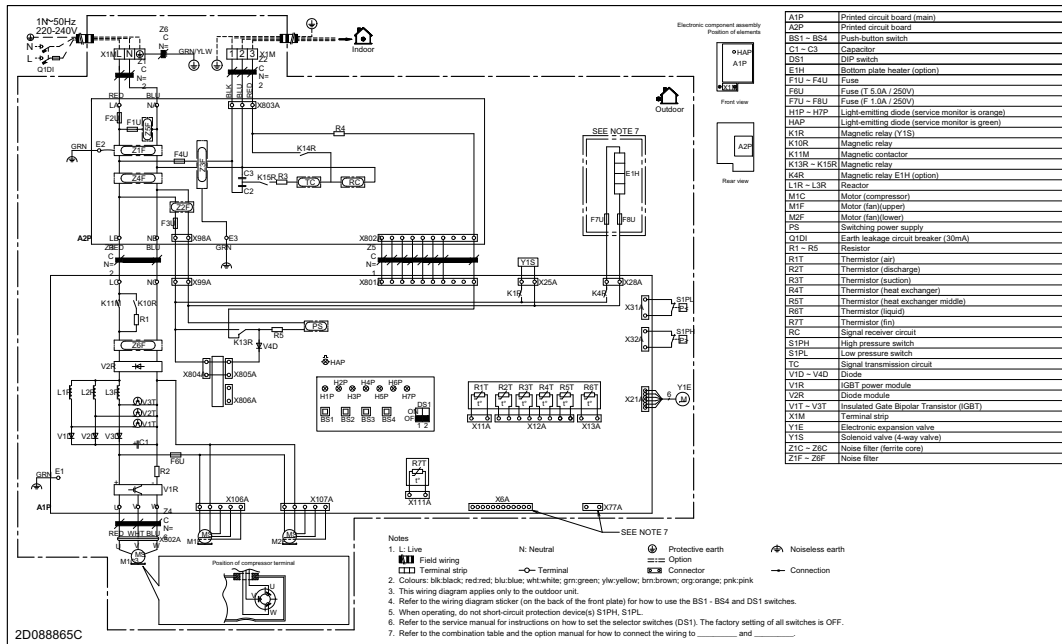
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AZQS1258BV1



2D089489B

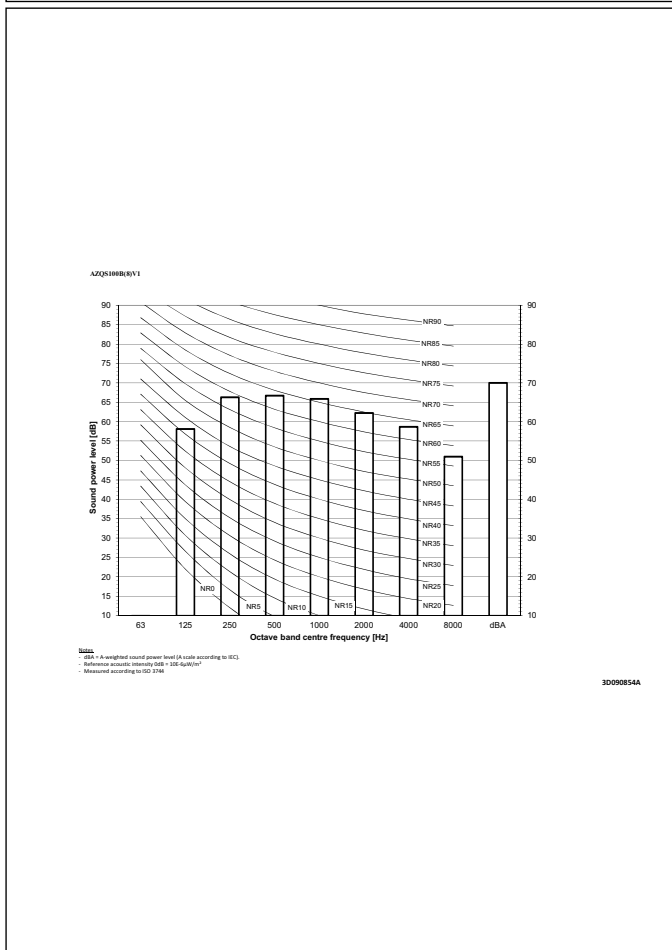
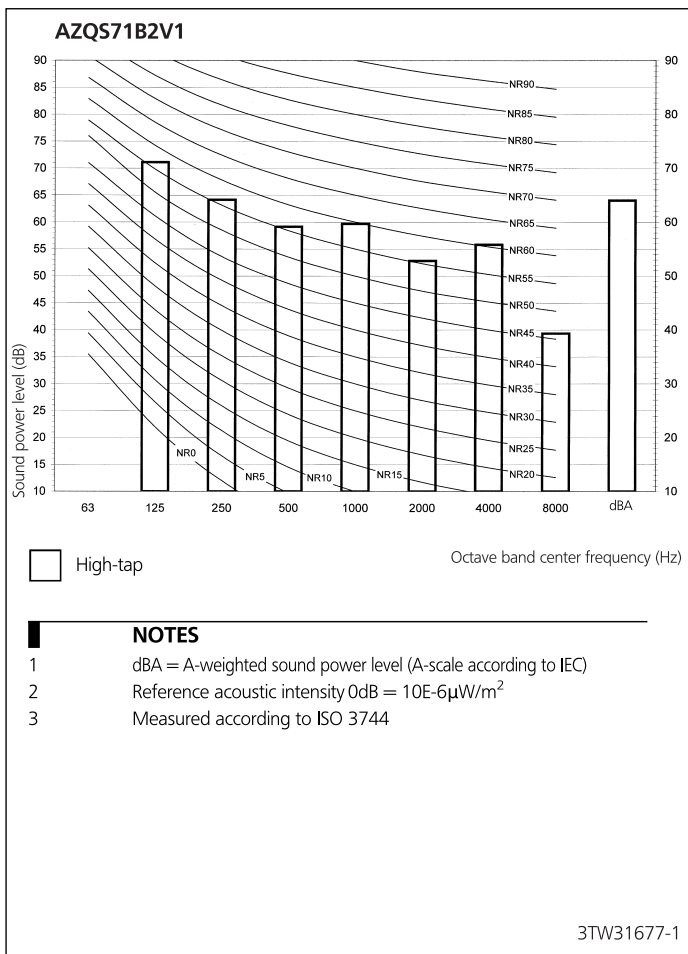
AZQS1408BV1



2D088865C

11 Sound data

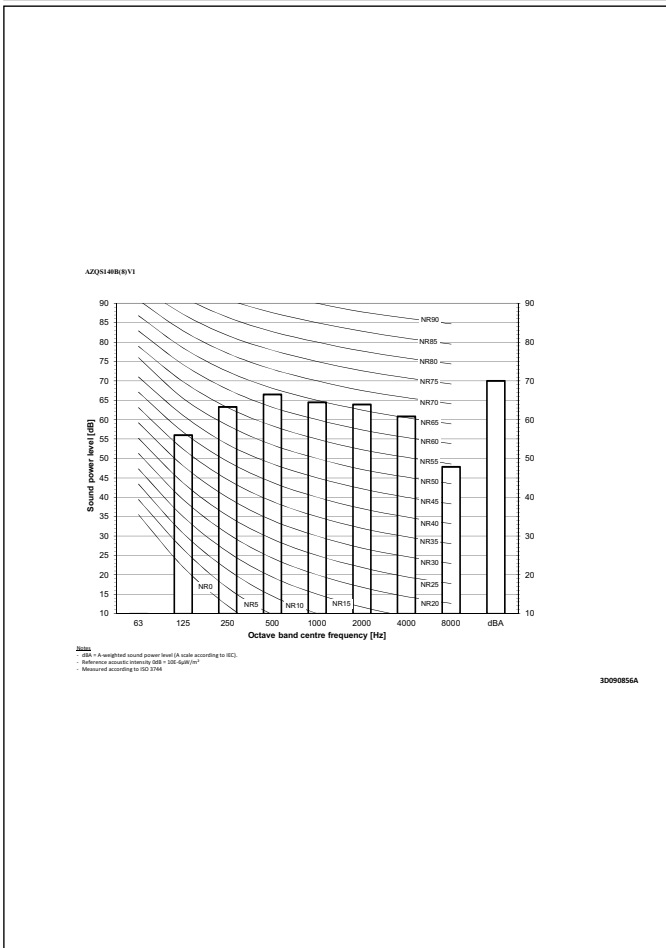
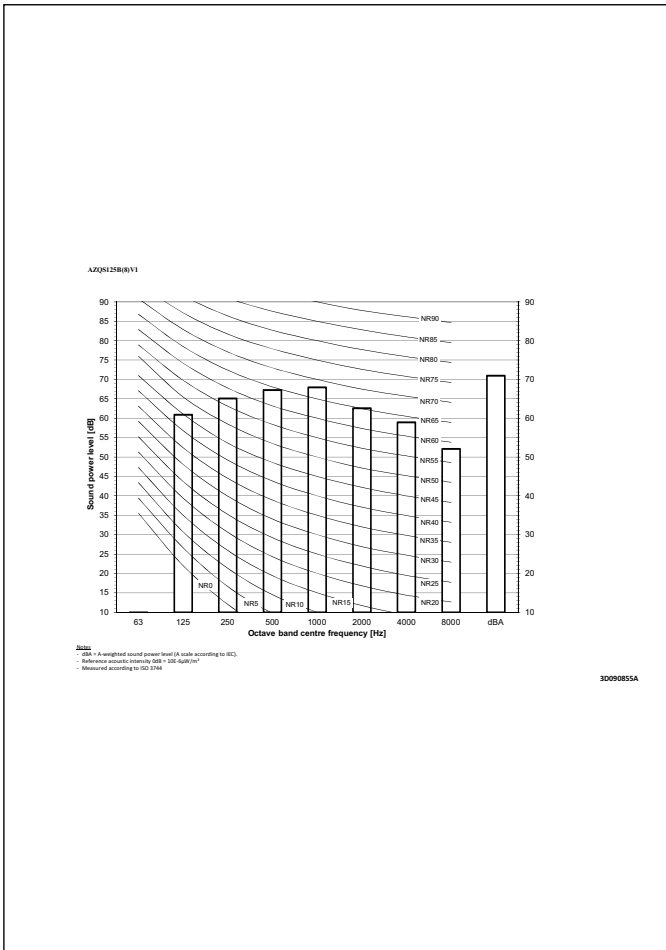
11 - 1 Sound Power Spectrum



11 Sound data

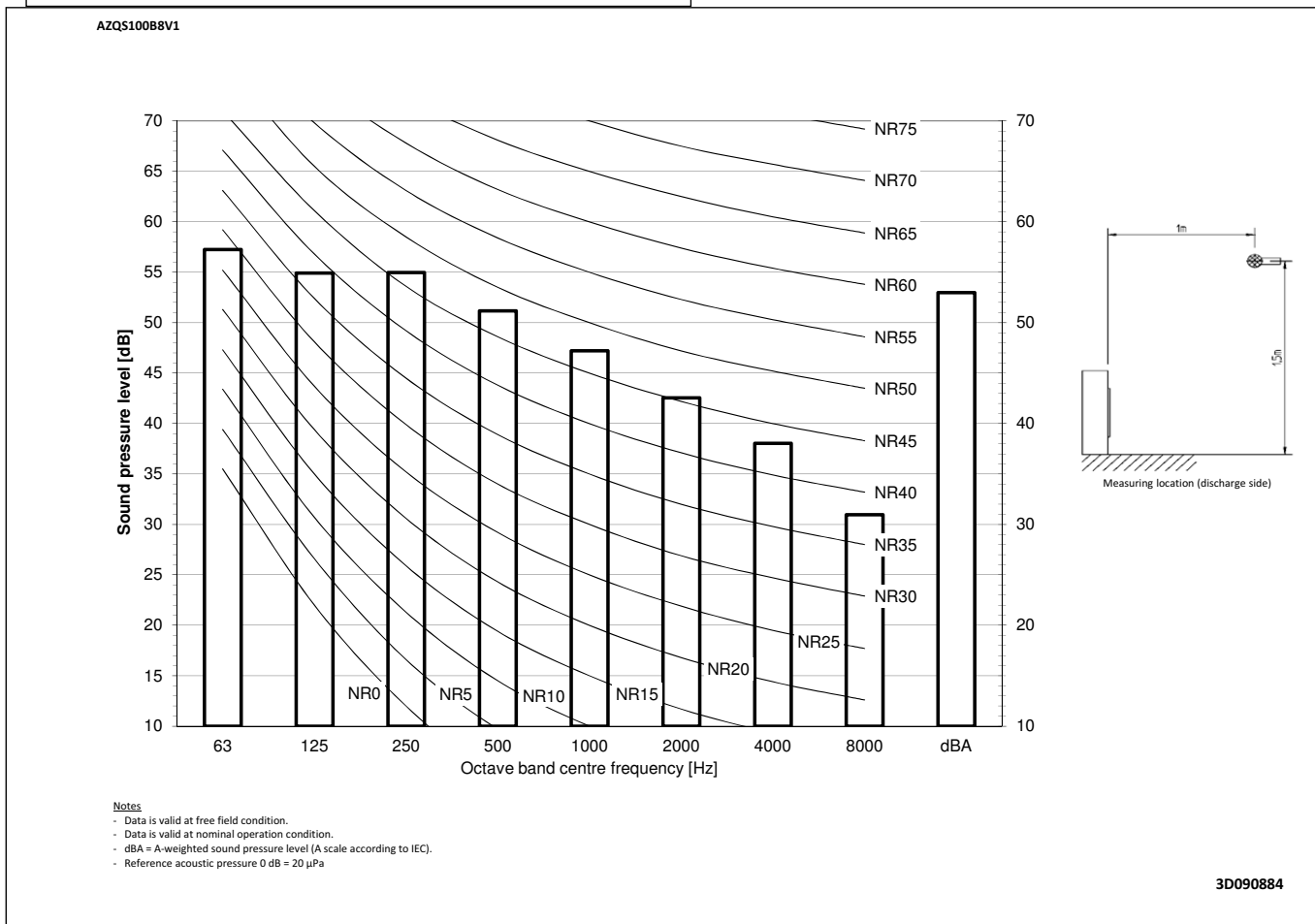
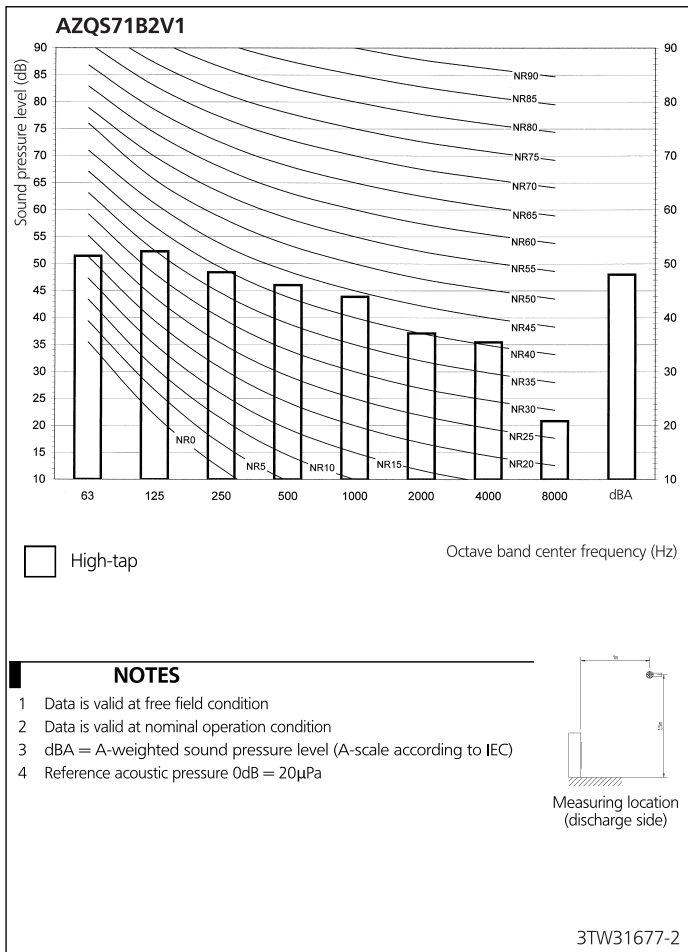
11 - 1 Sound Power Spectrum

11



11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

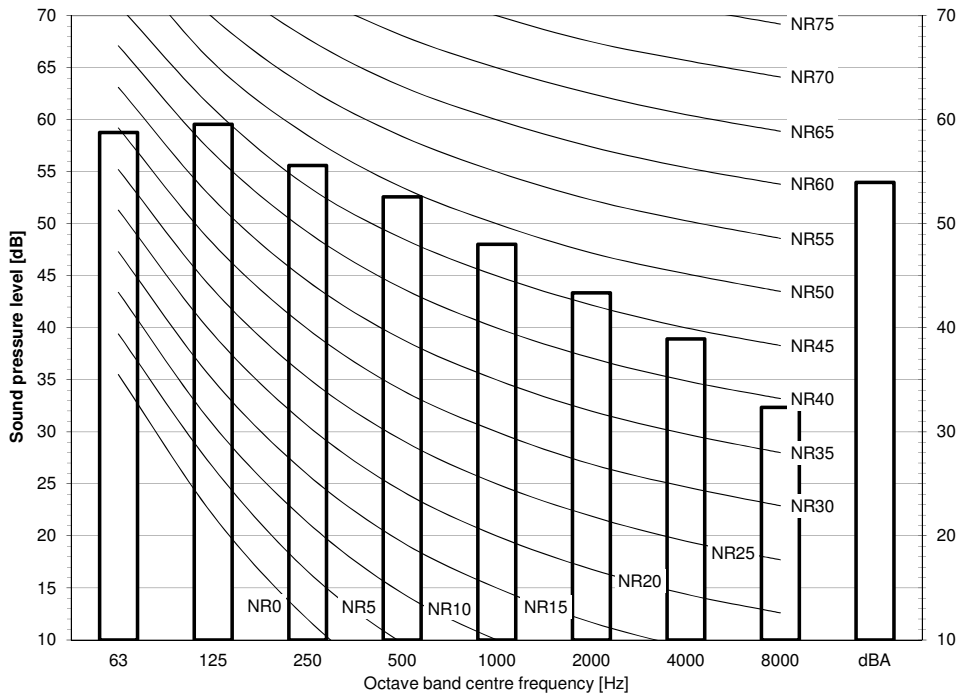


11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

11

AZQS125B8V1

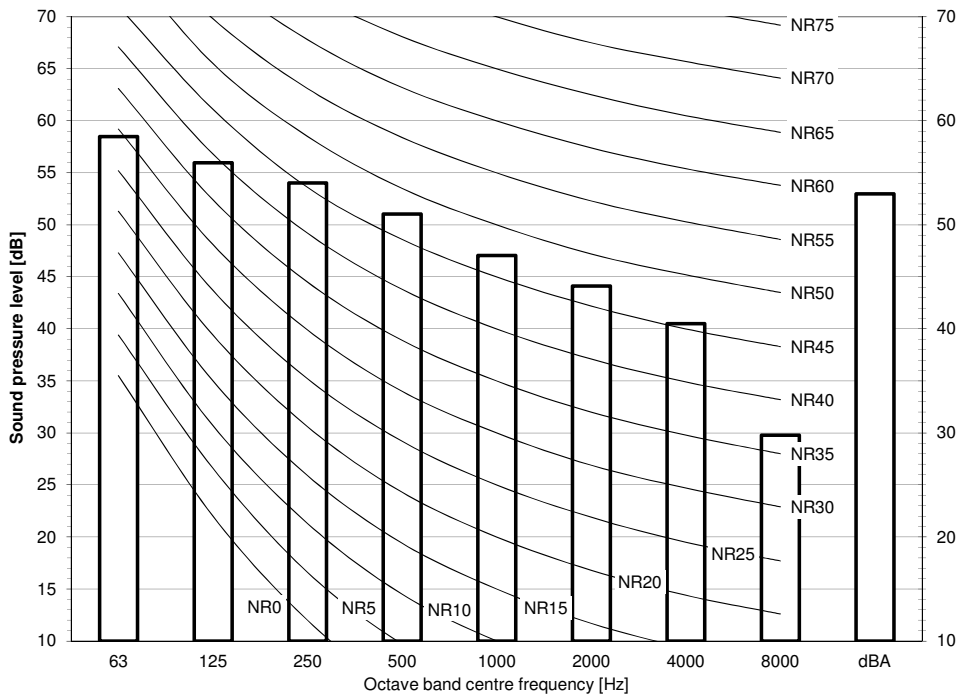


Notes

- 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

3D090885

AZQS140B8V1



Notes

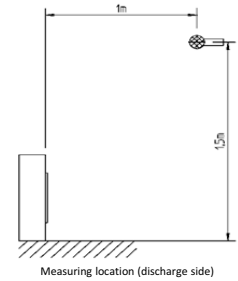
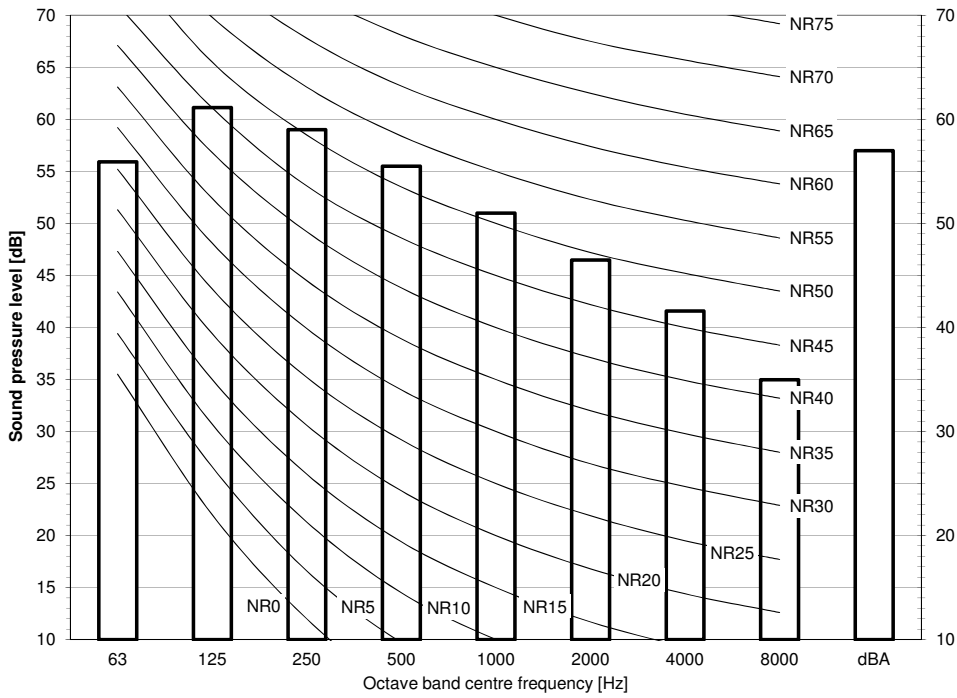
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 μPa

3D090886

11 Sound data

11 - 3 Sound Pressure Spectrum - Heating

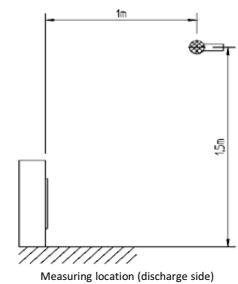
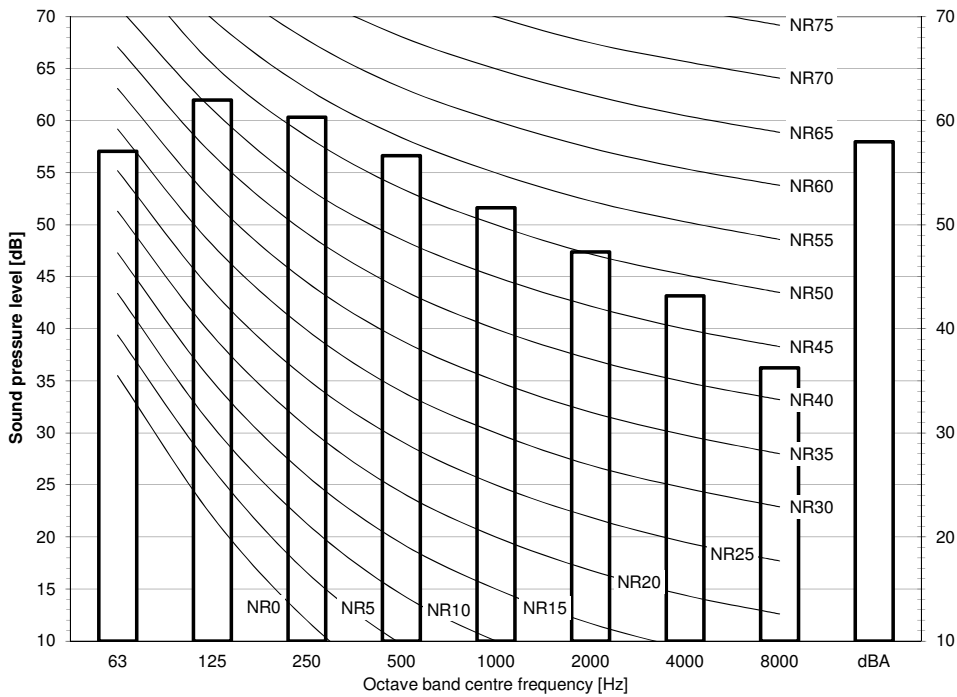
AZQS100B8V1



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

3D090874

AZQS125B8V1



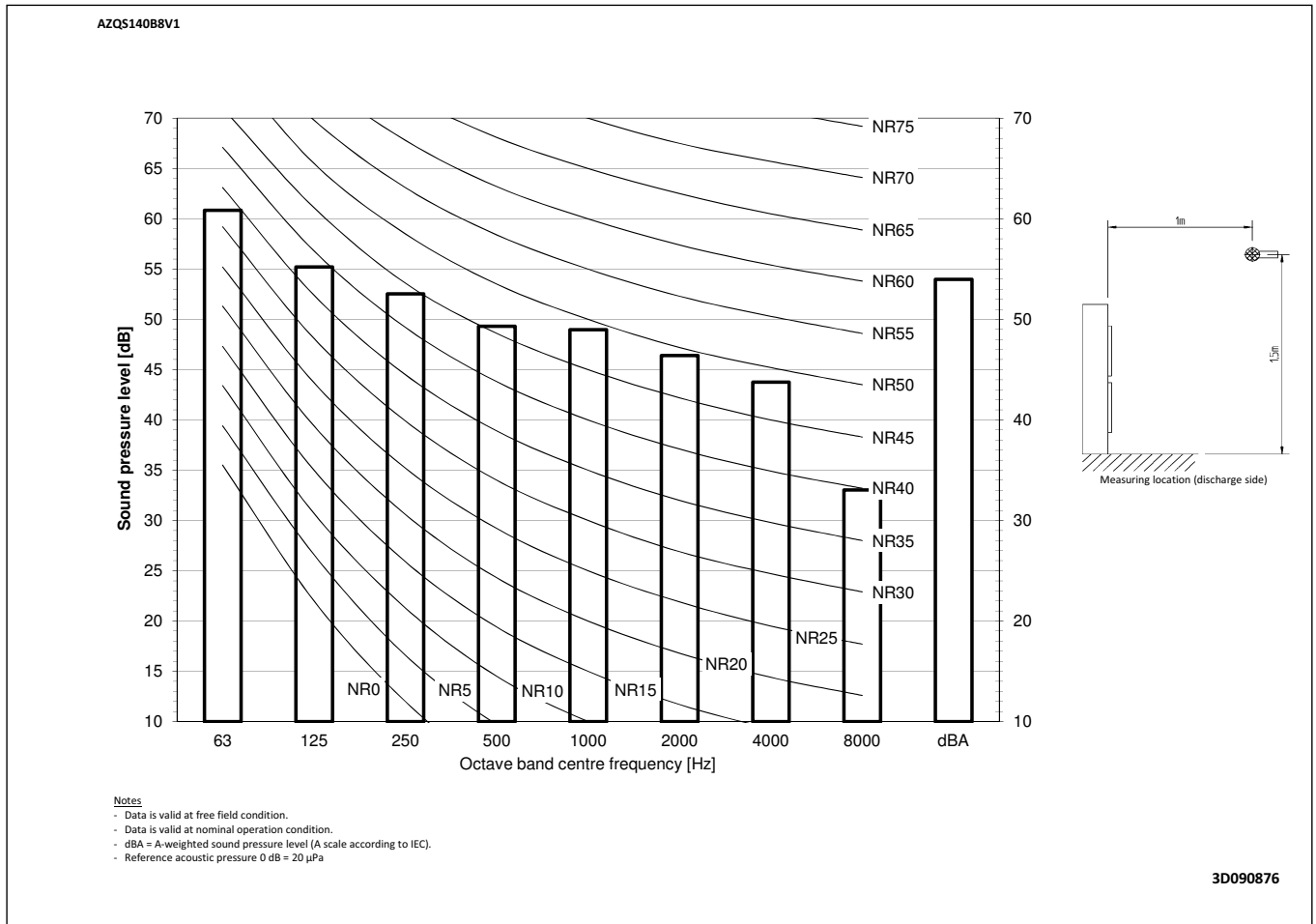
Notes
 - Data is valid at free field condition.
 - Data is valid at nominal operation condition.
 - dBA = A-weighted sound pressure level (A scale according to IEC).
 - Reference acoustic pressure 0 dB = 20 µPa

3D090875

11 Sound data

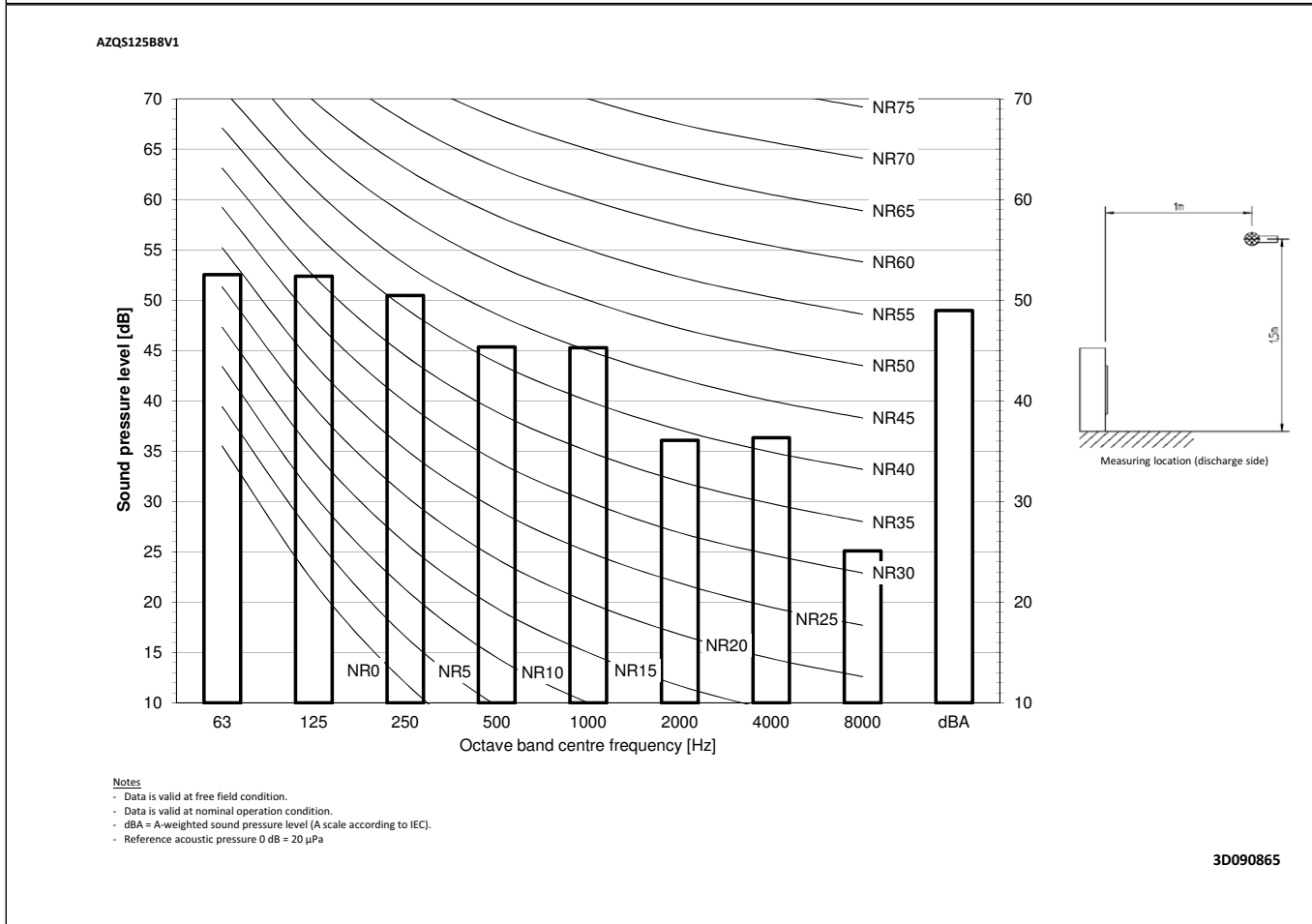
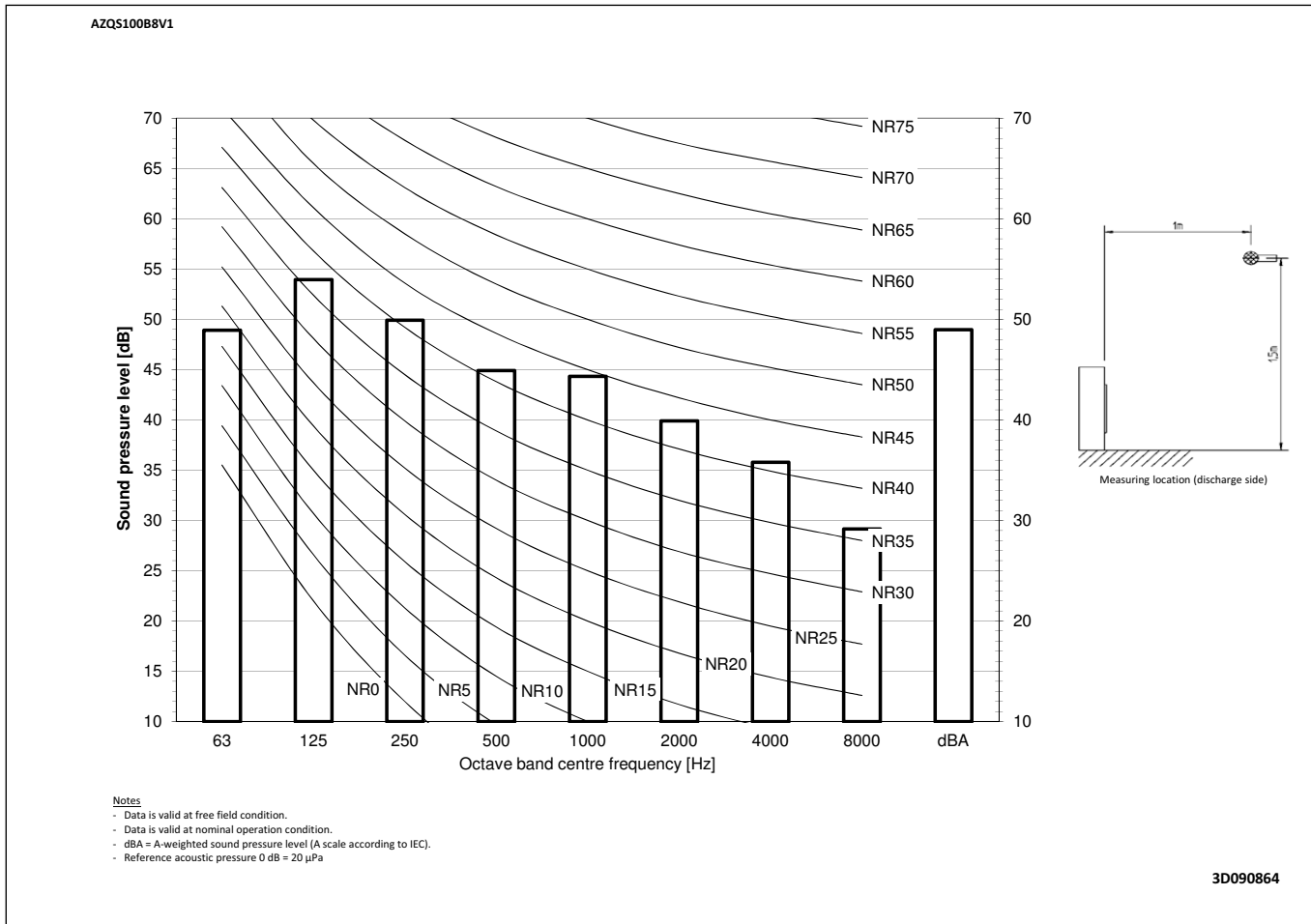
11 - 3 Sound Pressure Spectrum - Heating

11



11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode

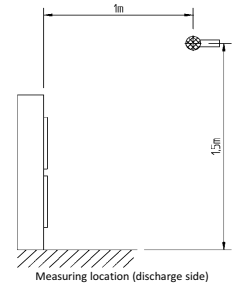
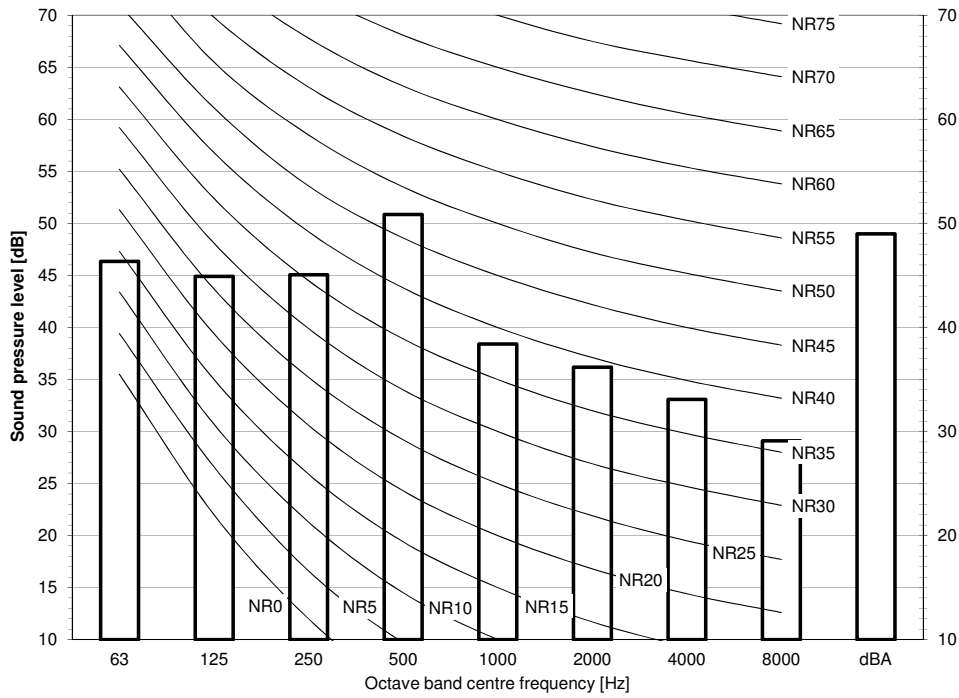


11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode

11

AZQS140B8V1



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

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12 Installation

12 - 1 Installation Method

AZQS-B(8)V1

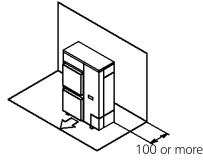
Installation service space

The measure of these values is "mm".

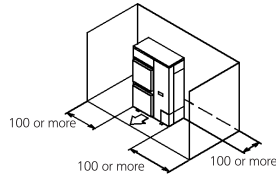
(A) When there are obstacles on suction sides.

• No obstacle above

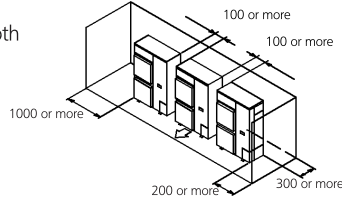
- ① Stand-alone installation
 - Obstacle on the suction side only



- Obstacle on both sides and suction side, too

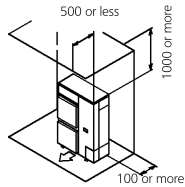


- ② Series installation (2 or more) (Note 1)
 - Obstacle on the suction side and both sides

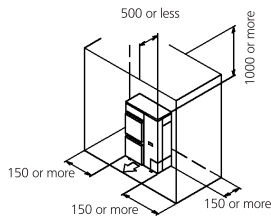


• Obstacle above, too.

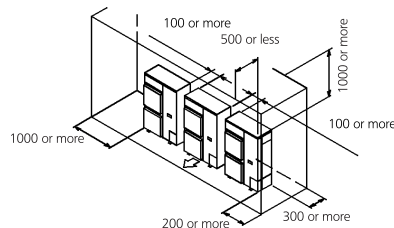
- ① Stand-alone installation
 - Obstacle on the suction side, too



- Obstacle on both sides and suction side, too



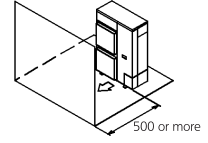
- ② Series installation (2 or more) (Note 1)
 - Obstacle on the suction side and both sides



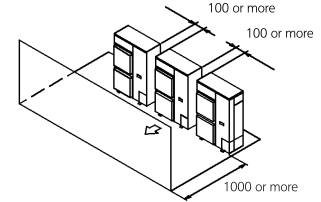
(B) When there are obstacles on discharge sides.

• No obstacle above

- ① Stand-alone installation
 - Obstacle on the discharge side only

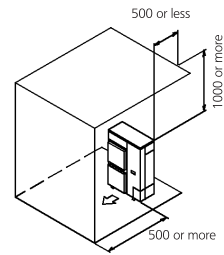


- ② Series installation (2 or more) (Note 1)
 - Obstacle on the discharge side only

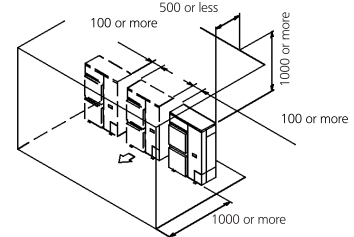


• Obstacle above, too

- ① Stand-alone installation
 - Obstacle on the discharge side only, too



- ② Series installation (2 or more) (Note 1)
 - Obstacle on the discharge side



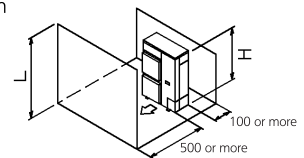
(C) When there are obstacles on both suction and discharge sides.

Pattern 1

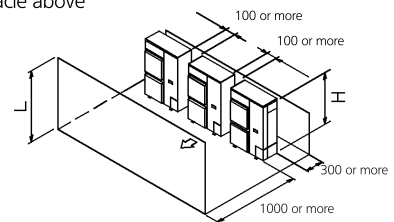
When the obstacles on the discharge side is higher than the unit. (L>H)
(There is no limit for the height of obstructions on the suction side.)

• No obstacle above

- ① Stand-alone installation
 - No obstacle above



- ② Series installation (2 or more) (Note 1)
 - No obstacle above



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12 Installation

12 - 1 Installation Method

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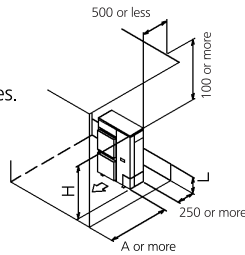
● **Obstacle above, too**

① Stand-alone installation (Note 2)

- When there are obstacles on suction, discharge and top sides.

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$L \leq 1/2 H$	750 or more
	$1/2 H < L \leq H$	1000 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	



② Series installation (2 or more) (Note 1, 2)

- When there are obstacles on suction, discharge and top sides.

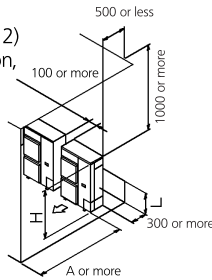
The relations between H, A and L are as follows.

	L	A
$L \leq H$	$L \leq 1/2 H$	1000 or more
	$1/2 H < L \leq H$	1250 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	

Limit of series installation is 2 units.

Pattern 2

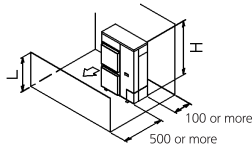
When the obstacle on the discharge side is lower than the unit ($L \leq H$) (There is no limit for the height of obstructions on the suction side.)



● **No obstacle above**

① Stand-alone installation

- No obstacle above

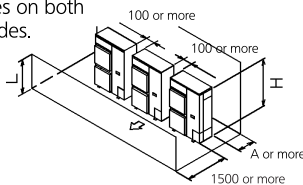


② Series installation (2 or more) (Note 1, 2)

- When there are obstacles on both suction and discharge sides.

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$L \leq 1/2 H$	250 or more
	$1/2 H < L \leq H$	300 or more



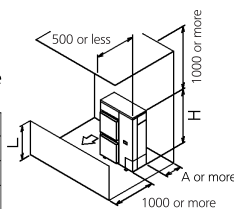
● **obstacle above**

① Stand-alone installation (Note 2)

- When there are obstacles on suction, discharge and top sides.

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$L \leq 1/2 H$	100 or more
	$1/2 H < L \leq H$	200 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	



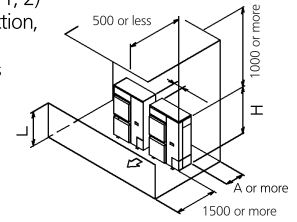
② Series installation (2 or more) (Note 1, 2)

- When there are obstacles on suction, discharge and top sides.

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$L \leq 1/2 H$	250 or more
	$1/2 H < L \leq H$	300 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	

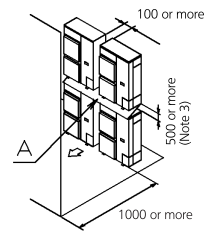
Limit of series installation is 2 units.



(D) Double-decker installation

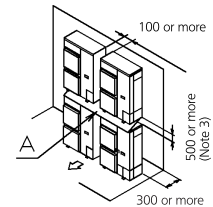
① Obstacle on the discharge side. (1)

- Do not exceed two levels for stacked installation.
- Install a roof cover similar to A (field supply), as outdoor units with downward drainage are prone to dripping and freezing.
- Install the upper-level outdoor unit so that its bottom plate is a sufficient height above the roof cover. This is to prevent the buildup of ice on the underside of the bottom plate.



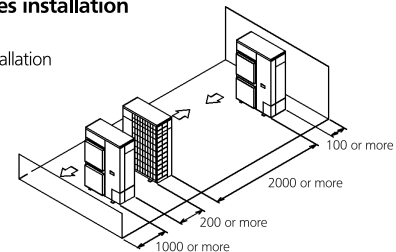
② Obstacle on the suction side. (1)

- Do not exceed two levels for stacked installation.
- Install a roof cover similar to A (field supply), as outdoor units with downward drainage are prone to dripping and freezing.
- Install the upper-level outdoor unit so that its bottom plate is a sufficient height above the roof cover. This is to prevent the buildup of ice on the underside of the bottom plate.



(E) Multiple rows of series installation (on the rooftop, etc.)

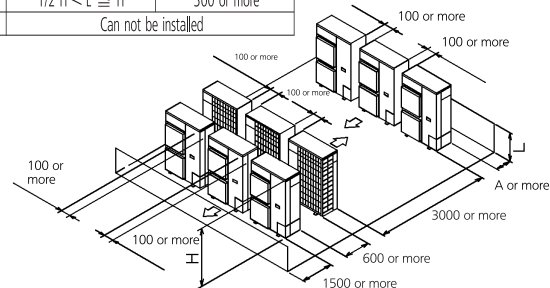
① One row of stand-alone installation



② Rows of series installation (2 or more)

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$L \leq 1/2 H$	250 or more
	$1/2 H < L \leq H$	300 or more
$L > H$	Can not be installed	



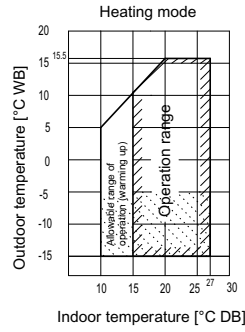
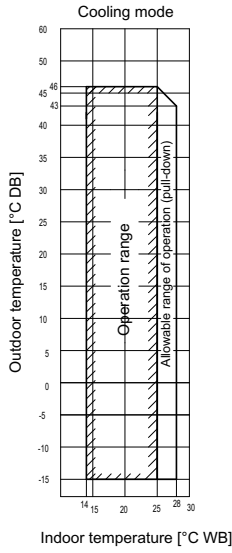
NOTES

- 1 In case of the sideways piping, make a 100mm gap between the unit above.
- 2 Close the bottom of the installation frame to prevent the discharged air from being bypassed.
- 3 It is not necessary to install a roof cover if there is no danger of drainage dripping and freezing. In this case, the space between the upper and lower outdoor units should be at least 100mm. Close off the gap between the upper and lower units so there is no reintake of discharged air.

13 Operation range

13 - 1 Operation Range

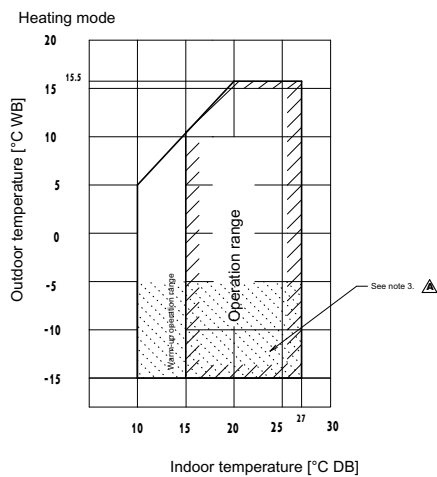
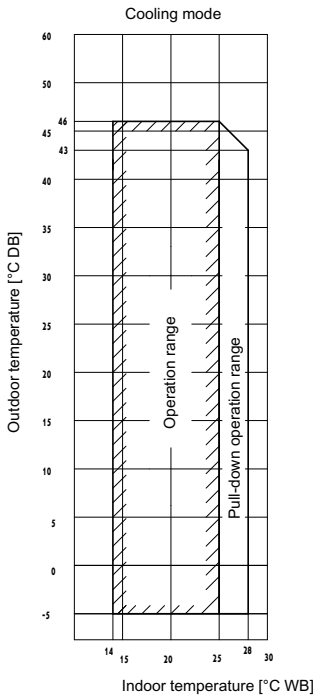
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- Notes**
1. DEPENDING ON OPERATION AND INSTALLATION CONDITIONS, THE INDOOR UNIT CAN CHANGE OVER TO FREEZE-UP OPERATION (INDOOR DE-ICING).
 2. TO REDUCE THE FREEZE-UP OPERATION (INDOOR DE-ICING) FREQUENCY IT IS RECOMMENDED TO INSTALL THE OUTDOOR UNIT IN A LOCATION NOT EXPOSED TO WIND.

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AZQS100-140L2

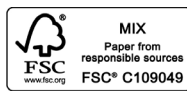
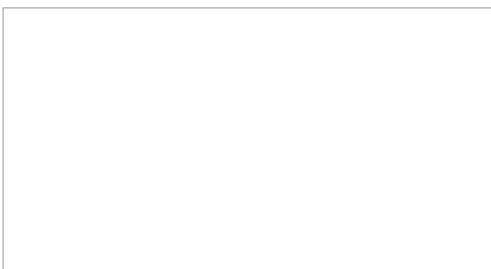


- Notes**
1. Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
 2. To reduce the freeze-up operation (indoor de-icing) frequency, it is recommended to install the outdoor unit in a location not exposed to wind.
 3. In case of high humidity conditions (>92%) in this operation area, a RZQG model should be used instead of a AZQS model. This to avoid freeze-up of the outdoor unit.

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