

Air Conditioning
Technical Data

AZQS-BY1



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AZQS-BY1

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1 Features

Ideal solution for busy environments and small shops

- With a gas cooled PCB reliable cooling is guaranteed as it is not influenced by ambient temperature
- Daikin outdoor units are neat, sturdy and can easily be mounted on a roof or terrace or simply placed against an outside wall
- 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				ABQ100C/AZQS100BY1	ABQ125C/AZQS125BY1	ABQ140C/AZQS140BY1
Cooling capacity	Nom.		kW	9.5	12.1	13.0
Heating capacity	Nom.		kW	10.8	13.5	15.5
Power input	Cooling	Nom.	kW	3.63	4.31	4.32
	Heating	Nom.	kW	3.16	3.96	4.55
Seasonal efficiency (according to EN14825)	Cooling	Energy efficiency class		B	-	-
		Pdesign	kW	9.50	-	-
		SEER		4.65	-	-
		Annual energy consumption	kWh	716	-	-
	Heating (Average climate)	Energy efficiency class		A	-	-
		Pdesign	kW	6.78	-	-
		SCOP/A		3.80	-	-
		Annual energy consumption	kWh	2,498	-	-
Nominal efficiency	EER			2.62	2.81	3.01
	COP			3.42	3.41	
	Annual energy consumption		kWh	1,813 (1)	2,153 (1)	-
	Energy labeling Directive	Cooling		D	C	-
Heating			B		-	

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

Annual energy consumption is according to Energy labeling directive 2002/31/EC

SEER and SCOP are according to EN 14825

2-2 Capacity and Power input				AHQ100C/AZQS100BY1	AHQ125C/AZQS125BY1	AHQ140C/AZQS140BY1
Cooling capacity	Nom.		kW	9.5	12.1	13.0
Heating capacity	Nom.		kW	10.8	13.5	15.5
Power input	Cooling	Nom.	kW	3.62	4.60	4.32
	Heating	Nom.	kW	3.17	3.74	4.55
Seasonal efficiency (according to EN14825)	Cooling	Energy efficiency class		B	-	-
		Pdesign	kW	9.50	-	-
		SEER		4.60	-	-
		Annual energy consumption	kWh	723	-	-
	Heating (Average climate)	Energy efficiency class		A	-	-
		Pdesign	kW	7.60	-	-
		SCOP/A		3.80	-	-
		Annual energy consumption	kWh	2,800	-	-
Nominal efficiency	EER			2.62	2.63	3.01
	COP			3.41	3.61	3.41
	Annual energy consumption		kWh	1,810 (1)	2,300 (1)	-
	Energy labeling Directive	Cooling		D		-
Heating			B	A	-	

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

2-3 Technical Specifications		AZQS100BY1	AZQS125BY1	AZQS140BY1
Capacity control	Method	Inverter controlled		
Casing	Colour	Ivory white		
	Material	Painted galvanized steel plate		

2 Specifications

2

2-3 Technical Specifications					AZQS100BY1	AZQS125BY1	AZQS140BY1
Dimensions	Unit	Height	mm		990		1,430
		Width	mm		940		
		Depth	mm		320		
	Packed unit	Height	mm		1,170		1,610
		Width	mm		1,015		
		Depth	mm		422		
Weight	Unit		kg		82		101
	Packed unit		kg		88		108
Heat exchanger	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Compressor	Quantity				1		
	Type				Hermetically sealed swing compressor		
	Starting method				Inverter driven		
Fan	Type				Propeller fan		
	Discharge direction				Horizontal		
	Quantity				1		2
	Air flow rate	Cooling	Nom.	m ³ /min	76	77	83
		Heating	Nom.	m ³ /min	83		62
Fan motor	Quantity				1		2
	Model				Brushless DC motor		
	Output			W	200		94
	Drive				Direct drive		
	Speed	Cooling	Super low	rpm	-		
		Heating	Super low	rpm	-		
Sound power level	Cooling			dBA	70	71	70
	Heating			dBA	-		
Sound pressure level	Cooling	Nom.	dBA	53	54	53	
	Heating	Nom.	dBA	57	58	54	
	Night quiet mode	Level 1	dBA	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	2.9		4.0
				TCO ₂ eq	6.1		8.4
	Control				Expansion valve (electronic type)		
	GWP				2,087.5		
	Circuits	Quantity			1		

2 Specifications

2-3 Technical Specifications				AZQS100BY1	AZQS125BY1	AZQS140BY1	
Piping connections	Liquid	Quantity		1			
		Type		Flare connection			
		OD	mm	9.52			
	Gas	Quantity		1			
		Type		Flare connection			
		OD	mm	15.9			
	Drain	Quantity		5			
		Type		Hole			
		ID	mm	-			
		OD	mm	26			
	Piping length	OU - IU	Min.	m	5 (1)		
			Max.	m	50 (1)		
		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	0.9	1.35	
Defrost method				Reversed cycle			
Defrost control				Sensor for outdoor heat exchanger temperature			
Safety devices	Item	01		High pressure switch			
		02		Fan motor thermal protection			
		03		Fuse			

Standard Accessories : Tie-wraps; Quantity : 2;

Standard Accessories : Installation manual; Quantity : 1;

2-4 Electrical Specifications				AZQS100BY1	AZQS125BY1	AZQS140BY1
Power supply	Name			Y1		
	Phase			3N-		
	Frequency		Hz	50		
	Voltage		V	380-415		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Current - 50Hz	Maximum fuse amps (MFA)		A	-		
Current	Zmax	List		Complies to EN61000-3-11		
	Recommended fuses		A	20	25	
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		

Notes

(1) For details regarding your combination of outdoor and indoor unit, refer to the technical databook

See separate drawings for electrical data

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

Contains fluorinated greenhouse gases

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 standard efficiency series

3 Electrical data

3 - 1 Electrical Data

AZQS-B(8)V1
AZQS-BY1

Indoor	Outdoor	Hz ~ Power supply	Voltage range	Comp				OFM		IFM				
				MCA	TOCA	MFA	MSC	RLA	KW	FLA	kW	FLA		
ACQ71DV1	AZQS71B2V1B	50Hz ~220-240V	Min. 198V Max. 264V	18.8	—	20	—	16.2	0.07	0.3	0.067	0.52		
ABQ71CV1	AZQS71B2V1B			19.5	—	20	—	16.2	0.07	0.3	0.128	1.05		
AHQ71CV1	AZQS71B2V1B			19.2	—	20	—	16.2	0.07	0.3	0.106	0.8		
ACQ100DV1	AZQS100B8V1B			28.5	—	32	—	24.4	0.2	0.6	0.094	0.77		
ABQ100CV1	AZQS100B8V1B			28.6	—	32	—	24.4	0.2	0.6	0.109	0.9		
AHQ100CV1	AZQS100B8V1B			28.9	—	32	—	24.4	0.2	0.6	0.149	1.12		
ACQ125DV1	AZQS125B8V1B			28.9	—	32	—	24.4	0.2	0.6	0.137	1.12		
ABQ125CV1	AZQS125B8V1B			31.5	—	32	—	24.4	0.2	0.6	0.413	3.16		
AHQ125CV1	AZQS125B8V1B			28.9	—	32	—	24.4	0.2	0.6	0.240	1.1		
ABQ140CV1	AZQS140B8V1B			32.8	—	40	—	24.2	0.094+0.094	0.4+0.4	0.546	4.23		
AHQ140CV1	AZQS140B8V1B			30.7	—	32	—	24.2	0.094+0.094	0.4+0.4	0.316	2.52		
ACQ140DV1	AZQS140B8V1B			28.9	—	32	—	24.2	0.094+0.094	0.4+0.4	0.137	1.12		
ACQ100DV1	AZQS100B7Y1B			3N~50Hz 380-415V	Min. 342V Max. 456V	14.2	—	16	—	11.4	0.2	0.6	0.094	0.77
ABQ100CV1	AZQS100B7Y1B					14.3	—	16	—	11.4	0.2	0.6	0.109	0.9
AHQ100CV1	AZQS100B7Y1B					14.6	—	16	—	11.4	0.2	0.6	0.149	1.12
ACQ125DV1	AZQS125B7Y1B					14.6	—	16	—	11.4	0.2	0.6	0.137	1.12
ABQ125CV1	AZQS125B7Y1B	17.2	—			20	—	11.4	0.2	0.6	0.413	3.16		
AHQ125CV1	AZQS125B7Y1B	14.6	—			16	—	11.4	0.2	0.6	0.240	1.10		
ABQ140CV1	AZQS140B7Y1B	21.8	—			25	—	14.2	0.094+0.094	0.4+0.4	0.546	4.23		
AHQ140CV1	AZQS140B7Y1B	19.7	—			20	—	14.2	0.094+0.094	0.4+0.4	0.316	2.52		
ACQ140DV1	AZQS140B7Y1B	17.9	—			20	—	14.2	0.094+0.094	0.4+0.4	0.137	1.12		

Symbols

- MCA: Minimum Circuit Ampere (A)
- TOCA: Total overcurrent amps (A)
- MFA: Maximum Fuse Ampere (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 interrupter.
Earth leakage circuit breaker

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4 Options

4 - 1 Options

AZQS-BV1

AZQS-BY1

Name of option	Kit name		
	AZQS71BV1	AZQS100BV1	AZQS100BY1
	AZQS125BV1	AZQS125BY1	
	AZQS140BV1	AZQS140BY1	
Demand adapter kit	KRP58M51		

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5 Combination table

5 - 1 Combination Table

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AZQS-B(8)V1
AZQS-BY1

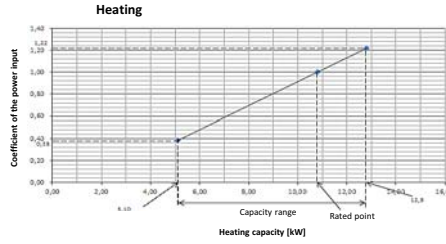
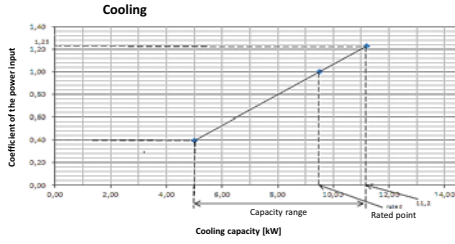
Sky Air Model	Roundflow cassette				Duct				Ceiling-suspended			
	FCQG71FVEB	FCQG100FVEB	FCQG125FVEB	FCQG140FVEB	ABQ71CV1	ABQ100CV1	ABQ125CV1	ABQ140CV1	AHQ71CV1	AHQ100CV1	AHQ125CV1	AHQ140CV1
AZQS71B2V1B					P				P			
AZQS100B8V1B						P				P		
AZQS125B8V1B							P				P	
AZQS140B8V1B								P				P
AZQS100B7Y1B						P				P		
AZQS125B7Y1B							P				P	
AZQS140B7Y1B								P				P
AZQS71B2V1B A	P											
AZQS100B8V1B A		P										
AZQS125B8V1B A			P									
AZQS140B8V1B A				P								
AZQS100B7Y1B A		P										
AZQS125B7Y1B A			P									
AZQS140B7Y1B A				P								

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6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

AZQS100B(8)V1 AZQS100BY1



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
 PI: Power input [kW]
 compressor + indoor and outdoor fan motors

Indoor		Outdoor Temperature (°C DB)											
		25			30			35			40		
°CWB	°CDB	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	7.89	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	7.08	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)											
		-15.0		-10.0		-5.0		0.0		6.0		10.0	
°CDB	°CWB	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
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	1.18
18	8.57	0.97	9.44	1.02	10.0	1.07	10.3	1.10	12.8	1.17	13.8	1.23	1.23
20	8.56	1.01	9.43	1.07	10.0	1.11	10.3	1.14	12.8	1.22	13.8	1.28	1.28
21	8.56	1.03	9.42	1.09	10.0	1.13	10.3	1.16	12.9	1.24	13.8	1.30	1.30
22	8.55	1.04	9.42	1.10	10.0	1.14	10.3	1.18	12.8	1.26	13.8	1.33	1.33
24	8.54	1.09	9.41	1.15	10.0	1.19	10.3	1.23	12.8	1.31	13.8	1.38	1.38

- 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 EWB & EDB.
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.

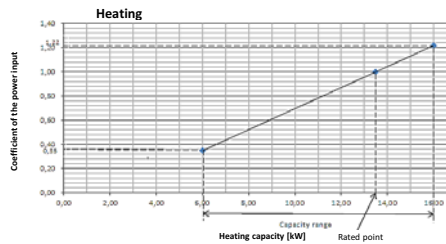
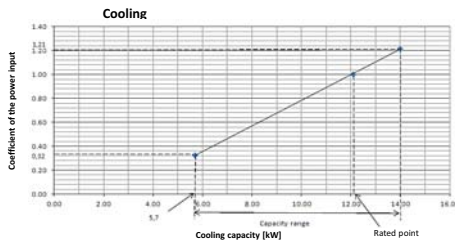
9. The rated power input for each model is mentioned in the table below.

	ABQ100CV1	FCQG100F	AHQ100CV1
AFR	22.7	32.0	31.1
(BF)	(0.175)	(0.17)	(0.174)

	ABQ100CV1	FCQG100F	AHQ100CV1
Cooling	3.63	2.96	3.62
Heating	3.16	3.09	3.17

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AZQS125B(8)V1 AZQS125BY1



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
 PI: Power input [kW]
 compressor + indoor and outdoor fan motors

Indoor		Outdoor Temperature (°C DB)											
		25			30			35			40		
°CWB	°CDB	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	8.79	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	9.21	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)											
		-15.0		-10.0		-5.0		0.0		6.0		10.0	
°CDB	°CWB	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
16	10.7	0.93	11.9	0.99	12.6	1.02	13.0	1.05	16.0	1.12	17.3	1.18	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	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	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	1.31
22	10.7	1.04	11.8	1.10	12.5	1.14	12.9	1.18	16.0	1.26	17.3	1.33	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	1.38

- 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 EWB & EDB.
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.

	AHQ125CV1	ABQ125CV1	FCQG125F
AFR	34.4	40.5	33.0
(BF)	(0.123)	(0.157)	(0.21)

	AHQ125CV1	ABQ125CV1	FCQG125F
Cooling	4.60	4.30	3.90
Heating	3.74	3.96	3.96

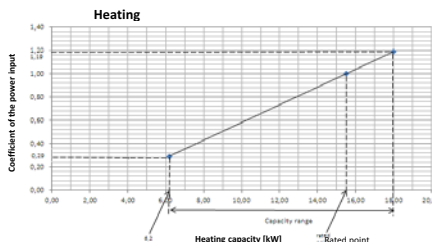
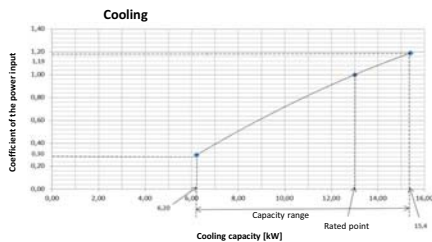
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6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

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AZQS140B(8)V1
AZQS140BY1



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
 PI: 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	1.00	14.4	10.00	1.10	13.9	9.69	1.20
18.0	25	16.2	10.55	0.98	15.6	10.21	1.08	15.1	10.01	1.19	14.5	9.71	1.30
19.0	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	9.98	1.30
22.0	30	17.6	10.37	0.99	17.0	10.16	1.10	16.4	9.83	1.21	15.8	9.90	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 DB	°C WB	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	—
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	—
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	—
21	11.5	1.00	12.7	1.06	13.5	1.11	13.9	1.13	18.0	1.21	19.4	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	—
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	—

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 EWB & EDB.
 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: 35% 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.
 Pair

	ABQ140CV1	AHQ140CV1	FCQG140F
AFR	48.7	43.9	33.0
(BF)	(0.15)	(0.157)	(0.23)

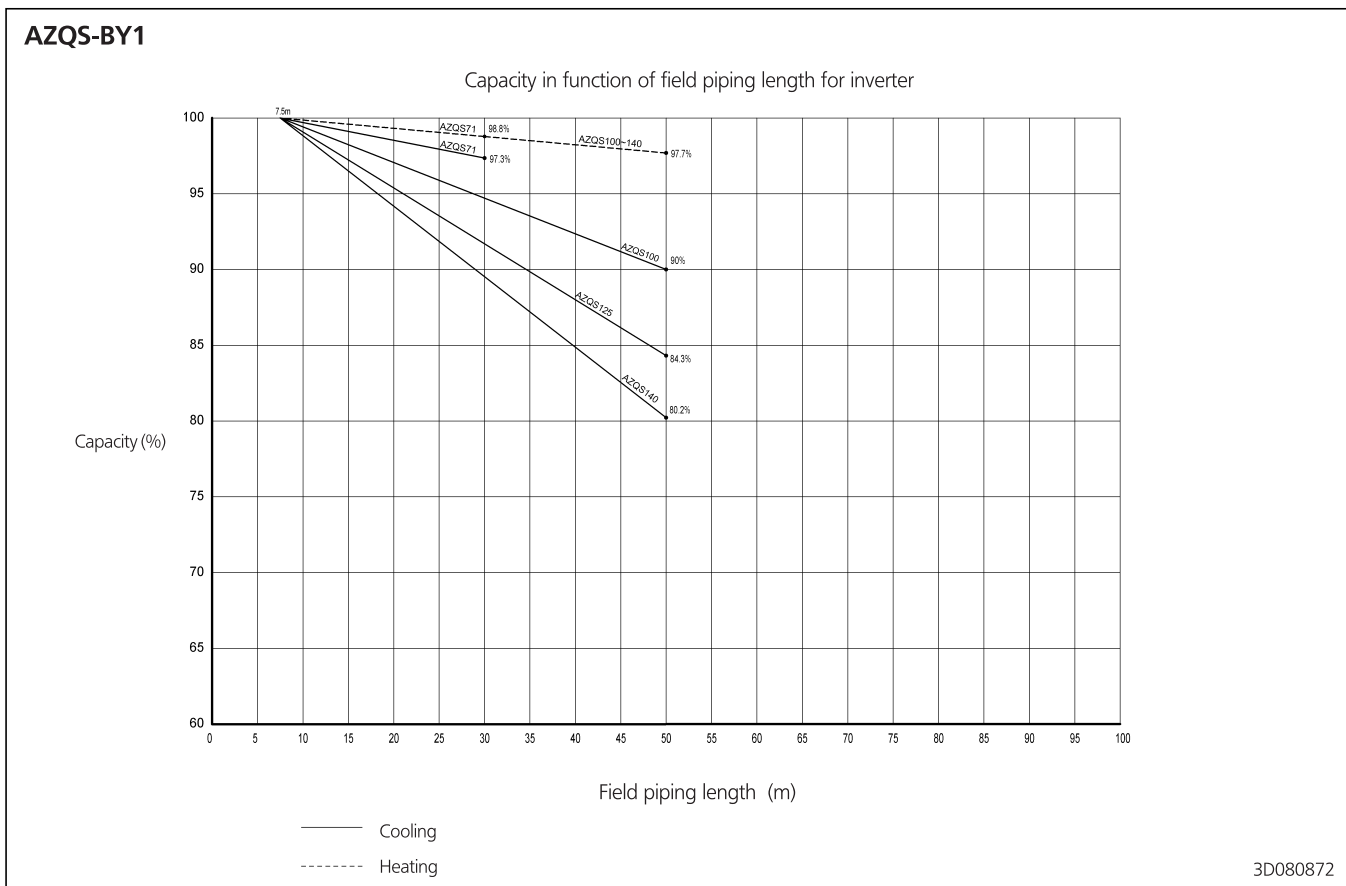
- The rated power input for each model is mentioned in the table below.
 Pair

	ABQ140CV1	AHQ140CV1	FCQG140F
Cooling	4.32	4.32	4.63
Heating	4.55	4.55	4.70

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6 Capacity tables

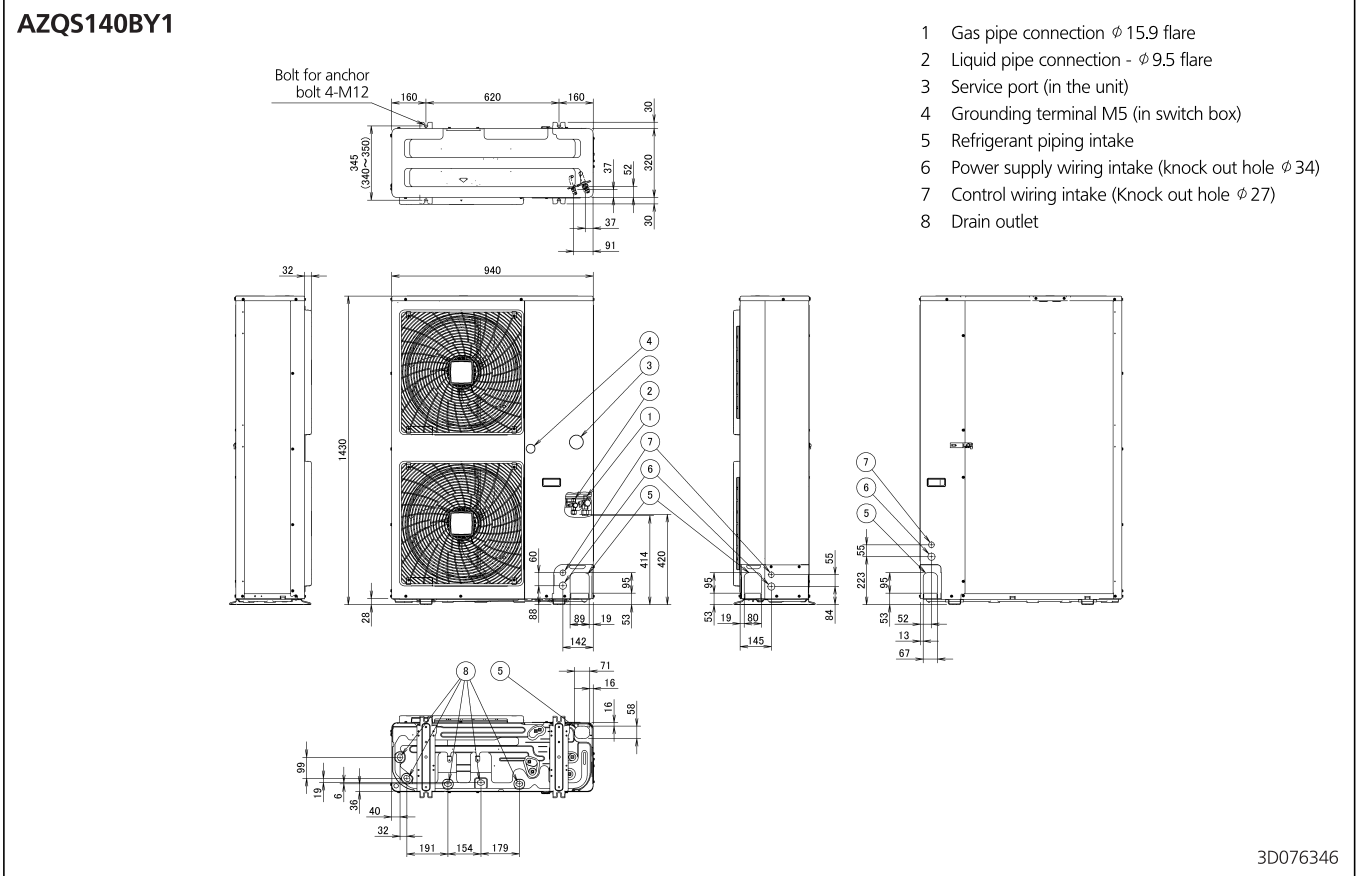
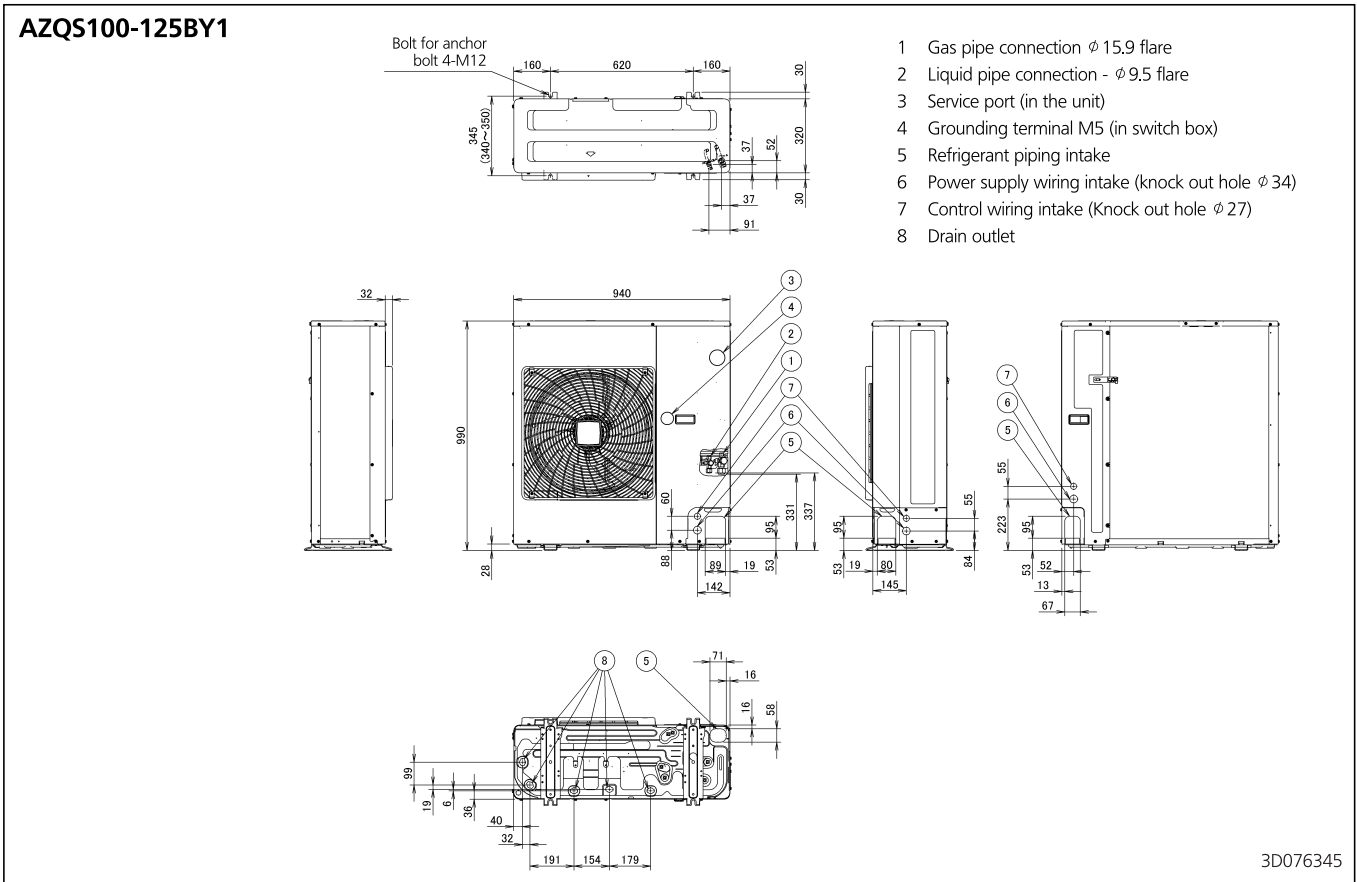
6 - 2 Capacity Correction Factor



7 Dimensional drawings

7 - 1 Dimensional Drawings

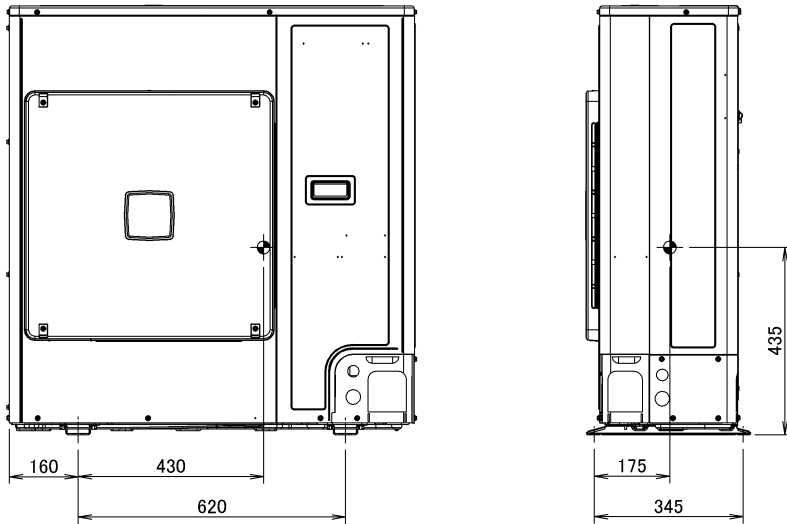
7



8 Centre of gravity

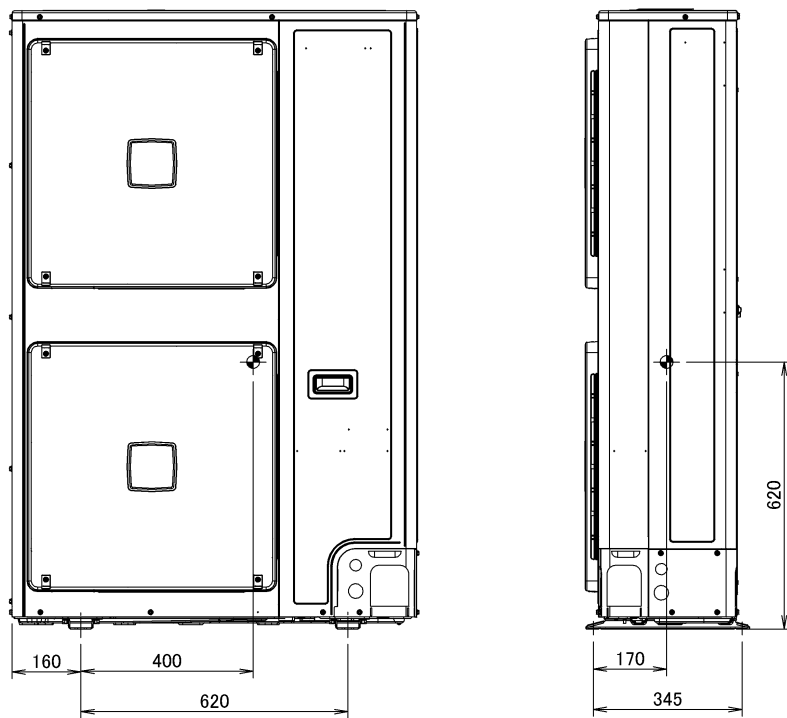
8 - 1 Centre of Gravity

AZQS100-125BY1



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AZQS140BY1

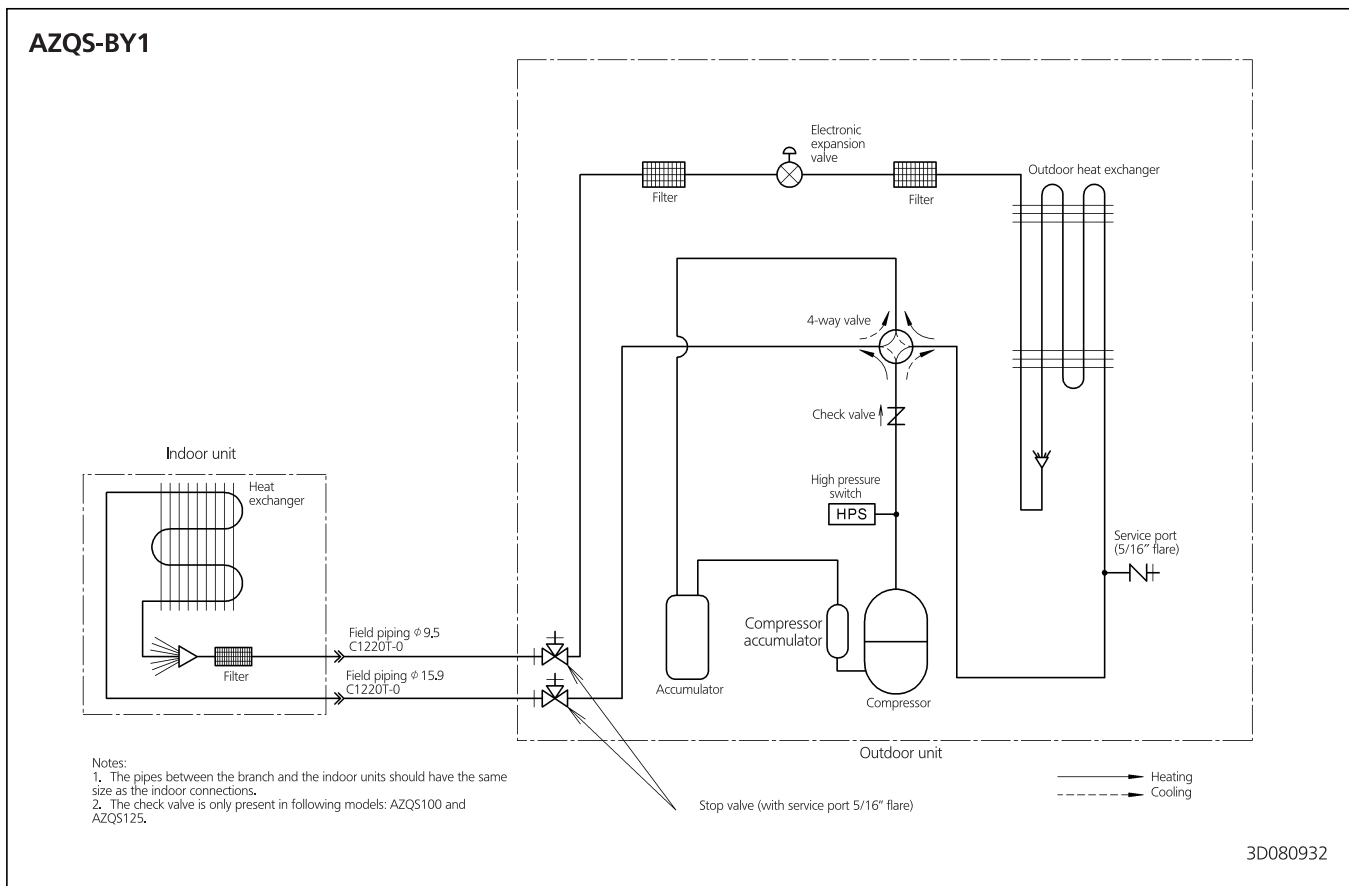


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9 Piping diagrams

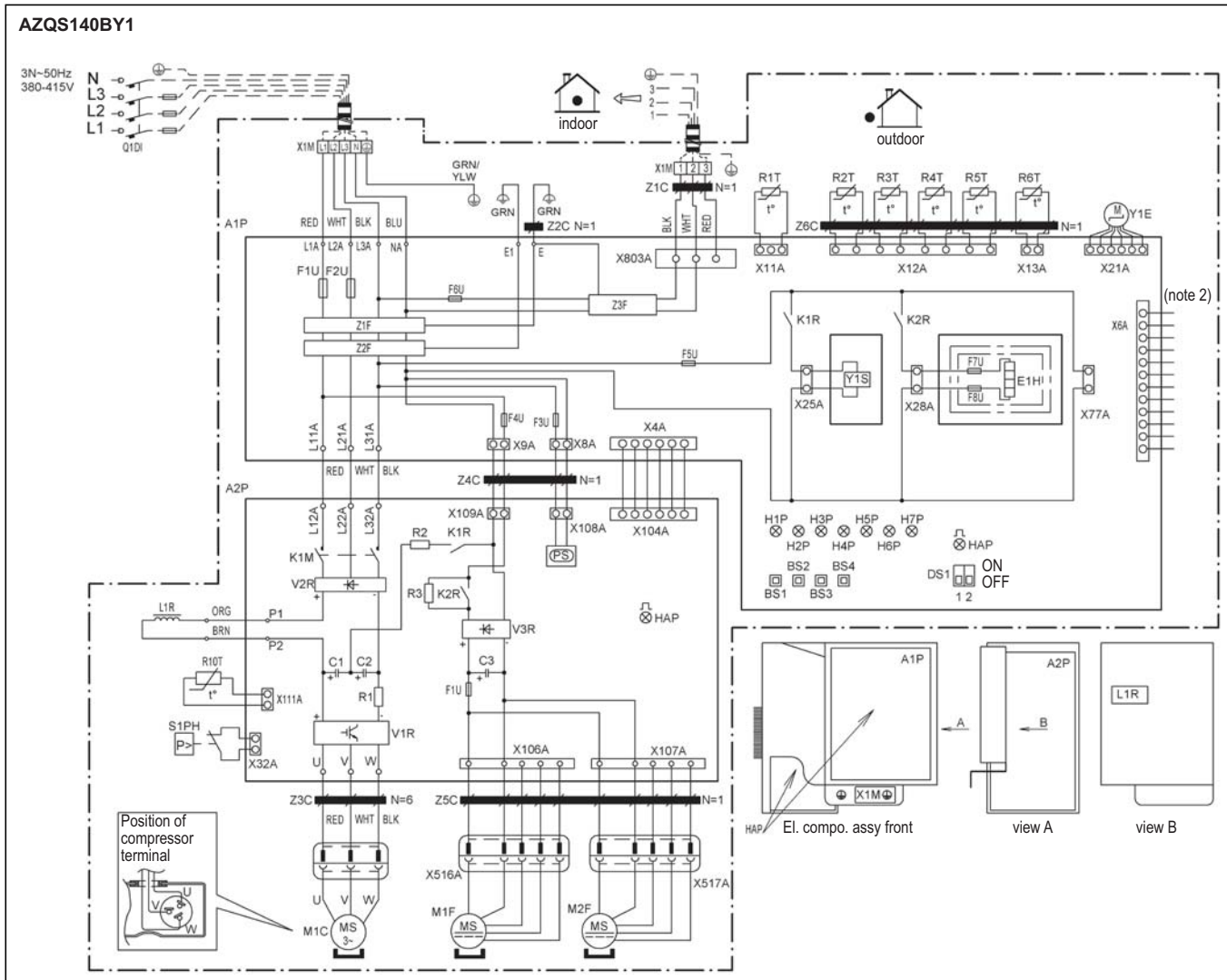
9 - 1 Piping Diagrams

9



10 Wiring diagrams

10 - 1 Wiring Diagrams - Three Phase



A1P	Printed circuit board	K1M	Magnetic contactor	R4T	Thermistor (heat exchanger)
A2P	Printed circuit board (inv.)	K1R (A1P)	Magnetic relay (Y1S)	R5T	Thermistor (heat exchanger middle)
BS1-BS2	Push button switch	K1R (A2P)	Magnetic relay	R6T	Thermistor (liquid)
C1-C3	Capacitor	K2R (A1P)	Magnetic relay (E1H option)	R10T	Thermistor (fin)
DS1	Dip switch	K2R (A2P)	Magnetic relay	S1PH	Pressure switch (high)
E1H	Bottom plate heater (option)	L1R	Reactor	V1R	Igbt power module
F1U	Fuse (31.5A/250V)	M1C	Motor (compressor)	V2R,V3R	Diode module
F2U	Fuse (31.5A/250V)	M1F	Motor (fan) (upper)	X6A	Connector (option)
F3U-F6U	Fuse (T 6.3a/250V)	M2F	Motor (fan) (lower)	X1M	Terminal strip
F7U,F8U	Fuse (F 1.0a/250V)	PS	Switching power supply	Y1E	Electronic expansion valve
F1U (A2P)	Fuse (T 5.0a/250V)	Q1DI	Earth leakage breaker (30mA)	Y1S	Solenoid valve (4 way valve)
H1P-H7P	Light emitting diode (service monitor orange)	R1-R3	Resistor	Z1C-Z6C	Noise filter (ferrit core)
HAP	Light emitting diode (service monitor green)	R1T	Thermistor (air)	Z1F-Z3F	Noise filter
		R2T	Thermistor (discharge)		
		R3T	Thermistor (suction)		

- L : Live
- N : Neutral
- : Field wiring
- ⊕ : Protective earth (screw)
- ⊕ : Noiseless earth
- ~ : Terminal
- : Connection
- : Terminal strip
- ⊞ : Connector
- ⊞ : Relay connector
- ≡ : Option
- Colors: BLK: Black, GRN: Green, YLW: Yellow, BLU: Blue, BRN: Brown, WHT: White, RED: Red, ORG: Orange

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NOTES

- 1 This wiring diagram only applies to the outdoor unit.
- 2 Refer to the combination table and operation manual, for connecting wiring X6A, X28A and X77A.
- 3 Refer to the 'wiring diagram sticker' (on the back of the front plate) on how to use BS1-BS4 and DS1 switch.
- 4 Do not operate the unit by short-circuiting protection device S1PH.
- 5 Confirm the method of settings the selector switches (DS1) by service manual factory setting of all switches "OFF".

10 Wiring diagrams

10 - 1 Wiring Diagrams - Three Phase

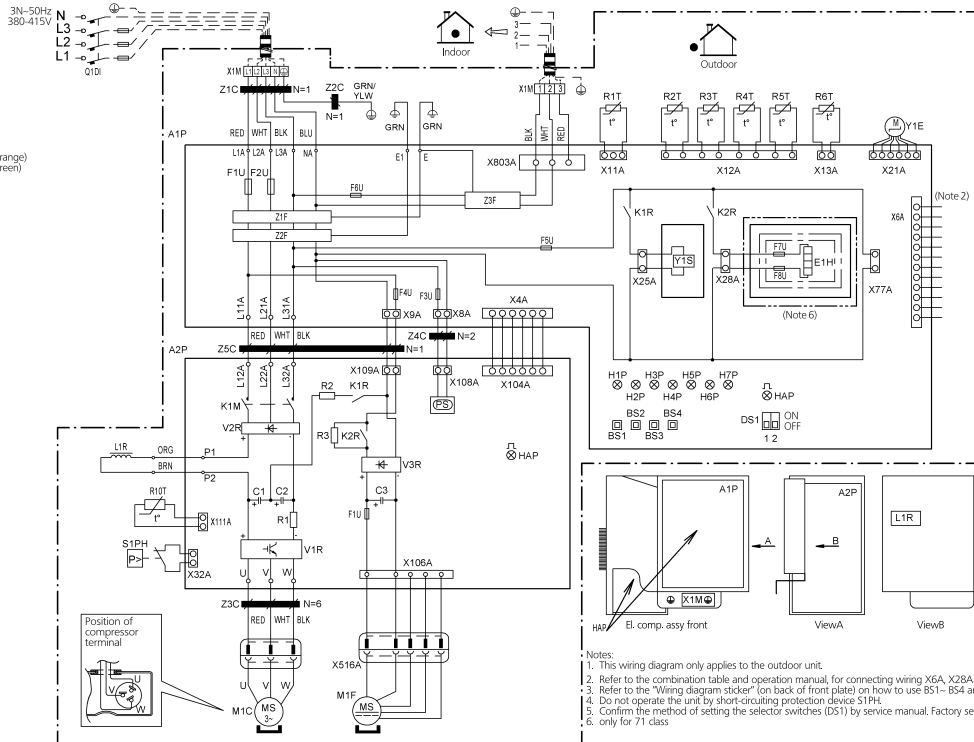
10

AZQS100-125BY1

- A1P : Printed circuit board
- A2P : Printed circuit board (inverter)
- BS1-BS2 : Push button switch
- C1-C3 : Capacitor
- D51 : Dip switch
- E1H : Bottomplate Heater (Option)
- F1U : Fuse (31.5A / 250V)
- F2U : Fuse (31.5A / 250V)
- F3U-F6U : Fuse (6.3A / 250V)
- F7U-F8U : Fuse (1.0A / 250V)
- F9U : Fuse (1.50A / 250V)
- H1P-H7P : Light emitting diode (service monitor orange)
- HAP(A1P/A2P) : Light emitting diode (service monitor green)
- K1M : Magnetic contactor
- K1R (A1P) : Magnetic relay (Y1S)
- K1R (A2P) : Magnetic relay
- K2R (A1P) : Magnetic relay (E1H Option)
- K2R (A2P) : Magnetic relay
- L1R : Reactor
- L1C : Motor (compressor)
- M1F : Motor (fan) (upper)
- M2F : Motor (fan) (lower)
- PS : Switching power supply
- Q1DI : Earth leakage breaker (30mA)
- R1-R3 : Resistor
- R1T : Thermistor (air)
- R2T : Thermistor (discharge)
- R3T : Thermistor (suction)
- R4T : Thermistor (Heat exchanger)
- R5T : Thermistor (heat exchanger middle)
- R6T : Thermistor (liquid)
- R7T : Thermistor (fin)
- S1PH : Pressure switch (High)
- V1R : PCB1 Power module
- V2R, V3R : Diode module
- X6A : Connector (Option)
- X1M : Terminal strip
- Y1E : Electronic expansion valve
- Y1S : Solenoid valve (4 way valve)
- Z1C-Z5C : Noise filter (ferite core)
- Z1F-Z3F : Noise filter

- L: Live
- N: Neutral
- Field wiring
- Protective earth (screw)
- Noiseless earth
- Terminal
- Connection
- Terminal strip
- Connector
- Relay connector
- Option

- BLK: Black
- BLU: Blue
- BRN: Brown
- GRN: Green
- ORG: Orange
- RED: Red
- WHT: White
- YLW: Yellow

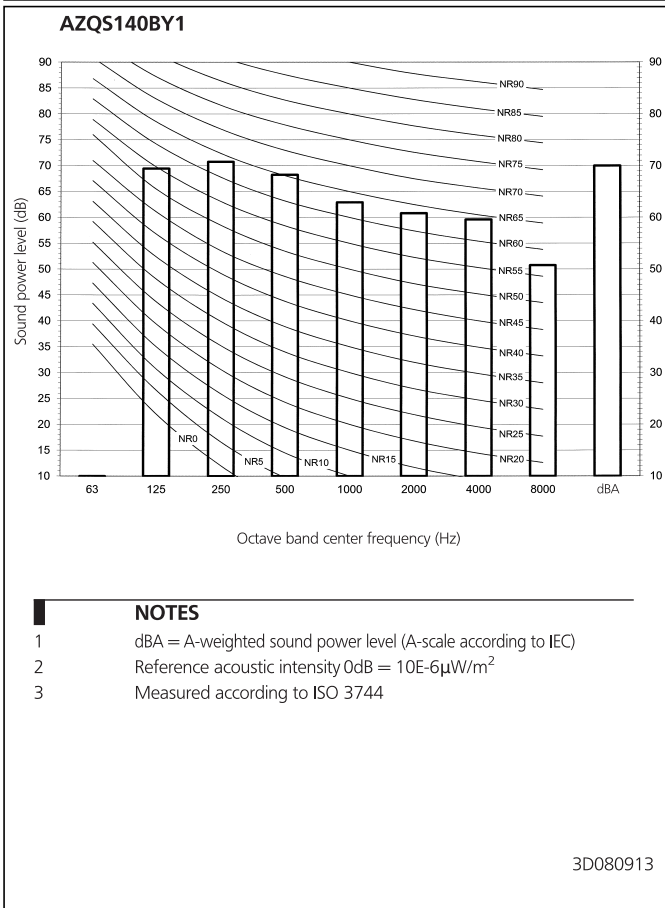
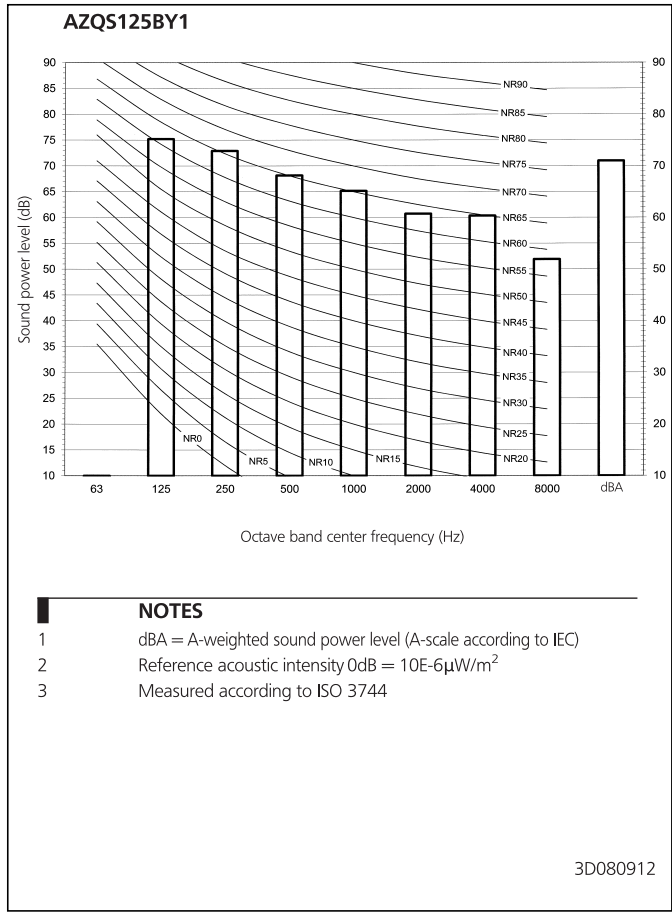
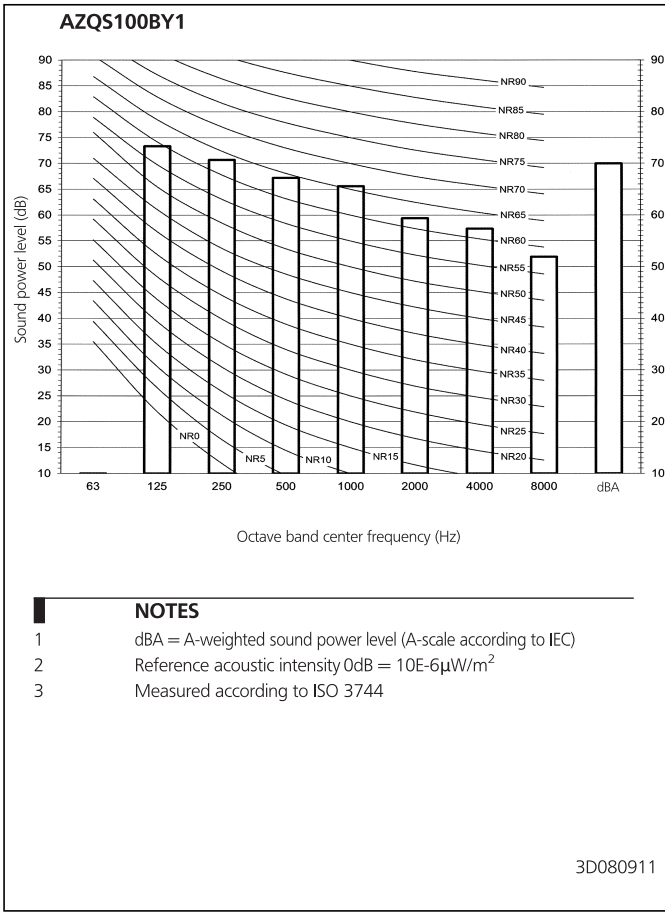


- Notes:
1. This wiring diagram only applies to the outdoor unit.
 2. Refer to the combination table and operation manual, for connecting wiring X6A, X28A and X77A.
 3. Refer to the "Wiring diagram sticker" (on back of front plate) on how to use BS1- BS4 and D51 switch.
 4. Do not operate the unit by short-circuiting protection device S1PH.
 5. Confirm the method of setting the selector switches (D51) by service manual. Factory setting of all switches: "OFF".
 6. only for 71 class.

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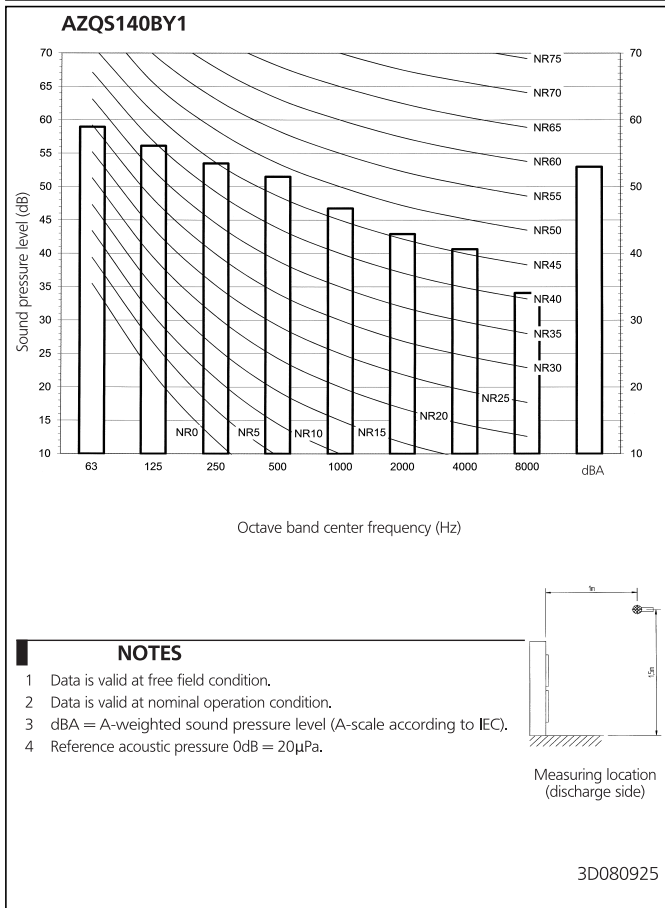
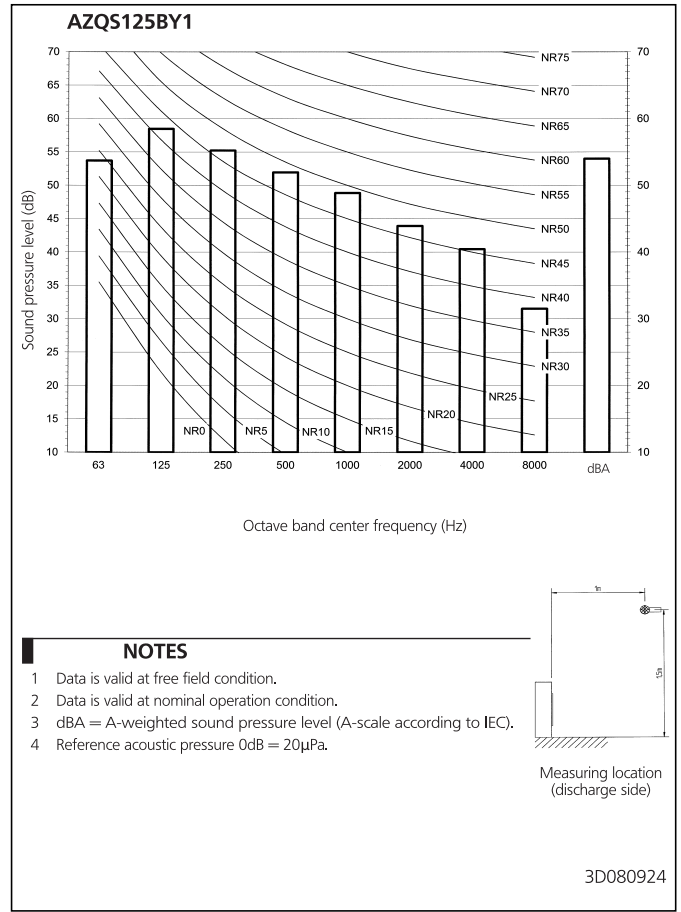
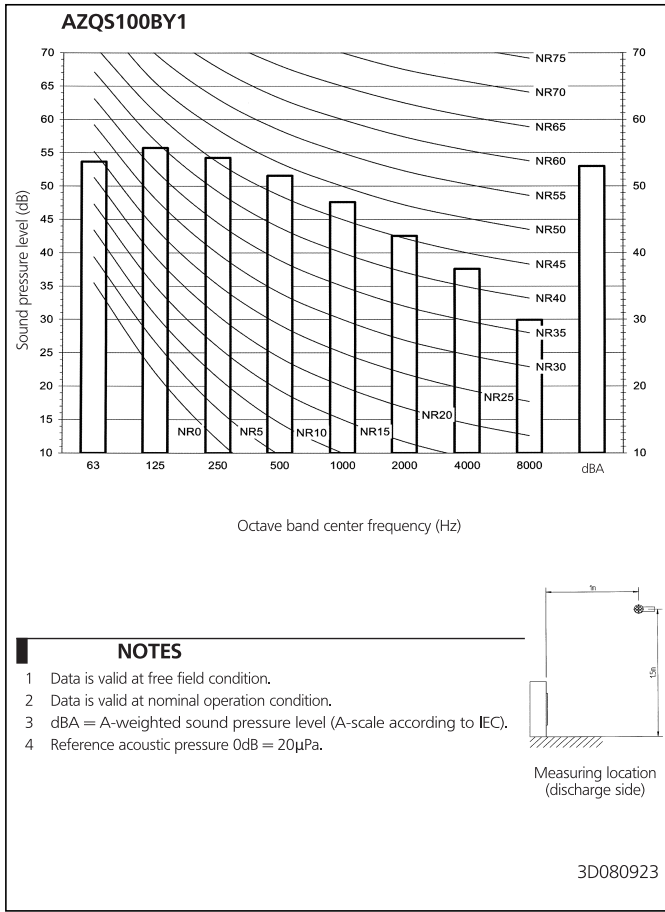
11 Sound data

11 - 1 Sound Power Spectrum



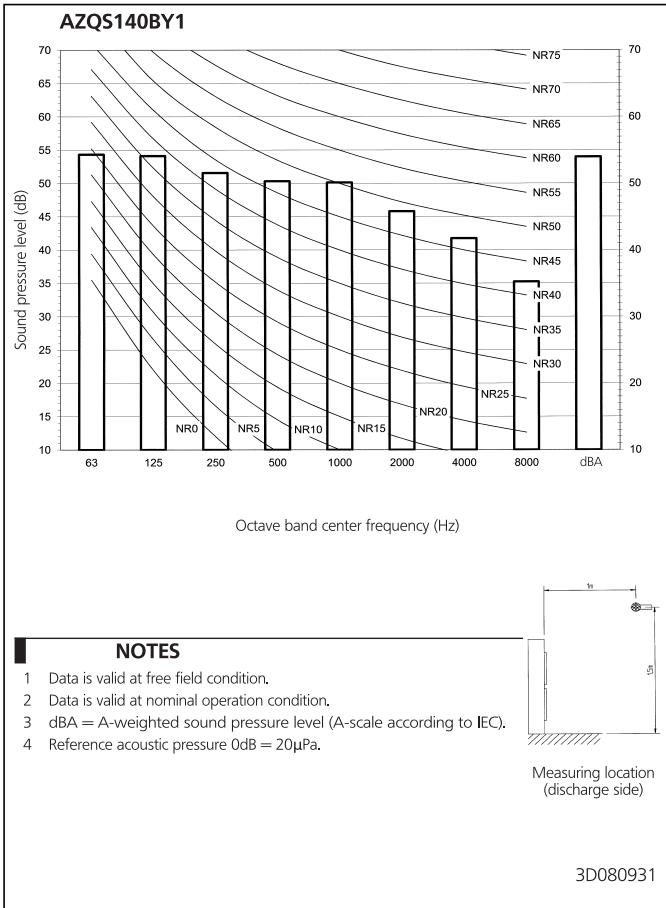
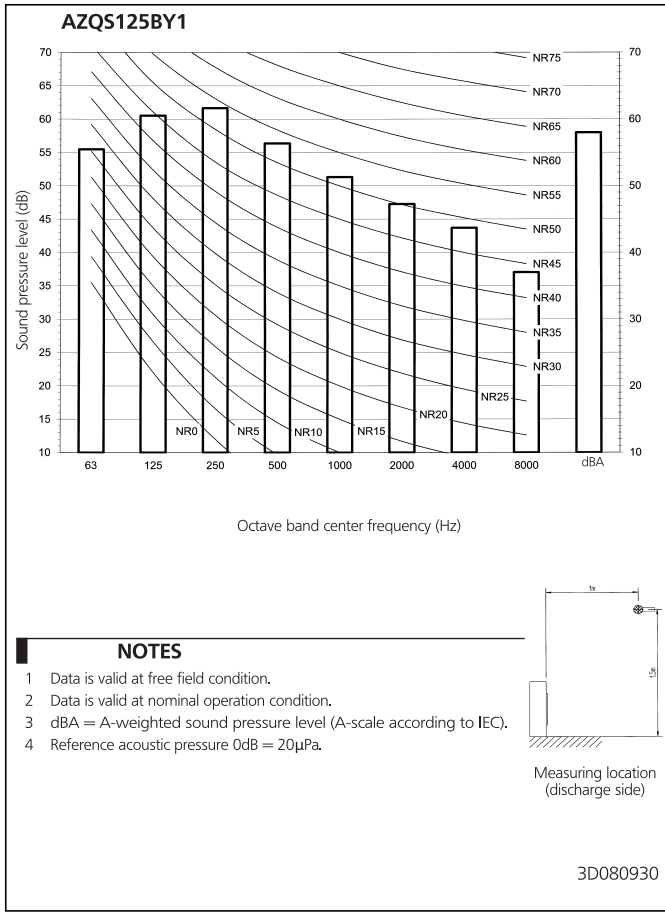
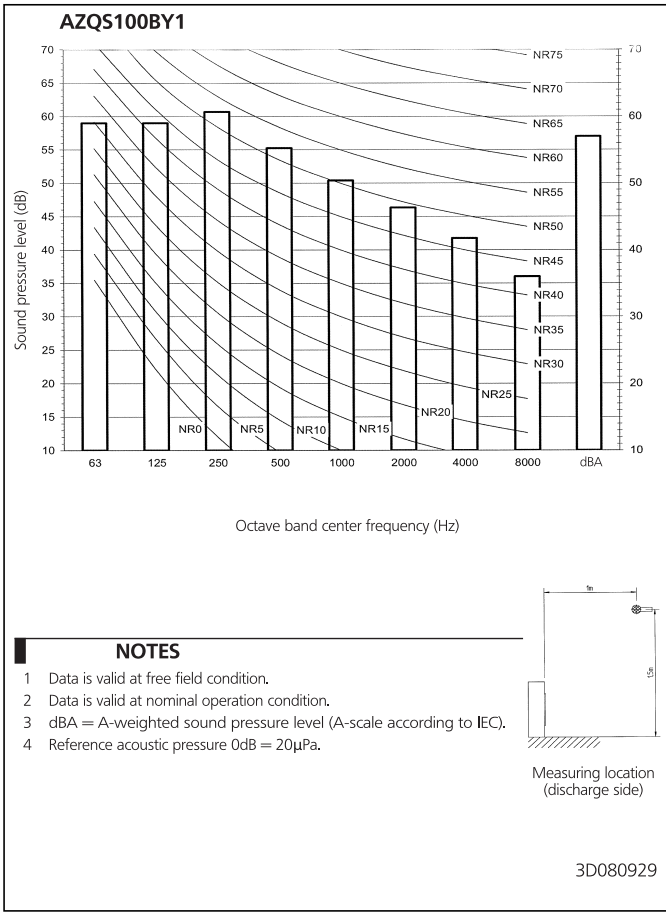
11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling



11 Sound data

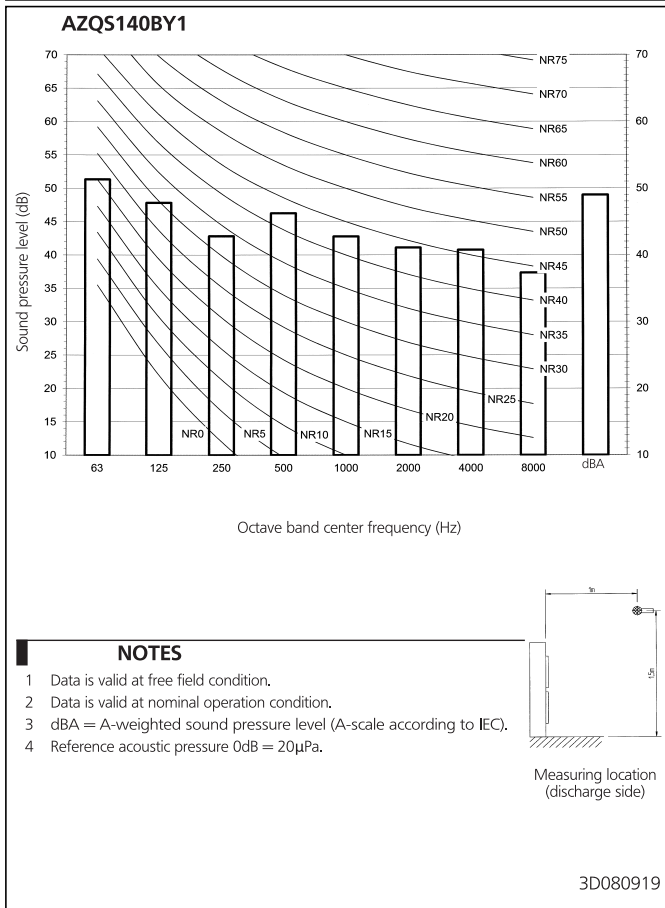
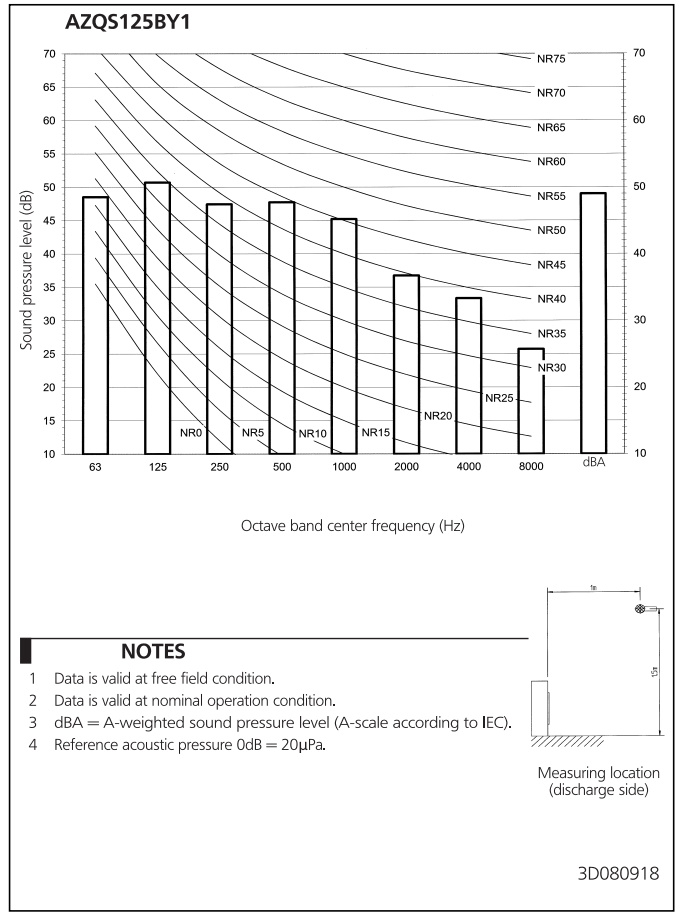
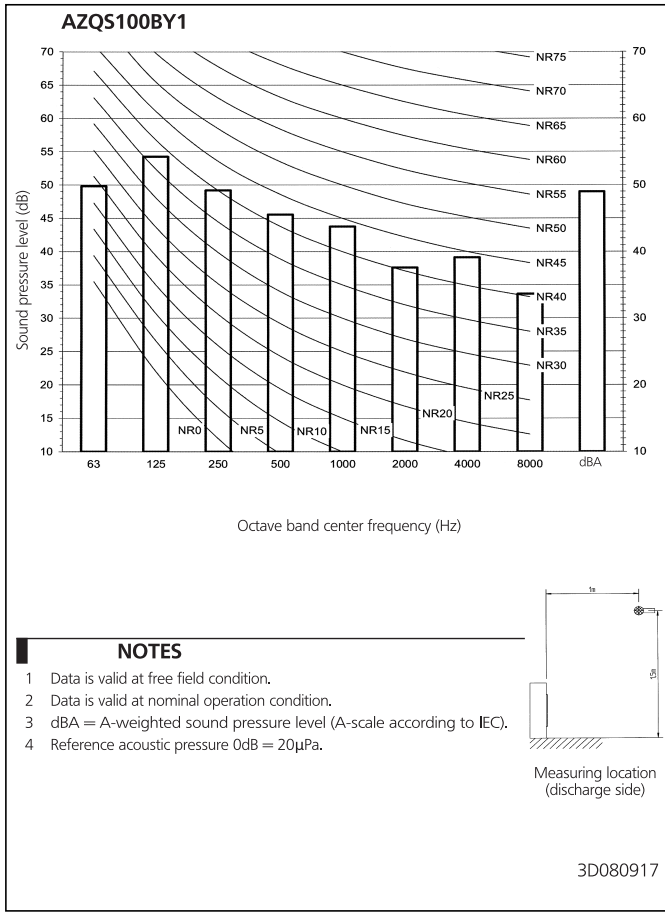
11 - 3 Sound Pressure Spectrum - Heating



11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode

11



12 Installation

12 - 1 Installation Method

AZQS-BV1 AZQS-BY1

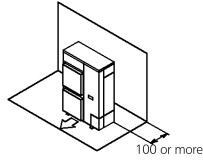
Installation service space

The measure of these values is "mm".

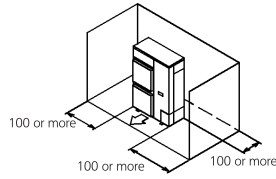
(A) When there are obstacles on suction sides.

• No obstacle above

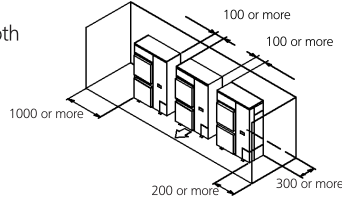
- ① Stand-alone installation
 - Obstacle on the suction side only



- Obstacle on both sides and suction side, too

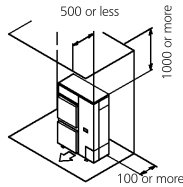


- ② Series installation (2 or more) (Note 1)
 - Obstacle on the suction side and both sides

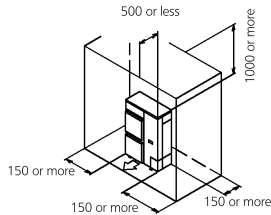


• Obstacle above, too.

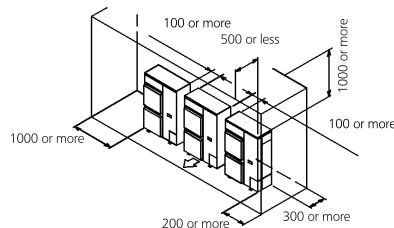
- ① Stand-alone installation
 - Obstacle on the suction side, too



- Obstacle on both sides and suction side, too



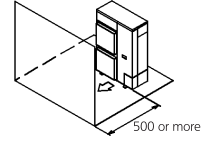
- ② Series installation (2 or more) (Note 1)
 - Obstacle on the suction side and both sides



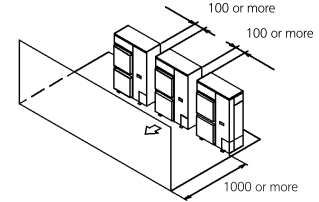
(B) When there are obstacles on discharge sides.

• No obstacle above

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

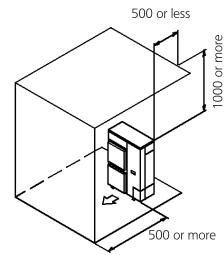


- ② Series installation (2 or more) (Note 1)
 - Obstacle on the discharge side only

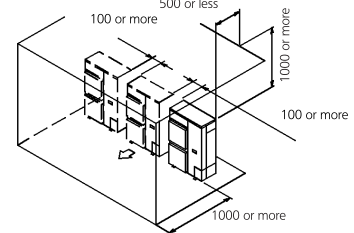


• Obstacle above, too

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



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



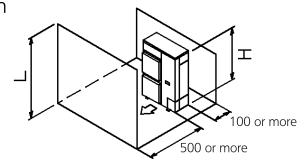
(C) When there are obstacles on both suction and discharge sides.:

Pattern 1

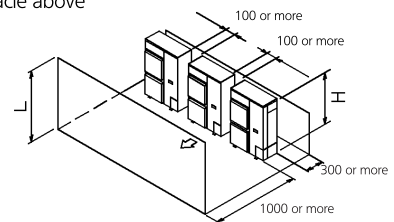
When the obstacles on the discharge side is higher than the unit. (L>H)
(There is no limit for the height of obstructions on the suction side.)

• 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

AZQS-BV1 AZQS-BY1

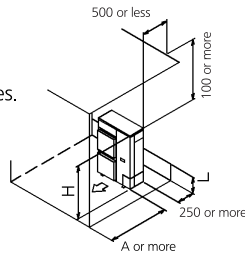
● Obstacle above, too

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.

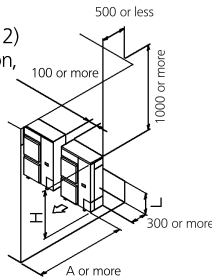
The relations between H, A and L are as follows.

	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

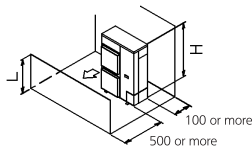
When the obstacle on the discharge side is lower than the unit ($L \leq H$) (There is no limit for the height of obstructions on the suction side.)



● No obstacle above

① Stand-alone installation

- No obstacle above

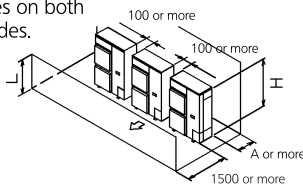


② Series installation (2 or more) (Note 1, 2)

- 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



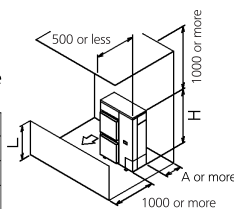
● obstacle above

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	



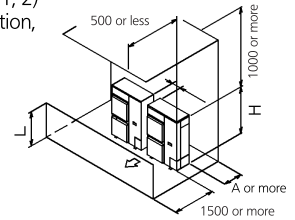
② Series installation (2 or more) (Note 1, 2)

- 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	

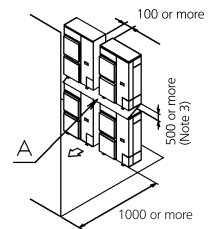
Limit of series installation is 2 units.



(D) Double-decker installation

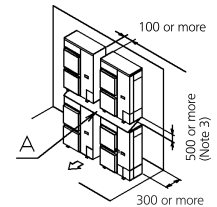
① Obstacle on the discharge side. (1)

- 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.



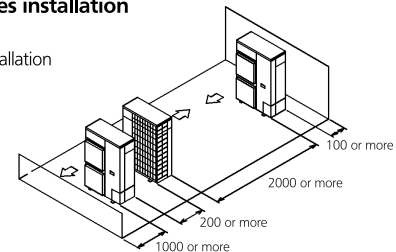
② Obstacle on the suction side. (1)

- 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.)

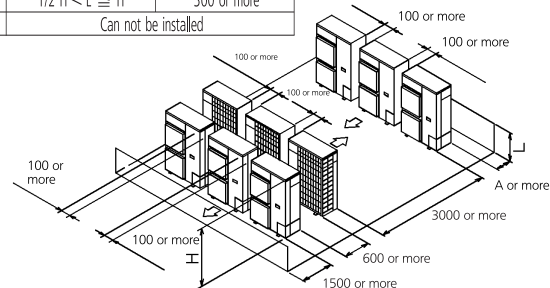
① One row of stand-alone installation



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	



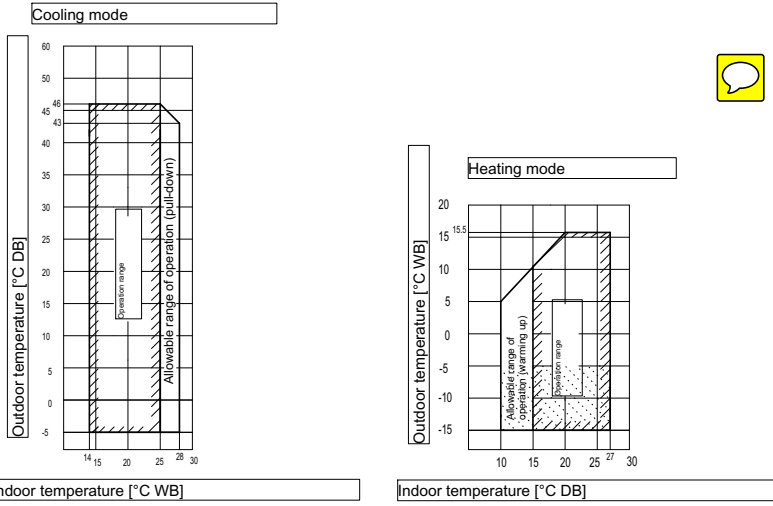
NOTES

- 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

AZQS-BY1
AZQS-B(8)V1



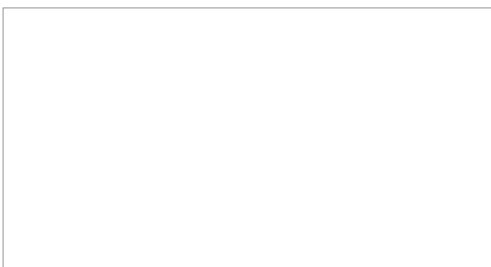
Notes

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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