Air Conditioning

Technical Data

EEDEN14-131

AZQS-BY1

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AZQS-BY1

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1 Features

- Daikin outdoor units are neat, sturdy and can easily be mounted on a roof or terrace or simply placed against an outside wall
- Energy efficient units: full range A class energy labels
- Outdoor units are fitted with either a swing or scroll compressor, renowned for low noise and high energy efficiency
- Outdoor units for pair application
- Seasonal efficiency, optimized for all seasons.
- Seasonal efficiency gives an indication on how efficient an air conditioner operates over an entire heating or cooling season.

Inverter

Energy efficiency

Auto cooling-heating changeover

2 Specifications

2-1 Nominal Capacity And Nominal Input				ABQ125A/AZQS125BY1	ABQ140A/AZQS140BY1
Cooling capacity	Nom.		kW	12.1	13.0
Heating capacity	Nom.		kW	13.5	15.5
Seasonal efficiency (according to EN14825)	Cooling	Energy label		-	
		Pdesign	kW	-	
		SEER		-	
		Annual energy consumption	kWh	-	
	Heating (Average climate)	Energy label		-	
		Pdesign	kW	-	
		SCOP		-	
		Annual energy consumption	kWh	-	
Nominal efficiency (cooling at 35°/27° nominal load, heating at 7°/20° nominal load)	EER			2.91	3.01
	COP			3.41	
	Annual energy consumption		kWh	2,079	2,159
	Energy label	Cooling		C	B
		Heating		B	

Notes

(1) EER/COP according to Eurovent 2012

2-2 Nominal Capacity And Nominal 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
Seasonal efficiency (according to EN14825)	Cooling	Energy label		B	-	
		Pdesign	kW	9.50	-	
		SEER		4.60	-	
		Annual energy consumption	kWh	723	-	
	Heating (Average climate)	Energy label		A	-	
		Pdesign	kW	7.60	-	
		SCOP		3.80	-	
		Annual energy consumption	kWh	2,800	-	
Nominal efficiency (cooling at 35°/27° nominal load, heating at 7°/20° nominal load)	EER			2.62	2.63	3.01
	COP			3.41	3.61	3.41
	Annual energy consumption		kWh	1,810	2,300	2,159
	Energy label	Cooling		D		B
		Heating		B	A	B

Notes

(1) EER/COP according to Eurovent 2012

2-3 Nominal Capacity And Nominal Input				ACQ100C/AZQS100BY1	ACQ125C/AZQS125BY1
Cooling capacity	Nom.		kW	9.5	12.1
Heating capacity	Nom.		kW	10.8	13.5
Seasonal efficiency (according to EN14825)	Cooling	Energy label		B	-
		Pdesign	kW	9.50	-
		SEER		4.65	-
		Annual energy consumption	kWh	716	-
	Heating (Average climate)	Energy label		A	-
		Pdesign	kW	7.60	-
		SCOP		3.80	-
		Annual energy consumption	kWh	2,800	-

2 Specifications

2-3 Nominal Capacity And Nominal Input				ACQ100C/AZQS100BY1	ACQ125C/AZQS125BY1
Nominal efficiency (cooling at 35°/27° nominal load, heating at 7°/20° nominal load)	EER			3.21	3.01
	COP			3.61	3.41
	Annual energy consumption		kWh	1,480	2,010
	Energy label	Cooling		A	B
		Heating		A	B

Notes

(1) EER/COP according to Eurovent 2012

2-4 Technical Specifications					AZQS100BY1	AZQS125BY1	AZQS140BY1
Capacity control	Method				Inverter controlled		
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
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.	m³/min	76	77	83
			Super low	m³/min	-		
				cfm	-		
		Heating	Nom.	m³/min	83		62
			Super low	m³/min	-		
				cfm	-		
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	Nom.		dBA	70	71	70
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
	Control				Expansion valve (electronic type)		
	GWP				1,975		
	Circuits	Quantity			1		
Refrigerant oil	Type				FVC50K		
	Charged volume			l	0.9		1.35

2 Specifications

2-4 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		
			Max.	m	50		
		System	Equivalent	m	70		
			Chargeless	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		
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		

2-5 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	Zmax	List		Complies to EN61000-3-11		
	Recommended fuses		A	20		
Current - 50Hz	Maximum fuse amps (MFA)		A	-		
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) See separate drawings for electrical data

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

3 Electrical data

3 - 1 Electrical Data

AZQS-BV1
AZQS-BY1

							COMPRESSOR		OFM		IFM	
Indoor unit	Outdoor unit	Hz~Power supply	Voltage range	MCA	TOCA	MFA	MSC	RLA	kW	FLA	kW	FLA
ACQ71C	AZQS71BV1	50Hz ~220~240V	Max. 264V Min. 198V	18.8	-	20	-	16.2	0.07	0.3	0.067	0.52
ABQ71B				19.1	-	20	-	16.2	0.07	0.3	0.170	0.74
AHQ71C				19.2	-	20	-	16.2	0.07	0.3	0.106	0.8
ACQ100C	AZQS100BV1			28.5	-	32	-	24.4	0.2	0.6	0.094	0.77
AHQ100C				28.9	-	32	-	24.4	0.2	0.6	0.149	1.12
ACQ125C	AZQS125BV1			28.9	-	32	-	24.4	0.2	0.6	0.137	1.12
ABQ125A				28.8	-	32	-	24.4	0.2	0.6	0.480	1.07
AHQ125C				29.3	-	32	-	24.4	0.2	0.6	0.171	1.43
ABQ140A	AZQS140BV1			28.8	-	32	-	24.2	0.094+0.094	0.4+0.4	0.600	1.01
AHQ140C				30.7	-	32	-	24.2	0.094+0.094	0.4+0.4	0.320	2.52
ACQ100C	AZQS100BY1	3N~50Hz 380~415V	Max. 456V Min. 342V	14.2	-	20	-	11.4	0.2	0.6	0.094	0.77
AHQ100C				14.6	-	20	-	11.4	0.2	0.6	0.149	1.12
ACQ125C	AZQS125BY1			14.6	-	20	-	11.4	0.2	0.6	0.137	1.12
ABQ125A				14.5	-	20	-	11.4	0.2	0.6	0.480	1.07
AHQ125C				15.0	-	20	-	11.4	0.2	0.6	0.171	1.43
ABQ140A	AZQS140BY1			17.8	-	20	-	14.2	0.094+0.094	0.4+0.4	0.600	1.01
AHQ140C				19.7	-	20	-	14.2	0.094+0.094	0.4+0.4	0.320	2.52

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SYMBOLS

MCA : Min. Circuit Amps. (A)
TOCA : Total Over-Current Amps. (A)
MFA : Max. Fuse Amps (See note 7) (A)
MSC : Max. current during the starting compressor. (A)
RLA : Rated Load Amps. (A)
OFM : Outdoor Fan Motor. (A)
IFM : Indoor Fan Motor.
FLA : Full Load Amps.
kW : Fan Motor Rated Output (kW)

NOTES

1 RLA is based on the following conditions:
Cooling
Indoor temperature 27.0°CDB/19.0°CWB
Outdoor temperature 35.0°CDB
Heating
Indoor temp.: 20°CDB
Outdoor temp.: 7°CDB/6°CWB

2 TOCA means the total value of each OC set.

3 Voltage range
Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.

4 Maximum allowable voltage variation between phases is 2%.

5 MCA represents maximum input current.
MFA represents capacity which may accept MCA.
(next lower standard fuse rating, min.15A)

6 Select wire size based on the larger value of MCA or TOCA.

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

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

5

AZQS-BV1
AZQS-BY1

Sky-Air		Cassette			Duct			Ceiling suspended			
Model name		ACQ71C	ACQ100C	ACQ125C	ABQ71B	ABQ125A	ABQ140A	AHQ71C	AHQ100C	AHQ125C	AHQ140C
AZQS71BV1		P			P			P			
AZQS100BV1	AZQS100BY1		P						P		
AZQS125BV1	AZQS125BY1			P		P				P	
AZQS140BV1	AZQS140BY1						P				P

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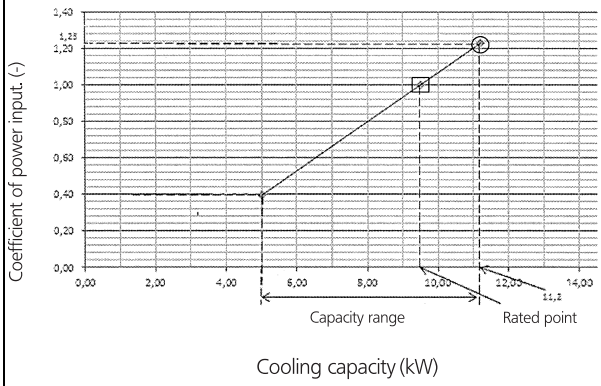
6 Capacity tables

6 - 1 Cooling Capacity Tables

AZQS100BV1
AZQS100BY1

Cooling



Cooling

Indoor		Outdoor temp. (°CDB)											
°CWB	°CDB	25			30			35			40		
(°C)	(°C)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	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

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NOTES

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. On the figure the mark ◯ show the max. at standard conditions.
   On the figure the mark ▭ show rated capacity and rated coefficient of power input.
   However the max. capacity is not guaranteed, except at standard condition.
3. SHC is based on indoor EWB and EDB.
   SHC for other dry bulb temp. = SHC + SHC*.
   SHC* = SHC correction for other dry bulb.
   SHC* = 0.02 x AFR (m^3/min.) x (1–BF) x (DB*–EDB)
4. Capacities are based on following conditions:
   Outdoor air: 85% RH. However, the condition rated capacity is 7°C DB/6°C WB. (heating)
   Corresponding refrigerant piping length : 5.0 m
   Level difference : 0 m
5. Coefficient of power input is the percentage when the rated value is defined as 1.00.
6. The value contains less than 5% error acording to indoor unit type.
7. Heating performance include the drop of frost formation.
8. Air flow rate and (BF) are tabulated below.

(Pair)

	ACQ100C	AHQ100C
AFR (BF)	27.2 (0.253)	31.1 (0.174)

9. Rated power input of each model is tabulated below.
   (Pair)

	ACQ100C	AHQ100C
Cooling	2.96	3.62

SYMBOLS

AFR:	Air flow rate	(m^3/min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Maximum Total cooling (heating) capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input (comp.+indoor and outdoor fan motor)	(kW)
CPI:	Coefficient of power input.	(-)

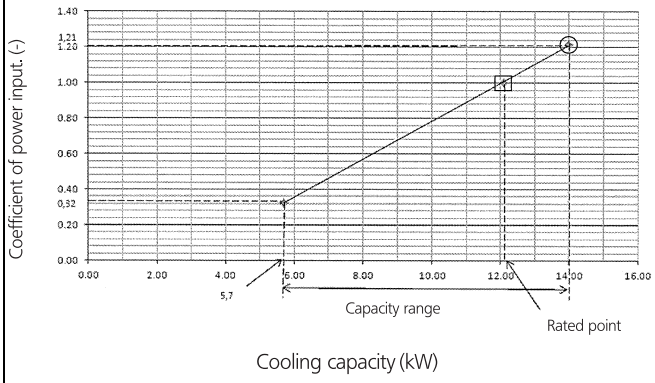
Caution:
TC and SHC are shown by kW.

6 Capacity tables

6 - 1 Cooling Capacity Tables

AZQS125BV1
AZQS125BY1

Cooling



Cooling

Indoor		Outdoor temp. (°CDB)											
°CWB	°CDB	25			30			35			40		
(°C)	(°C)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	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

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NOTES

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. On the figure the mark ◯ show the max. at standard conditions.
   On the figure the mark ▭ show rated capacity and rated coefficient of power input.
   However the max. capacity is not guaranteed, except at standard condition.
3. SHC is based on indoor EWB and EDB.
   SHC for other dry bulb temp. = SHC + SHC*.
   SHC* = SHC correction for other dry bulb.
   SHC* = 0.02 x AFR (m^3/min.) x (1–BF) x (DB*–EDB)
4. Capacities are based on following conditions:
   Outdoor air: 85% RH. However, the condition rated capacity is 7°C DB/6°C WB. (heating)
   Corresponding refrigerant piping length : 5.0 m
   Level difference : 0 m
5. Coefficient of power input is the percentage when the rated value is defined as 1.00.
6. The value contains less than 5% error acording to indoor unit type.
7. Heating performance include the drop of frost formation.
8. Air flow rate and (BF) are tabulated below.

   (Pair)

	ACQ125C	ABQ125A	AHQ125C
AFR (BF)	34.0 (0.10)	40.5 (0.157)	34.4 (0.123)

9. Rated power input of each model is tabulated below.
   (Pair)

	ACQ125C	ABQ125A	AHQ125C
Cooling	4.02	4.16	4.60

SYMBOLS

AFR:	Air flow rate	(m^3/min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Maximum Total cooling (heating) capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input (comp.+indoor and outdoor fan motor)	(kW)
CPI:	Coefficient of power input.	(-)

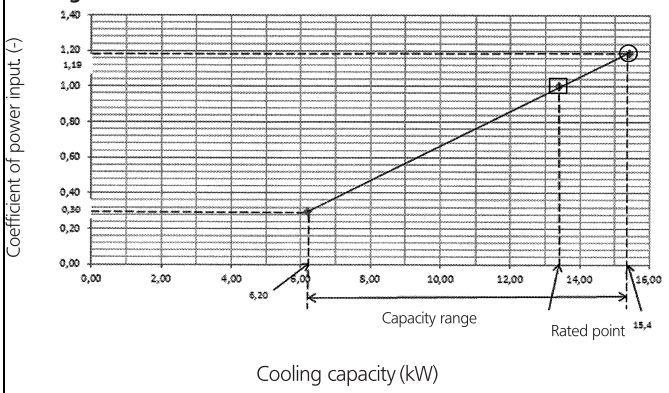
Caution:
TC and SHC are shown by kW.

6 Capacity tables

6 - 1 Cooling Capacity Tables

AZQS140BV1
AZQS140BY1

Cooling



Cooling

Indoor		Outdoor temp. (°CDB)											
°CWB	°CDB	25			30			35			40		
(°C)	(°C)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	CPI (-)	TC (kW)	SHC (kW)	CPI (-)
16,0	22	15,5	10,47	0,98	14,9	10,25	1,08	14,4	10,03	1,18	13,9	9,69	1,28
18,0	25	16,2	10,55	0,98	15,6	10,21	1,09	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	9,66	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	9,60	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

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NOTES

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. On the figure the mark ◯ show the max. at standard conditions.
   On the figure the mark ▭ show rated capacity and rated coefficient of power input.
   However the max. capacity is not guaranteed, except at standard condition.
3. SHC is based on indoor EWB and EDB.
   SHC for other dry bulb temp. = SHC + SHC*.
   SHC* = SHC correction for other dry bulb.
   SHC* = 0.02 x AFR (m^3/min.) x (1–BF) x (DB*–EDB)
4. Capacities are based on following conditions:
   Outdoor air: 85% RH. However, the condition rated capacity is 7°C DB/6°C WB. (heating)
   Corresponding refrigerant piping length : 5.0 m
   Level difference : 0 m
5. Coefficient of power input is the percentage when the rated value is defined as 1.00.
6. The value contains less than 5% error acording to indoor unit type.
7. Heating performance include the drop of frost formation.
8. Air flow rate and (BF) are tabulated below.

(Pair)

	ABQ140A	AHQ140C
AFR (BF)	48.7 (0.15)	43.9 (0.157)

9. Rated power input of each model is tabulated below.
   (Pair)

	ABQ140A	AHQ140C
Cooling	4.32	4.32

SYMBOLS

AFR:	Air flow rate	(m^3/min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Maximum Total cooling (heating) capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input (comp.+indoor and outdoor fan motor)	(kW)
CPI:	Coefficient of power input.	(-)

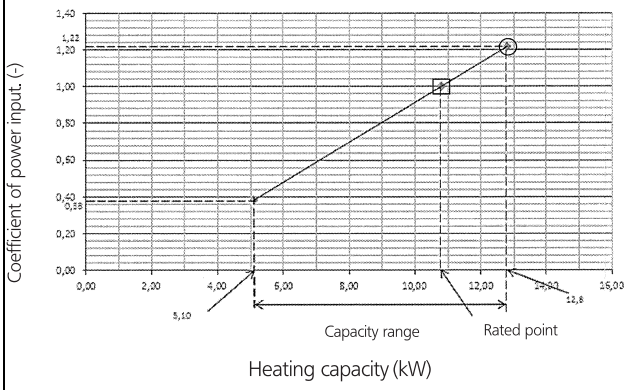
Caution:
TC and SHC are shown by kW.

6 Capacity tables

6 - 2 Heating Capacity Tables

AZQS100BV1
AZQS100BY1

Heating



Heating

Indoor												
°CDB	-15.0		-10.0		-5.0		0.0		6.0		10.0	
(°C)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	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
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
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
21	8.56	1.03	9.42	1.09	10.0	1.13	10.3	1.16	12.8	1.24	13.8	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
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

3D081255C

NOTES

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. On the figure the mark ◯ show the max. at standard conditions.
   On the figure the mark ▭ show rated capacity and rated coefficient of power input.
   However the max. capacity is not guaranteed, except at standard condition.
3. SHC is based on indoor EWB and EDB.
   SHC for other dry bulb temp. = SHC + SHC*.
   SHC* = SHC correction for other dry bulb.
   SHC* = 0.02 x AFR (m^3/min.) x (1–BF) x (DB*–EDB)
4. Capacities are based on following conditions:
   Outdoor air: 85% RH. However, the condition rated capacity is 7°C DB/6°C WB. (heating)
   Corresponding refrigerant piping length : 5.0 m
   Level difference : 0 m
5. Coefficient of power input is the percentage when the rated value is defined as 1.00.
6. The value contains less than 5% error acording to indoor unit type.
7. Heating capacity include the drop of frost formation.
8. Air flow rate and (BF) are tabulated below.

(Pair)

	ACQ100C	AHQ100C
AFR (BF)	27.2 (0.253)	31.1 (0.174)

9. Rated power input of each model is tabulated below.
   (Pair)

	ACQ100C	AHQ100C
Heating	2.99	3.17

SYMBOLS

AFR:	Air flow rate	(m^3/min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Maximum Total cooling (heating) capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input (comp.+indoor and outdoor fan motor)	(kW)
CPI:	Coefficient of power input.	(-)

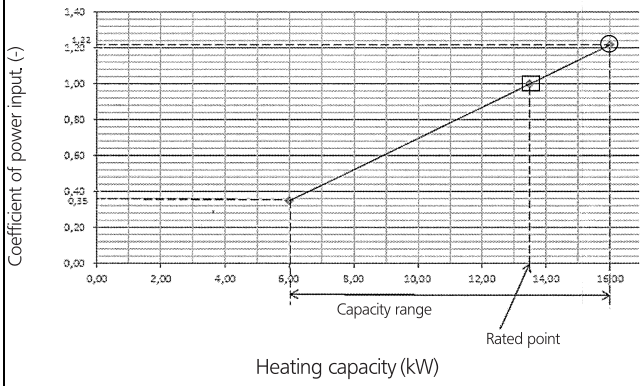
Caution:
TC and SHC are shown by kW.

6 Capacity tables

6 - 2 Heating Capacity Tables

AZQS125BV1
AZQS125BY1

Heating



Heating

Indoor												
°CDB	-15.0		-10.0		-5.0		0.0		6.0		10.0	
(°C)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	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

3D081256C

NOTES

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. On the figure the mark ◯ show the max. at standard conditions.
   On the figure the mark ▭ show rated capacity and rated coefficient of power input.
   However the max. capacity is not guaranteed, except at standard condition.
3. SHC is based on indoor EWB and EDB.
   SHC for other dry bulb temp. = SHC + SHC*.
   SHC* = SHC correction for other dry bulb.
   SHC* = 0.02 x AFR (m^3/min.) x (1–BF) x (DB*–EDB)
4. Capacities are based on following conditions:
   Outdoor air: 85% RH. However, the condition rated capacity is 7°C DB/6°C WB. (heating)
   Corresponding refrigerant piping length : 5.0 m
   Level difference : 0 m
5. Coefficient of power input is the percentage when the rated value is defined as 1.00.
6. The value contains less than 5% error acording to indoor unit type.
7. Heating capacity include the drop of frost formation.
8. Air flow rate and (BF) are tabulated below.

(Pair)

	ACQ125C	ABQ125A	AHQ125C
AFR (BF)	34.0 (0.10)	40.5 (0.157)	34.4 (0.123)

9. Rated power input of each model is tabulated below.
   (Pair)

	ACQ125C	ABQ125A	AHQ125C
Heating	3.96	3.96	3.74

SYMBOLS

AFR:	Air flow rate	(m^3/min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Maximum Total cooling (heating) capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input (comp.+indoor and outdoor fan motor)	(kW)
CPI:	Coefficient of power input.	(-)

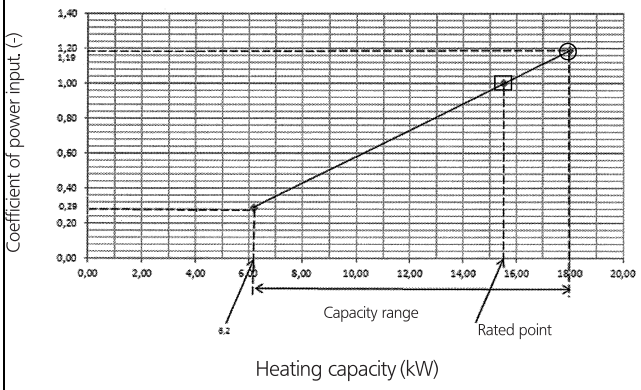
Caution:
TC and SHC are shown by kW.

6 Capacity tables

6 - 2 Heating Capacity Tables

AZQS140BV1
AZQS140BV1

Heating



Heating

Indoor												
°CDB	-15.0		-10.0		-5.0		0.0		6.0		10.0	
(°C)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	CPI (-)	TC (kW)	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

3D081257A

NOTES

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. On the figure the mark ○ show the max. at standard conditions.
   On the figure the mark ▭ show rated capacity and rated coefficient of power input.
   However the max. capacity is not guaranteed, except at standard condition.
3. SHC is based on indoor EWB and EDB.
   SHC for other dry bulb temp. = SHC + SHC*.
   SHC* = SHC correction for other dry bulb.
   SHC* = 0.02 x AFR (m^3/min.) x (1–BF) x (DB*–EDB)
4. Capacities are based on following conditions:
   Outdoor air: 85% RH. However, the condition rated capacity is 7°C DB/6°C WB. (heating)
   Corresponding refrigerant piping length : 5.0 m
   Level difference : 0 m
5. Coefficient of power input is the percentage when the rated value is defined as 1.00.
6. The value contains less than 5% error acording to indoor unit type.
7. Heating capacity include the drop of frost formation.
8. Air flow rate and (BF) are tabulated below.
   (Pair)

	ABQ140A	AHQ140C
AFR (BF)	48.7 (0.15)	43.9 (0.157)

9. Rated power input of each model is tabulated below.
   (Pair)

	ABQ140A	AHQ140C
Heating	4.55	4.55

SYMBOLS

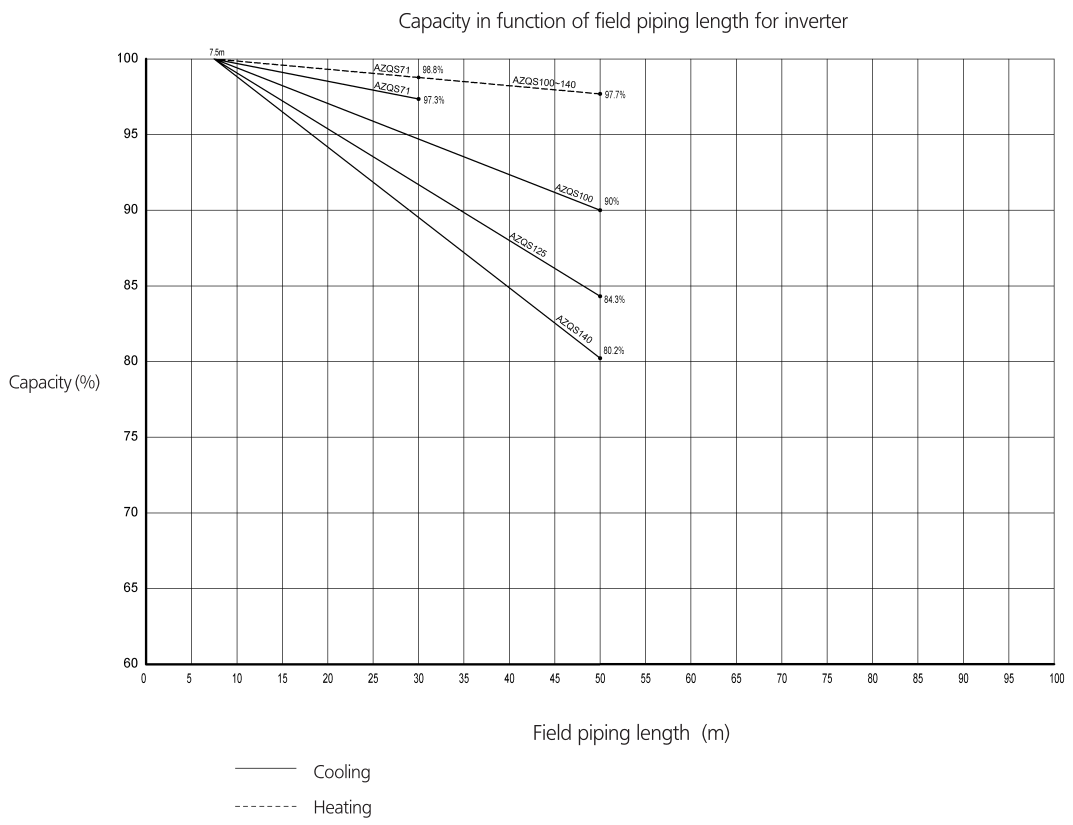
AFR:	Air flow rate	(m^3/min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Maximum Total cooling (heating) capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input (comp.+indoor and outdoor fan motor)	(kW)
CPI:	Coefficient of power input.	(-)

Caution:
TC and SHC are shown by kW.

6 Capacity tables

6 - 3 Capacity Correction Factor

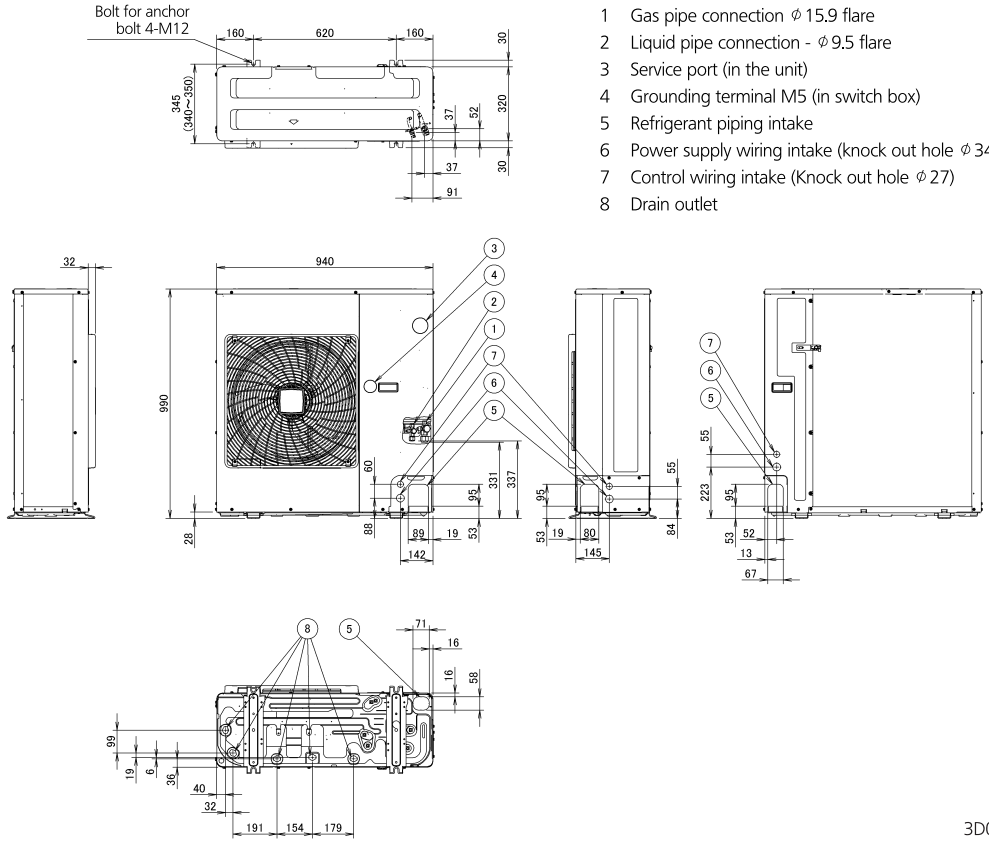
AZQS-BY1



7 Dimensional drawings

7 - 1 Dimensional Drawings

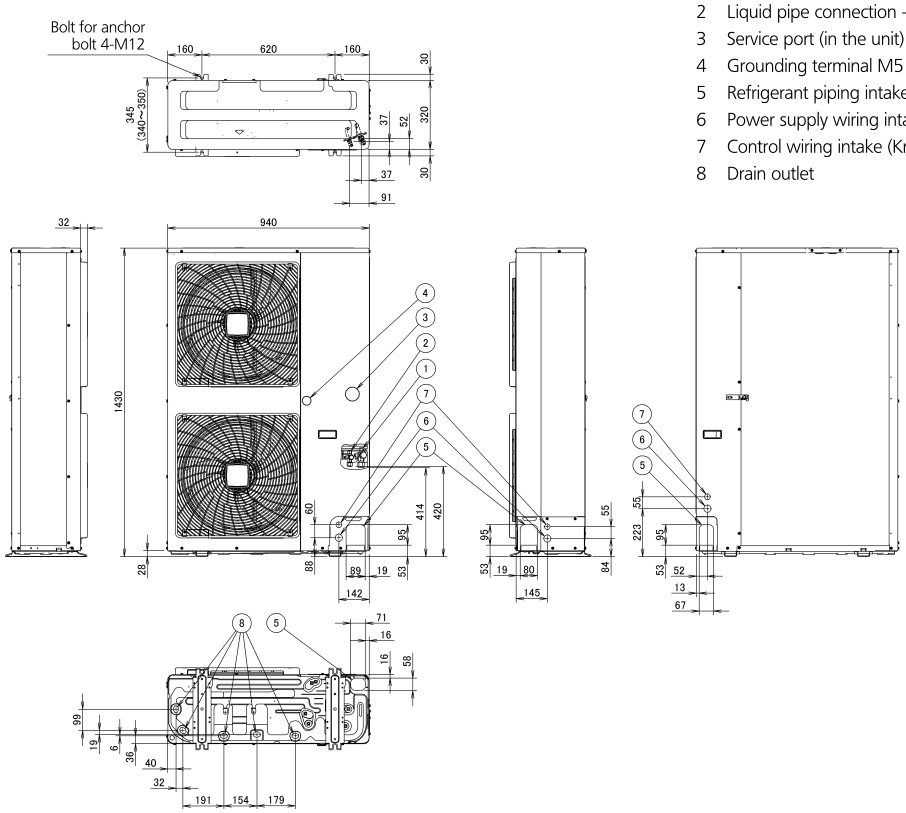
AZQS100-125BY1



1 Gas pipe connection ϕ15.9 flare
2 Liquid pipe connection - ϕ9.5 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 ϕ34)
7 Control wiring intake (Knock out hole ϕ27)
8 Drain outlet

3D076345

AZQS140BY1



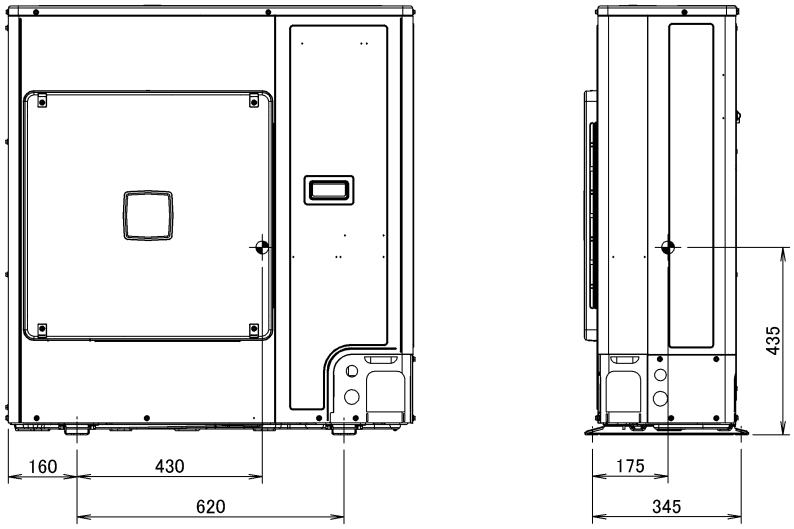
1 Gas pipe connection ϕ15.9 flare
2 Liquid pipe connection - ϕ9.5 flare
3 Service port (in the unit)
4 Grounding terminal M5 (in switch box)
5 Refrigerant piping intake
6 Power supply wiring intake (knock out hole ϕ34)
7 Control wiring intake (Knock out hole ϕ27)
8 Drain outlet

3D076346

8 Centre of gravity

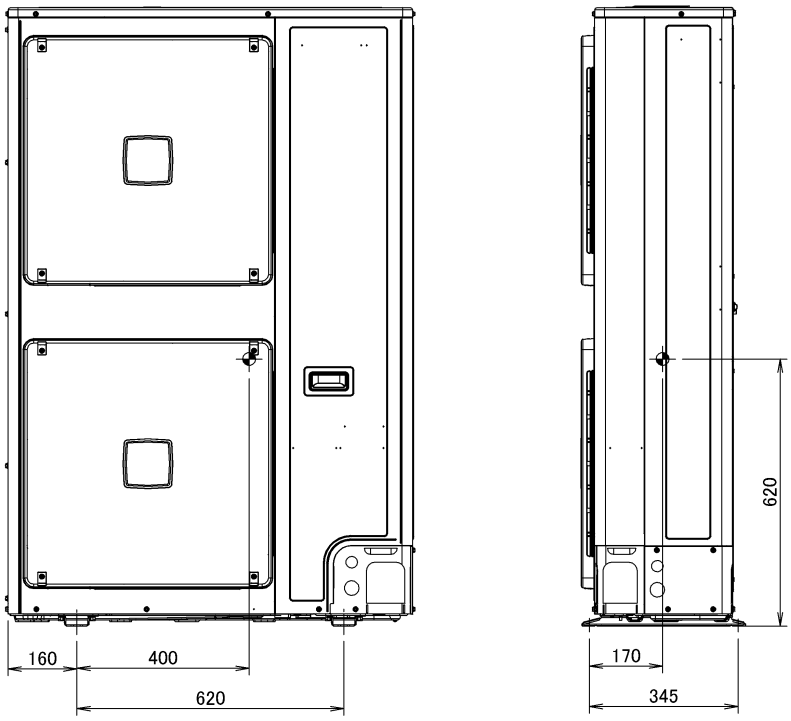
8 - 1 Centre of Gravity

AZQS100-125BY1



4D077809

AZQS140BY1

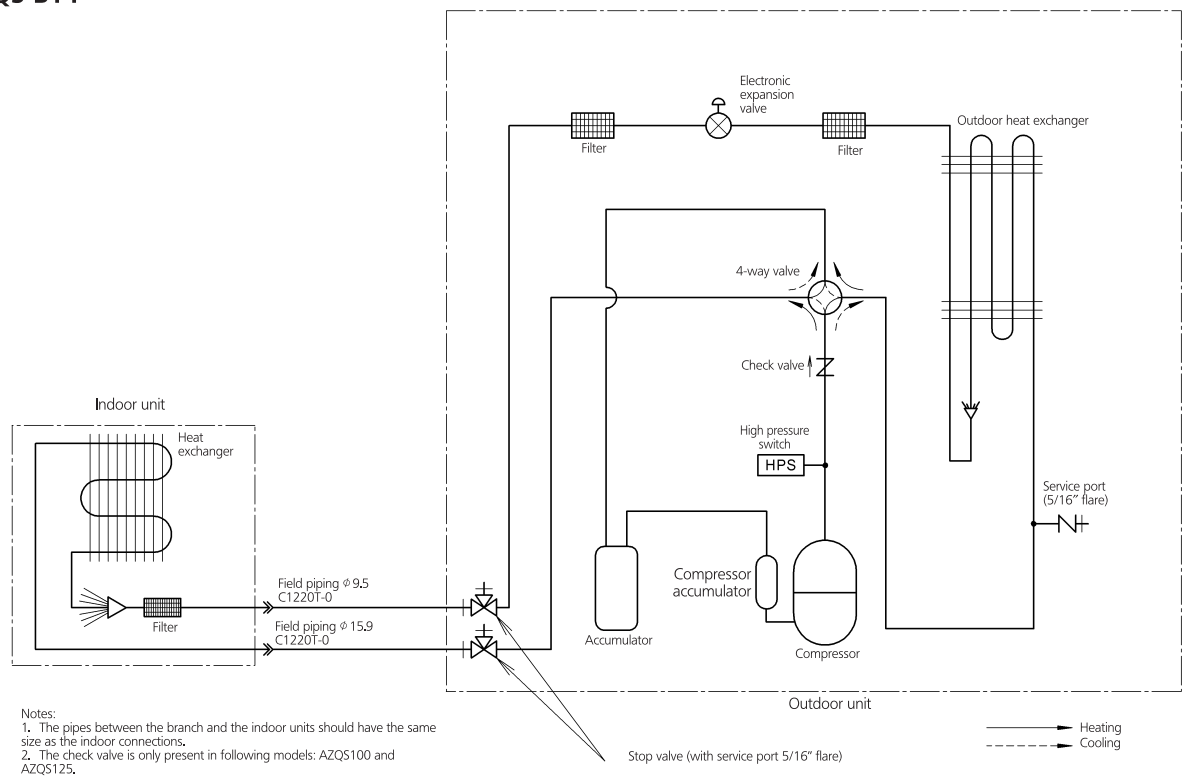


4D077808

9 Piping diagrams

9 - 1 Piping Diagrams

AZQS-BY1



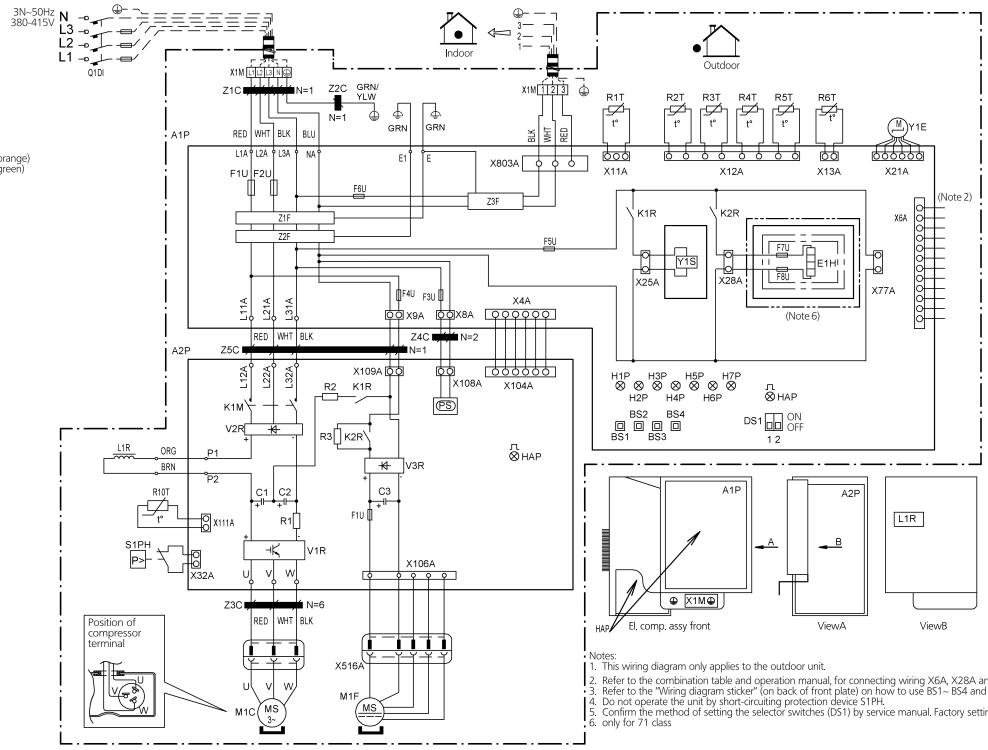
Notes:
1. The pipes between the branch and the indoor units should have the same size as the indoor connections.
2. The check valve is only present in following models: AZQS100 and AZQS125.

10 Wiring diagrams

10 - 1 Wiring Diagrams - Three Phase

AZQS100-125BY1

A1P	: Printed circuit board
A2P	: Printed circuit board (Inverter)
BS1~BS2	: Push button switch
C1~C3	: Capacitor
DS1	: Dip switch
E1H	: Bottomplate heater (Option)
F1U	: Fuse (31.5A / 250V)
F2U	: Fuse (31.5A / 250V)
F3U~F6U	: Fuse (T 6.3A / 250V)
F7U,F8U	: Fuse (F 1.0A / 250V)
F1U (A2P)	: Fuse (T 5.0A / 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
M1C	: 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)
R10T	: Thermistor (fin)
S1PH	: Pressure switch (High)
V1R	: IGBT 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 (ferrite core)
Z1F~Z3F	: Noise filter



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

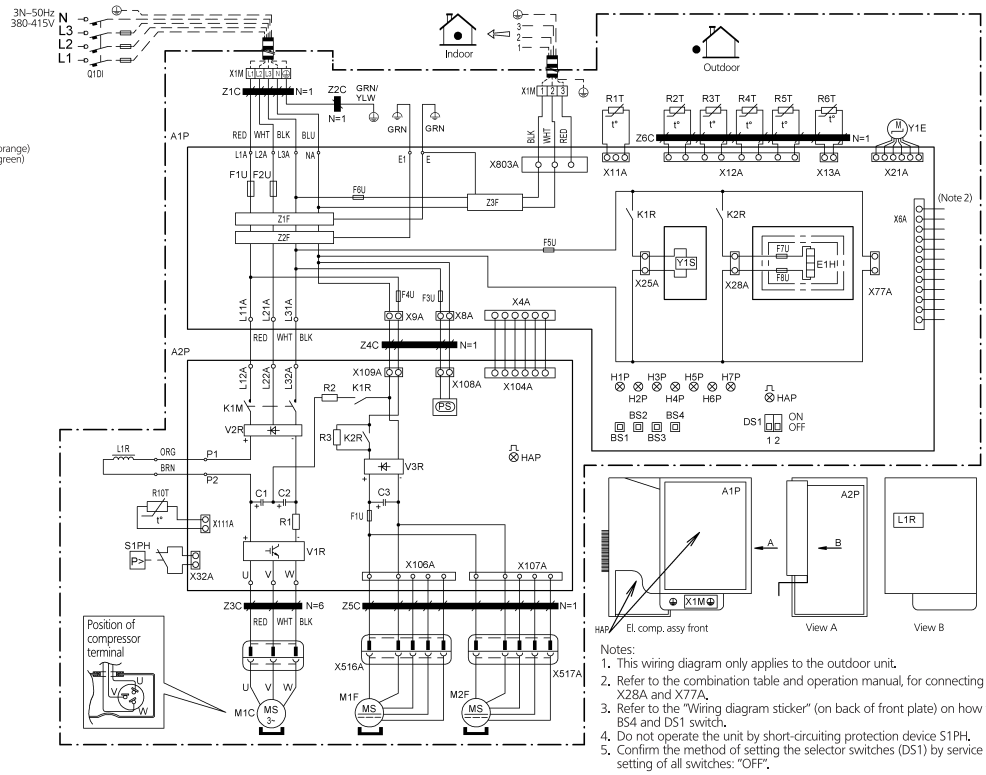
BLK: Black
BLU: Blue
BRN: Brown
GRN: Green
ORG: Orange
RED: Red
WHT: White
YLW: Yellow

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 DS1 switch.
4. Do not operate the unit by short-circuiting protection device S1PH.
5. Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
6. only for 71 class

2D080114B

AZQS140BY1

A1P	: Printed circuit board
A2P	: Printed circuit board (Inverter)
BS1~BS2	: Push button switch
C1~C3	: Capacitor
DS1	: Dip switch
E1H	: Bottomplate heater (Option)
F1U	: Fuse (31.5A / 250V)
F2U	: Fuse (31.5A / 250V)
F3U~F6U	: Fuse (T 6.3A / 250V)
F7U,F8U	: Fuse (F 1.0A / 250V)
F1U (A2P)	: Fuse (F 5.0A / 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
M1C	: 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)
R10T	: Thermistor (fin)
S1PH	: Pressure switch (High)
V1R	: IGBT Power module
V2R,V3R	: Diode module
X6A	: Connector (Option)
X1M	: Terminal strip
Y1E	: Electronic expansion valve
Y1S	: Solenoid valve (4 way valve)
Z1C~Z6C	: Noise filter (ferrite 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

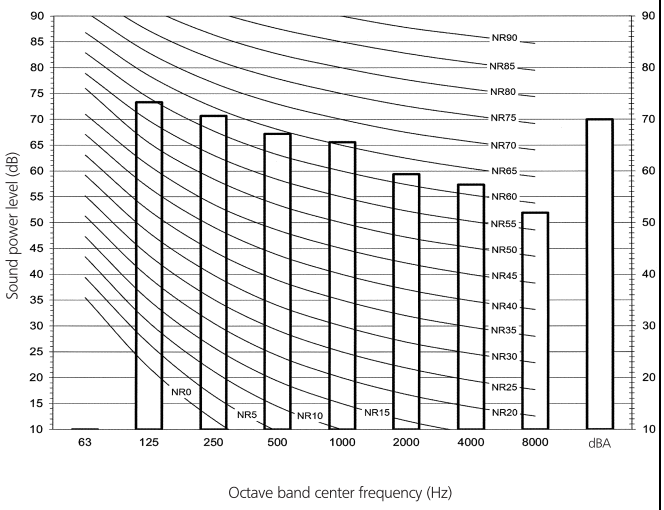
Notes:
1. This wiring diagram only applies to the outdoor unit.
2. Refer to the combination table and operation manual, for connecting wiring X6A, X28A and X77A.
3. Refer to the "Wiring diagram sticker" (on back of front plate) on how to use BS1~ BS4 and DS1 switch.
4. Do not operate the unit by short-circuiting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

2D077192

11 Sound data

11 - 1 Sound Power Spectrum

AZQS100BY1



NOTES

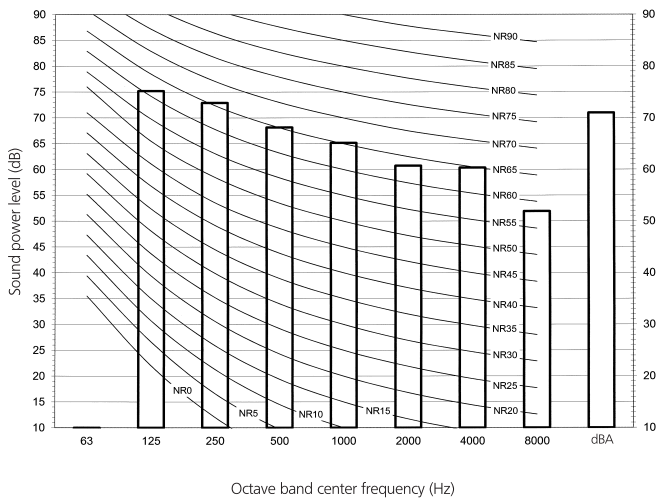
1 dBA = A-weighted sound power level (A-scale according to IEC)

2 Reference acoustic intensity 0dB = 10E-6μW/m^2

3 Measured according to ISO 3744

3D080911

AZQS125BY1



NOTES

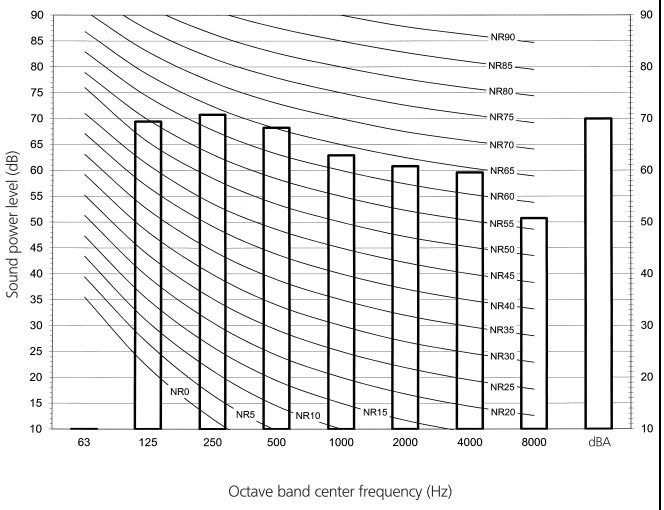
1 dBA = A-weighted sound power level (A-scale according to IEC)

2 Reference acoustic intensity 0dB = 10E-6μW/m^2

3 Measured according to ISO 3744

3D080912

AZQS140BY1



NOTES

1 dBA = A-weighted sound power level (A-scale according to IEC)

2 Reference acoustic intensity 0dB = 10E-6μW/m^2

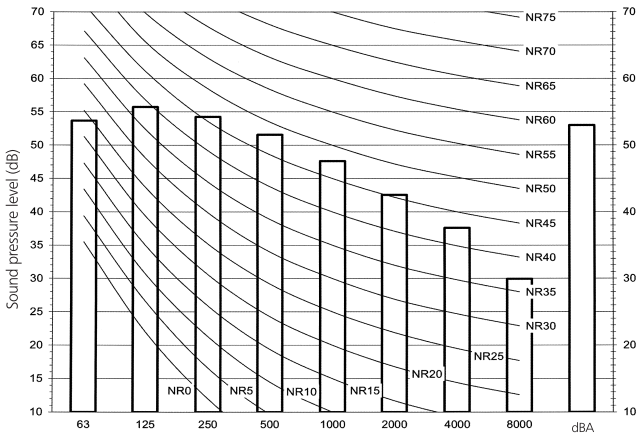
3 Measured according to ISO 3744

3D080913

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

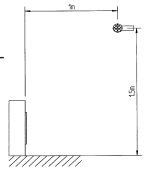
AZQS100BY1



Octave band center frequency (Hz)

NOTES

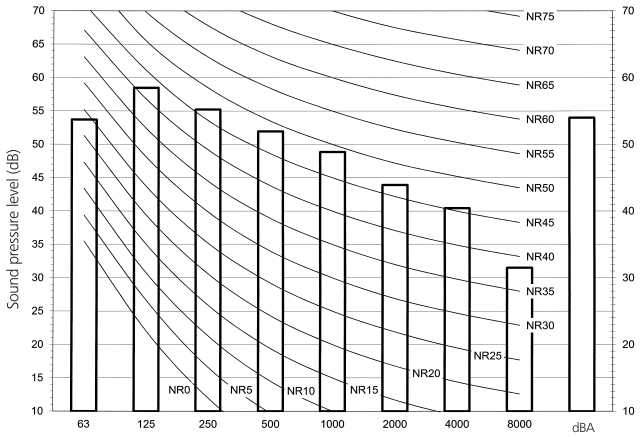
1 Data is valid at free field condition.
2 Data is valid at nominal operation condition.
3 dBA = A-weighted sound pressure level (A-scale according to IEC).
4 Reference acoustic pressure 0dB = 20µPa.



Measuring location (discharge side)

3D080923

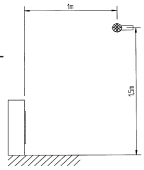
AZQS125BY1



Octave band center frequency (Hz)

NOTES

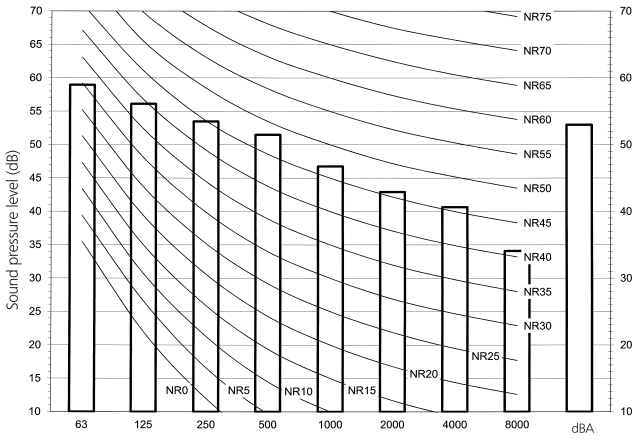
1 Data is valid at free field condition.
2 Data is valid at nominal operation condition.
3 dBA = A-weighted sound pressure level (A-scale according to IEC).
4 Reference acoustic pressure 0dB = 20µPa.



Measuring location (discharge side)

3D080924

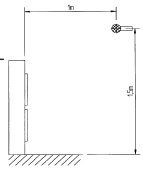
AZQS140BY1



Octave band center frequency (Hz)

NOTES

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



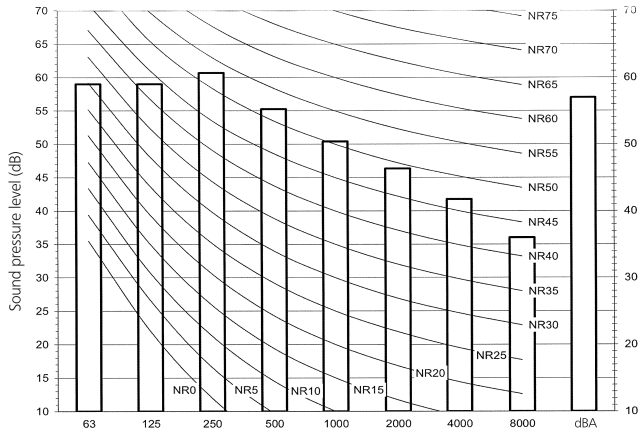
Measuring location (discharge side)

3D080925

11 Sound data

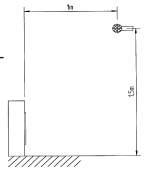
11 - 3 Sound Pressure Spectrum - Heating

AZQS100BY1



NOTES

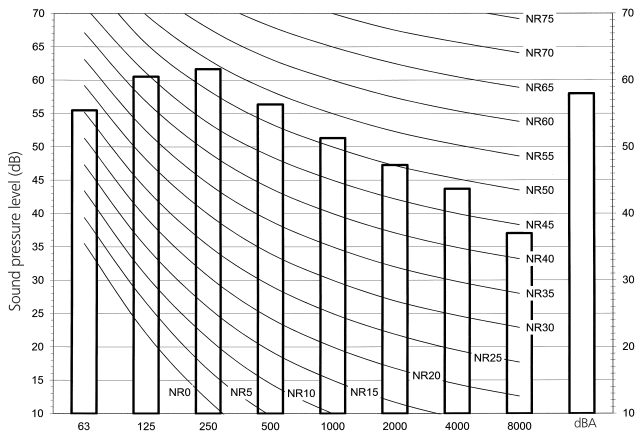
1 Data is valid at free field condition.
2 Data is valid at nominal operation condition.
3 dBA = A-weighted sound pressure level (A-scale according to IEC).
4 Reference acoustic pressure 0dB = 20μPa.



Measuring location (discharge side)

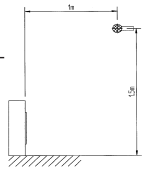
3D080929

AZQS125BY1



NOTES

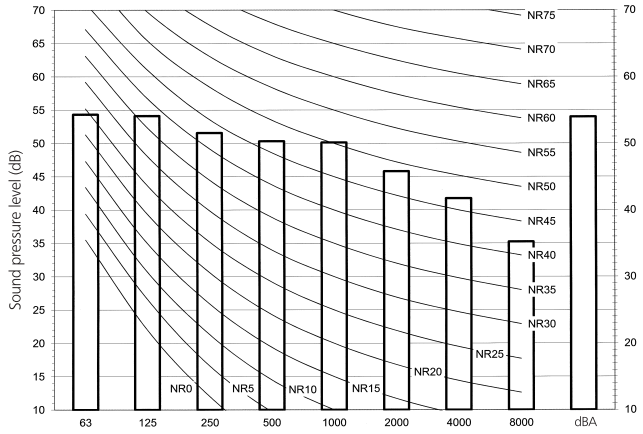
1 Data is valid at free field condition.
2 Data is valid at nominal operation condition.
3 dBA = A-weighted sound pressure level (A-scale according to IEC).
4 Reference acoustic pressure 0dB = 20μPa.



Measuring location (discharge side)

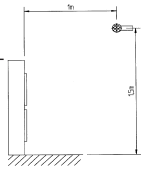
3D080930

AZQS140BY1



NOTES

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



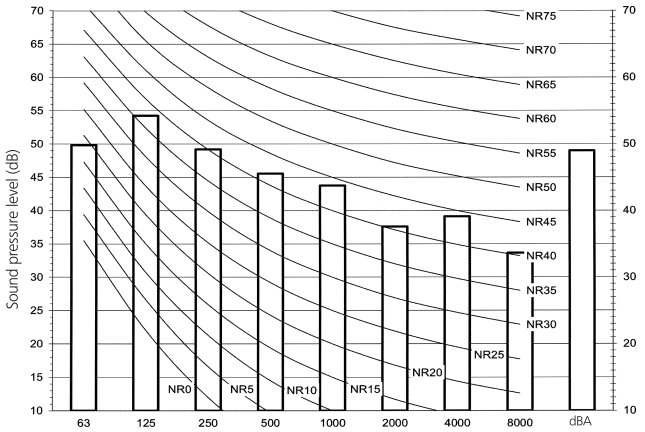
Measuring location (discharge side)

3D080931

11 Sound data

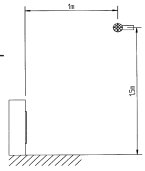
11 - 4 Sound Pressure Spectrum Quiet Mode

AZQS100BY1



NOTES

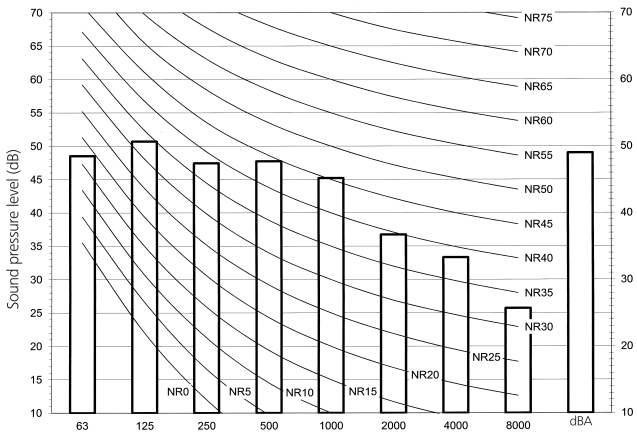
1 Data is valid at free field condition.
2 Data is valid at nominal operation condition.
3 dBA = A-weighted sound pressure level (A-scale according to IEC).
4 Reference acoustic pressure 0dB = 20µPa.



Measuring location (discharge side)

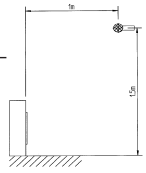
3D080917

AZQS125BY1



NOTES

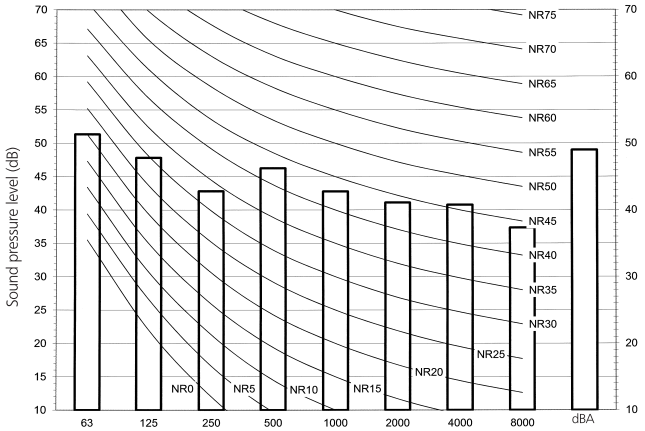
1 Data is valid at free field condition.
2 Data is valid at nominal operation condition.
3 dBA = A-weighted sound pressure level (A-scale according to IEC).
4 Reference acoustic pressure 0dB = 20µPa.



Measuring location (discharge side)

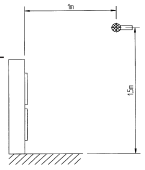
3D080918

AZQS140BY1



NOTES

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



Measuring location (discharge side)

3D080919

12 Installation

12 - 1 Installation Method

AZQS-BV1
AZQS-BY1

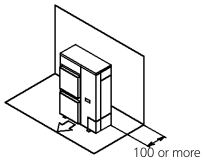
Installation service space

The measure of these values is "mm".

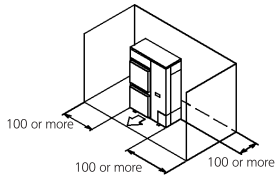
(A) When there are obstacles on suction sides.

- **No obstacle above**

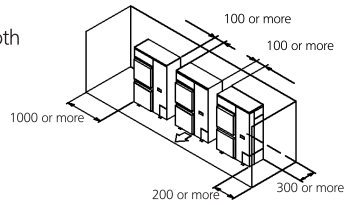
① Stand-alone installation
- Obstacle on the suction side only



- Obstacle on both sides and suction side, too

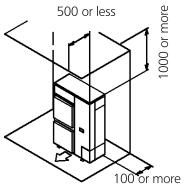


② Series installation (2 or more) (Note 1)
- Obstacle on the suction side and both sides

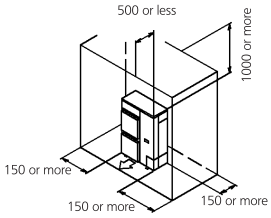


- **Obstacle above, too.**

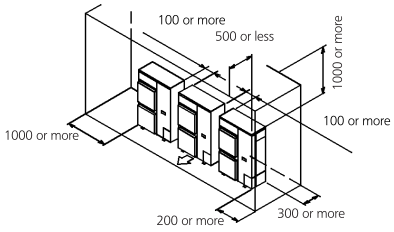
① Stand-alone installation
- Obstacle on the suction side, too



- Obstacle on both sides and suction side, too



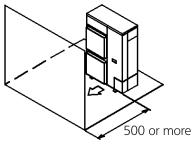
② Series installation (2 or more) (Note 1)
- Obstacle on the suction side and both sides



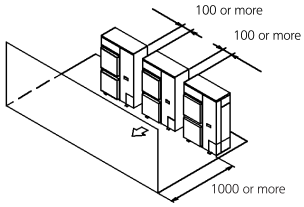
(B) When there are obstacles on discharge sides.

- **No obstacle above**

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

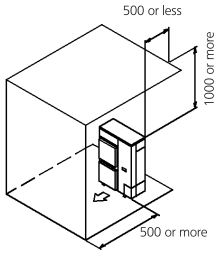


② Series installation (2 or more) (Note 1)
- Obstacle on the discharge side only

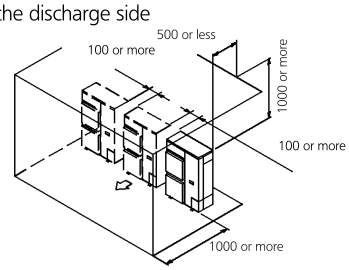


- **Obstacle above, too**

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



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



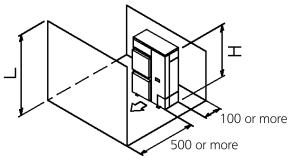
(C) When there are obstacles on both suction and discharge sides.:

Pattern 1

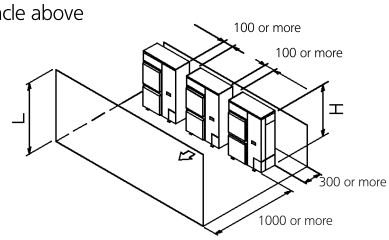
When the obstacles on the discharge side is higher than the unit. (L>H)
(There is no limit for the height of obstructions on the suction side.)

- **No obstacle above**

① Stand-alone installation
- No obstacle above



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



3D069554

12 Installation

12 - 1 Installation Method

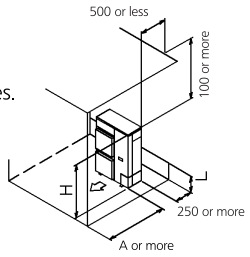
AZQS-BV1
AZQS-BY1

- **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 ≦ H	L ≦ 1/2 H	750 or more
	1/2 H < L ≦ H	1000 or more
L > H	Set the stand as : L ≦ H Refer to the column of L ≦ H for A	

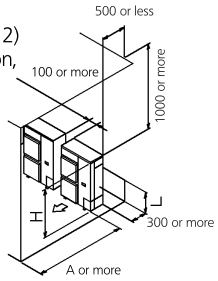


② Series installation (2 or more) (Note 1, 2)
- When there are obstacles on suction, discharge and top sides.

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

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

Limit of series installation is 2 units.

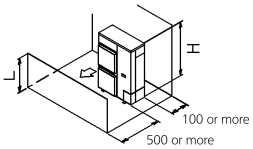


Pattern 2

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

- **No obstacle above**

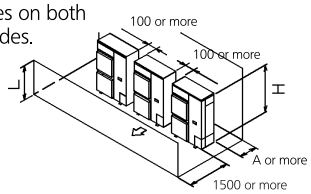
① Stand-alone installation
- No obstacle above



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 ≦ 1/2 H	250 or more
1/2 H < L ≦ H	300 or more

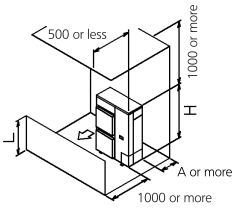


- **obstacle above**

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

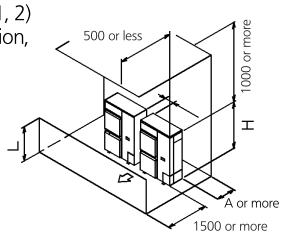


② Series installation (2 or more) (Note 1, 2)
- When there are obstacles on suction, discharge and top sides.

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

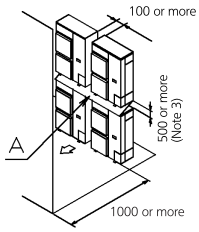
	L	A
L ≦ H	L ≦ 1/2 H	250 or more
	1/2 H < L ≦ H	300 or more
L > H	Set the stand as : L ≦ H Refer to the column of L ≦ H for A	

Limit of series installation is 2 units.

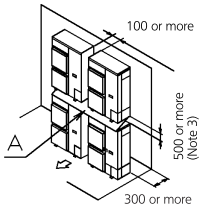


(D) Double-decker installation

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.

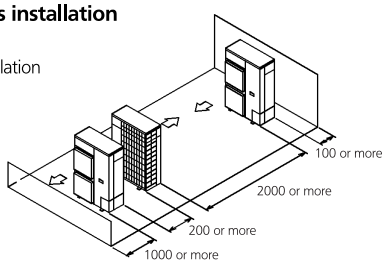


② Obstacle on the suction side. (1)
- Do not exceed two levels for stacked installation.
- Install a roof cover similar to A (field supply), as outdoor units with downward drainage are prone to dripping and freezing.
- Install the upper-level outdoor unit so that its bottom plate is a sufficient height above the roof cover. This is to prevent the buildup of ice on the underside of the bottom plate.



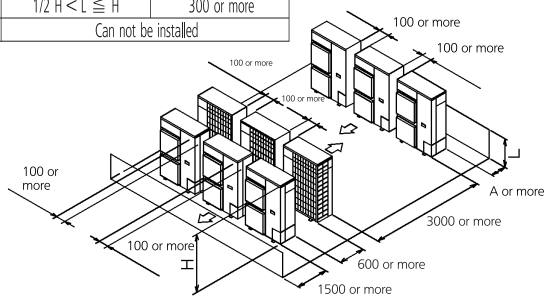
(E) Multiple rows of series installation (on the rooftop, etc.)

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 ≦ H	L ≦ 1/2 H	250 or more
	1/2 H < L ≦ H	300 or more
L > H	Can not be installed	



NOTES

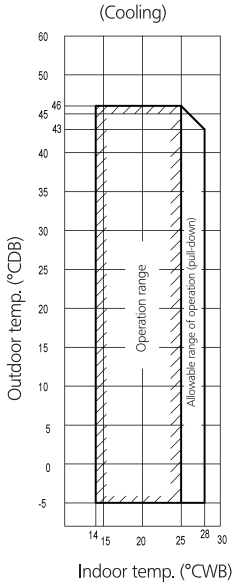
1 In case of the sideway's piping, make a 100mm gap between the unit above.
2 Close the bottom of the installation frame to prevent the discharged air from being bypassed.
3 It is not necessary to install a roof cover if there is no danger of drainage dripping and freezing. In this case, the space between 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.

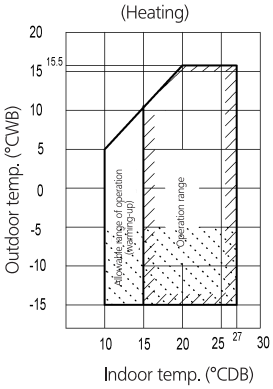
3D069554

13 Operation range

13 - 1 Operation Range

AZQS-BY1





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, an RZQG model should be used instead of an RZQSG model. This to avoid freeze-up of the outdoor unit.

3D076504

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