American Standard
HEATING & AIR CONDITIONING

MITSUBISHI ELECTRIC

Revision A:
- NAXSST09/12/15A112AB and NAYSST09/1215A112AB have been added.

OBHA733 is void.

OUTDOOR UNIT

SERVICE MANUAL

HFC utilized R410A

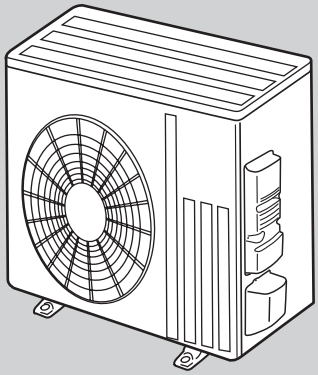
No. OBHA733
REVISED EDITION-A

Models

NAXSST09A112AA
NAXSST12A112AA
NAXSST15A112AA
NAXSST18A112AA
NAXSST24A112AA
NAYSST09A112AA
NAYSST12A112AA
NAYSST15A112AA
NAYSST18A112AA
NAYSST24A112AA

NAXSST09A112AB
NAXSST12A112AB
NAXSST15A112AB
NAYSST09A112AB
NAYSST12A112AB
NAYSST15A112AB

Indoor unit service manual
NAXWST•A112AA, NAYWST•A112AA Series (OBHA732)



NAXSST18A112AA
NAXSST24A112AA
NAYSST18A112AA
NAYSST24A112AA

CONTENTS

PARTS CATALOG (OBBA733)

Use the specified refrigerant only

Never use any refrigerant other than that specified.

Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of.
Correct refrigerant is specified in the manuals and on the spec labels provided with our products.
We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

Revision A:

• NAXSST09/12/15A112AB and NAYSST09/1215A112AB have been added.

1 TECHNICAL CHANGES

NAXSST09A112AA NAYSST09A112AA
NAXSST12A112AA NAYSST12A112AA
NAXSST15A112AA NAYSST15A112AA
NAXSST18A112AA NAYSST18A112AA
NAXSST24A112AA NAYSST24A112AA

1. New model

NAXSST09A112AA → NAXSST09A112AB
NAYSST09A112AA → NAYSST09A112AB

1. Fan motor has been changed.
2. INVERTER P.C. BOARD has been changed.
3. EXPANSION VALVE has been changed.
4. 4-WAY VALVE has been changed.
5. R.V. COIL has been changed.
6. Compressor has been changed.

NAXSST12A112AA → NAXSST12A112AB
NAYSST12A112AA → NAYSST12A112AB

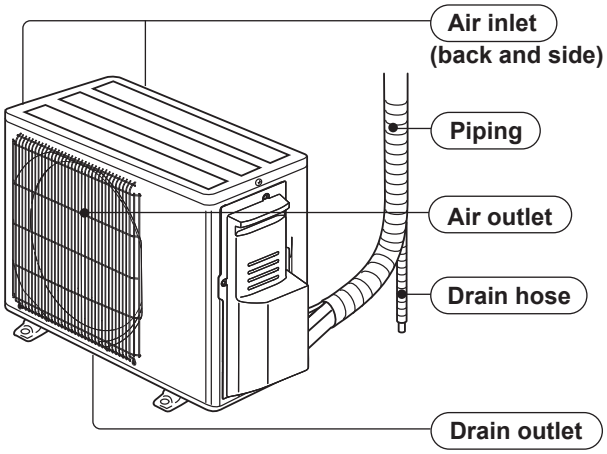
1. Fan motor has been changed.
2. INVERTER P.C. BOARD has been changed.
3. EXPANSION VALVE has been changed.
4. 4-WAY VALVE has been changed.
5. R.V. COIL has been changed.

NAXSST15A112AA → NAXSST15A112AB
NAYSST15A112AA → NAYSST15A112AB

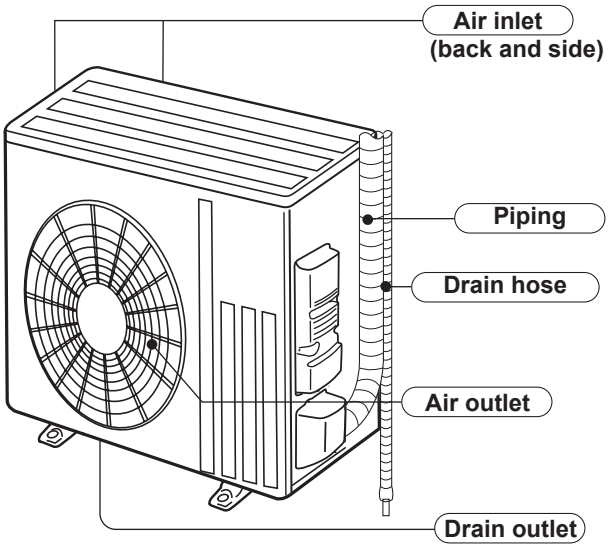
1. Fan motor has been changed.
2. INVERTER P.C. BOARD has been changed.
3. EXPANSION VALVE has been changed.

2 PART NAMES AND FUNCTIONS

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB
NAXSST15A112AA NAXSST15A112AB
NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB
NAYSST15A112AA NAYSST15A112AB



NAXSST18A112AA NAXSST24A112AA
NAYSST18A112AA NAYSST24A112AA



3 SPECIFICATION

Outdoor unit model			NAXSST09A112AA	NAYSST09A112AA	NAXSST09A112AB	NAYSST09A112AB
Capacity Rated (Minimum~Maximum)	Cooling ✻1	Btu/h	9,000 (3,600 - 12,200)	9,000 (3,600 - 12,200)	9,000 (3,600 - 12,200)	9,000 (3,600 - 12,200)
	Heating 47 ✻1 (**NAXSST**)	Btu/h	10,900 (4,500 - 15,900)	–	10,900 (4,500 - 15,900)	–
Capacity Rated (Maximum)	Heating 17 ✻2 (**NAXSST**)	Btu/h	6,700 (10,200)	–	6,700 (10,200)	–
Power consumption Rated (Minimum~Maximum)	Cooling ✻1	W	585 (240 - 1,050)	585 (240 - 1,050)	585 (240 - 1,050)	585 (240 - 1,050)
	Heating 47 ✻1 (**NAXSST**)	W	720 (230 - 1,250)	–	720 (230 - 1,250)	–
Power consumption Rated (Maximum)	Heating 17 ✻2 (**NAXSST**)	W	630 (1,060)	–	630 (1,060)	–
EER ✻1 [SEER] ✻3	Cooling		15.4 [24.6]	15.4 [24.6]	15.4 [24.6]	15.4 [24.6]
HSPF IV ✻4	Heating (**NAXSST**)		12.8	–	12.8	–
COP	Heating ✻1 (**NAXSST**)		4.44	–	4.44	–
Power factor	Cooling (208/230)	%	86/86	87/87	86/86	86/86
	Heating (**NAXSST**) (208/230)	%	90/90	–	90/90	–
Power supply	V , phase , Hz		208/230, 1 , 60	208/230, 1 , 60	208/230, 1 , 60	208/230, 1 , 60
Max. fuse size (time delay)		A	15	15	15	15
Min. circuit ampacity		A	9	7	9	7
Fan motor		F.L.A	0.50	0.50	0.50	0.50
Compressor	Model		KNB073FRVMC	KNB073FRVMC	KNB073FRXMC	KNB073FRXMC
	R.L.A	A	6.2	4.9	6.2	4.9
	L.R.A	A	7.7	6.1	7.7	6.1
	Refrigeration oil	fl oz. (L) (Model)	9.1 (0.27)/(FV50S)	9.1 (0.27)/(FV50S)	9.1 (0.27)/(FV50S)	9.1 (0.27)/(FV50S)
Refrigerant control			Linear expansion valve			
Sound level ✻1	Cooling	dB(A)	48	48	48	48
	Heating (**NAXSST**)	dB(A)	50	–	50	–
Airflow High - Med. - Low	Cooling	CFM	1,102 - 1,102 - 639	1,102 - 1,102 - 639	1,102 - 1,102 - 639	1,102 - 1,102 - 639
	Heating (**NAXSST**)	CFM	1,186 - 1,116 - 1,045	–	1,186 - 1,116 - 1,045	–
Fan speed High - Med. - Low	Cooling	rpm	810 - 810 - 490	810 - 810 - 490	810 - 810 - 490	810 - 810 - 490
	Heating (**NAXSST**)	rpm	870 - 820 - 770	–	870 - 820 - 770	–
Defrost method			Reverse cycle	–	Reverse cycle	–
Dimensions	W	in.	31-1/2			
	D	in.	11-1/4			
	H	in.	21-5/8			
Weight		lb.	81			
External finish			Munsell 3Y 7.8/1.1			
Remote controller			Wireless type			
Control voltage (by built-in transformer)		V DC	12 - 24			
Refrigerant piping			Not supplied			
Refrigerant pipe size (Min. wall thickness)	Liquid	in.	1/4 (0.0315)			
	Gas	in.	3/8 (0.0315)			
Connection method	Indoor		Flared			
	Outdoor		Flared			
Between the indoor & outdoor units	Height difference	ft.	40			
	Piping length	ft.	65			
Refrigerant charge (R410A)			2 lb. 5 oz.	2 lb. 9 oz.	2 lb. 5 oz.	2 lb. 5 oz.

NOTE: Test conditions are based on AHRI 210/240.

✻1: Rating conditions (Cooling) — Indoor: 80˚FDB, 67˚FWB, Outdoor: 95˚FDB, (75˚FWB)
(Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 47˚FDB, 43˚FWB

✻2: (Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 17˚FDB, 15˚FWB

✻3: Test condition (Refer to 3-1.)

✻4: Test condition (Refer to 3-1.)

Outdoor unit model			NAXSST12A112AA NAXSST12A112AB	NAYSST12A112AA NAYSST12A112AB	NAXSST15A112AA NAXSST15A112AB	NAYSST15A112AA NAYSST15A112AB
Capacity Rated (Minimum~Maximum)	Cooling ❄1	Btu/h	12,000 (1,500 - 13,600)	12,000 (1,500 - 13,600)	14,000 (3,100 - 18,200)	14,000 (3,100 - 18,200)
	Heating 47 ❄1 (**NAXSST**)	Btu/h	14,400 (2,000 - 18,100)	–	18,000 (4,800 - 20,900)	–
Capacity Rated (Maximum)	Heating 17 ❄2 (**NAXSST**)	Btu/h	9,200 (12,000)	–	12,200 (16,400)	–
Power consumption Rated (Minimum~Maximum)	Cooling ❄1	W	920 (100 - 1,300)	920 (100 - 1,300)	1,080 (210 - 2,000)	1,080 (210 - 2,000)
	Heating 47 ❄1 (**NAXSST**)	W	1,100 (110 - 1,620)	–	1,600 (200 ~ 2,010)	–
Power consumption Rated (Maximum)	Heating 17 ❄2 (**NAXSST**)	W	870 (1,240)	–	1,190 (1,850)	–
EER ❄1 [SEER] ❄3	Cooling		13.0 [23.1]	13.0 [23.1]	13.0 [21.6]	13.0 [21.6]
HSPF IV ❄4	Heating (**NAXSST**)		12.5	–	11.7	–
COP	Heating ❄1 (**NAXSST**)		3.84	–	3.30	–
Power factor	Cooling (208/230)	%	95/95	95/95	97/97	97/97
	Heating (**NAXSST**) (208/230)	%	96/96	96/96	98/98	98/98
Power supply	V , phase , Hz		208/230, 1 , 60	208/230, 1 , 60	208/230, 1 , 60	208/230, 1 , 60
Max. fuse size (time delay)		A	15	15	15	15
Min. circuit ampacity		A	9	7	10	9
Fan motor		F.L.A	0.50	0.50	0.50	0.50
Compressor	Model		SNB092FQAMT	SNB092FQAMT	SNB130FQBMT	SNB130FQBMT
	R.L.A	A	6.6	4.9	7.4	6.8
	L.R.A	A	8.2	6.1	9.3	8.5
	Refrigeration oil	fl oz. (L) (Model)	11.8 (0.35)/(FV50S)		11.8 (0.35)/(FV50S)	
Refrigerant control			Linear expansion valve			
Sound level ❄1	Cooling	dB(A)	49	49	49	49
	Heating (**NAXSST**)	dB(A)	51	–	51	–
Airflow High - Med. - Low	Cooling	CFM	1,102 - 1,102 - 639	1,102 - 1,102 - 639	1,102 - 1,102 - 639	1,102 - 1,102 - 639
	Heating (**NAXSST**)	CFM	1,186 - 1,116 - 1,045	–	1,186 - 1,045 - 1,045	–
Fan speed High - Med. - Low	Cooling	rpm	810 - 810 - 490	810 - 810 - 490	810 - 810 - 490	810 - 810 - 490
	Heating (**NAXSST**)	rpm	870 - 820 - 770	–	870 - 770 - 770	–
Defrost method			Reverse cycle	–	Reverse cycle	–
Dimensions	W	in.	31-1/2			
	D	in.	11-1/4			
	H	in.	21-5/8			
Weight		lb.	81			
External finish			Munsell 3Y 7.8/1.1			
Remote controller			Wireless type			
Control voltage (by built-in transformer)		V DC	12 - 24			
Refrigerant piping			Not supplied			
Refrigerant pipe size (Min. wall thickness)	Liquid	in.	1/4 (0.0315)			
	Gas	in.	3/8 (0.0315)			
Connection method	Indoor		Flared			
	Outdoor		Flared			
Between the indoor & outdoor units	Height difference	ft.	40			
	Piping length	ft.	65			
Refrigerant charge (R410A)			2 lb. 9 oz.			

NOTE: Test conditions are based on AHRI 210/240.

❄1: Rating conditions (Cooling) — Indoor: 80˚FDB, 67˚FWB, Outdoor: 95˚FDB, (75˚FWB)
(Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 47˚FDB, 43˚FWB

❄2: (Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 17˚FDB, 15˚FWB

❄3: Test condition (Refer to 3-1.)

❄4: Test condition (Refer to 3-1.)

Outdoor unit model			NAXSST18A112AA	NAYSST18A112AA	NAXSST24A112AA	NAYSST24A112AA
Capacity Rated (Minimum~Maximum)	Cooling ✻1	Btu/h	18,000 (5,800 ~ 22,000)	18,000 (5,800 ~ 22,000)	22,500 (8,200 ~ 31,400)	22,500 (8,200 ~ 31,400)
	Heating 47 ✻1 (**NAXSST**)	Btu/h	21,600 (5,400 ~ 25,000)	–	27,600 (7,500 ~ 36,900)	–
Capacity Rated (Maximum)	Heating 17 ✻2 (**NAXSST**)	Btu/h	13,800 (18,200)	–	16,000 (24,600)	–
Power consumption Rated (Minimum~Maximum)	Cooling ✻1	W	1,340 (330 ~ 2,150)	1,340 (330 ~ 2,150)	1,800 (570 ~ 3,580)	1,800 (570 ~ 3,580)
	Heating 47 ✻1 (**NAXSST**)	W	1,680 (320 ~ 2,500)	1,680 (320 ~ 2,500)	2,340 (520 ~ 3,650)	2,340 (520 ~ 3,650)
Power consumption Rated (Maximum)	Heating 17 ✻2 (**NAXSST**)	W	1,480 (2,150)	–	1,770 (3,290)	–
EER ✻1 [SEER] ✻3	Cooling		13.4 [20.5]	13.4 [20.5]	12.5 [20.5]	12.5 [20.5]
HSPF IV ✻4	Heating (**NAXSST**)		11.2	–	10.0	–
COP	Heating ✻1 (**NAXSST**)		3.77	–	3.46	–
Power factor	Cooling (208/230)	%	99/99	99/99	99/99	99/99
	Heating (**NAXSST**) (208/230)	%	99/99	–	99/99	–
Power supply	V , phase , Hz		208/230, 1 , 60	208/230, 1 , 60	208/230, 1 , 60	208/230, 1 , 60
Max. fuse size (time delay)		A	15	15	20	20
Min. circuit ampacity		A	14	14	17.1	17.1
Fan motor		F.L.A	0.93	0.93	0.93	0.93
Compressor	Model		SNB130FQBMT	SNB130FQBMT	SNB172FQKMT	SNB172FQKMT
	R.L.A	A	10	10	12.9	12.9
	L.R.A	A	12.5	12.5	16.1	16.1
	Refrigeration oil	fl oz. (L) (Model)	11.8 (0.35)/(FV50S)	11.8 (0.35)/(FV50S)	13.5 (0.40)/(FV50S)	13.5 (0.40)/(FV50S)
Refrigerant control			Linear expansion valve			
Sound level ✻1	Cooling	dB(A)	54	54	55	55
	Heating (**NAXSST**)	dB(A)	55	–	55	–
Airflow High - Med. - Low	Cooling	CFM	1,742 - 1,742 - 922	1,742 - 1,742 - 922	2,016 - 1,769 - 890	2,016 - 1,769 - 890
	Heating (**NAXSST**)	CFM	1,691 - 1,691 - 1,372	–	1,701 - 1,701 - 1,341	–
Fan speed High - Med. - Low	Cooling	rpm	840 - 840 - 450	840 - 840 - 450	950 - 840 - 450	950 - 840 - 450
	Heating (**NAXSST**)	rpm	810 - 810 - 650	–	810 - 810 - 650	–
Defrost method			Reverse cycle	–	Reverse cycle	–
Dimensions	W	in.	33-1/16			
	D	in.	13			
	H	in.	34-5/8			
Weight		lb.	121	121	119	119
External finish			Munsell 3Y 7.8/1.1			
Remote controller			Wireless type			
Control voltage (by built-in transformer)		V DC	12 - 24			
Refrigerant piping			Not supplied			
Refrigerant pipe size (Min. wall thickness)	Liquid	in.	1/4 (0.0315)	1/4 (0.0315)	3/8 (0.0315)	3/8 (0.0315)
	Gas	in.	1/2 (0.0315)	1/2 (0.0315)	5/8 (0.0315)	5/8 (0.0315)
Connection method	Indoor		Flared			
	Outdoor		Flared			
Between the indoor & outdoor units	Height difference	ft.	50			
	Piping length	ft.	100			
Refrigerant charge (R410A)			3 lb. 9 oz.	3 lb. 9 oz.	4 lb. 3 oz.	4 lb. 3 oz.

NOTE: Test conditions are based on AHRI 210/240.

✻1: Rating conditions (Cooling) — Indoor: 80˚FDB, 67˚FWB, Outdoor: 95˚FDB, (75˚FWB)
(Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 47˚FDB, 43˚FWB

✻2: (Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 17˚FDB, 15˚FWB

✻3: Test condition (Refer to 3-1.)

✻4: Test condition (Refer to 3-1.)

3-1. TEST CONDITION

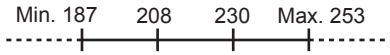
✻3,✻4

ARI	Mode	Test	Indoor air condition (°F)		Outdoor air condition (°F)	
			Dry bulb	Wet bulb	Dry bulb	Wet bulb
	SEER (Cooling)	"A-2" Cooling Steady State at rated compressor Speed	80	67	95	(75)
		"B-2" Cooling Steady State at rated compressor Speed	80	67	82	(65)
		"B-1" Cooling Steady State at minimum compressor Speed	80	67	82	(65)
		"F-1" Cooling Steady State at minimum compressor Speed	80	67	67	(53.5)
		"E-V" Cooling Steady State at intermediate compressor Speed ✻5	80	67	87	(69)
	HSPF (Heating)	"H1-2" Heating Steady State at rated compressor Speed	70	60	47	43
		"H3-2" Heating at rated compressor Speed	70	60	17	15
		"H0-1" Heating Steady State at minimum compressor Speed	70	60	62	56.5
		"H1-1" Heating Steady State at minimum compressor Speed	70	60	47	43
		"H2-V" Heating at intermediate compressor Speed ✻5	70	60	35	33

NOTE:
✻5: At intermediate compressor Speed
= ("Rated compressor speed" - "minimum compressor speed") / 3 + "minimum compressor speed".

3-2. OPERATING RANGE

(1) POWER SUPPLY

	Rated voltage	Guaranteed voltage (V)
Outdoor unit	208/230 V 1 phase 60 Hz	

(2) OPERATION

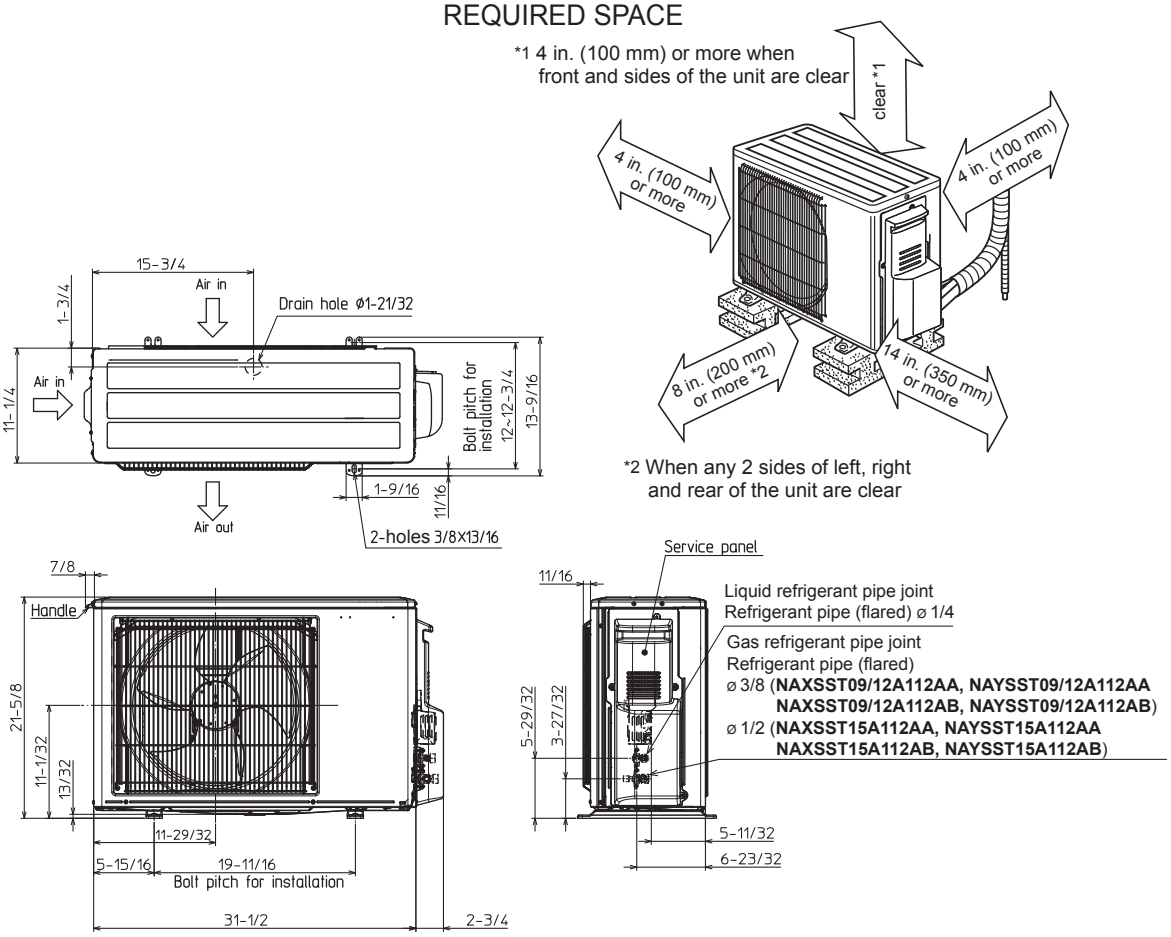
Mode	Condition	Intake air temperature (°F)			
		Indoor		Outdoor	
		DB	WB	DB	WB
Cooling	Standard temperature	80	67	95	—
	Maximum temperature	90	73	115	—
	Minimum temperature	67	57	14	—
	Maximum humidity	78 %		—	
Heating	Standard temperature	70	60	47	43
	Maximum temperature	80	67	75	65
	Minimum temperature	70	60	-4	-5

4 OUTLINES AND DIMENSIONS

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB
NAXSST15A112AA NAXSST15A112AB
NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB
NAYSST15A112AA NAYSST15A112AB

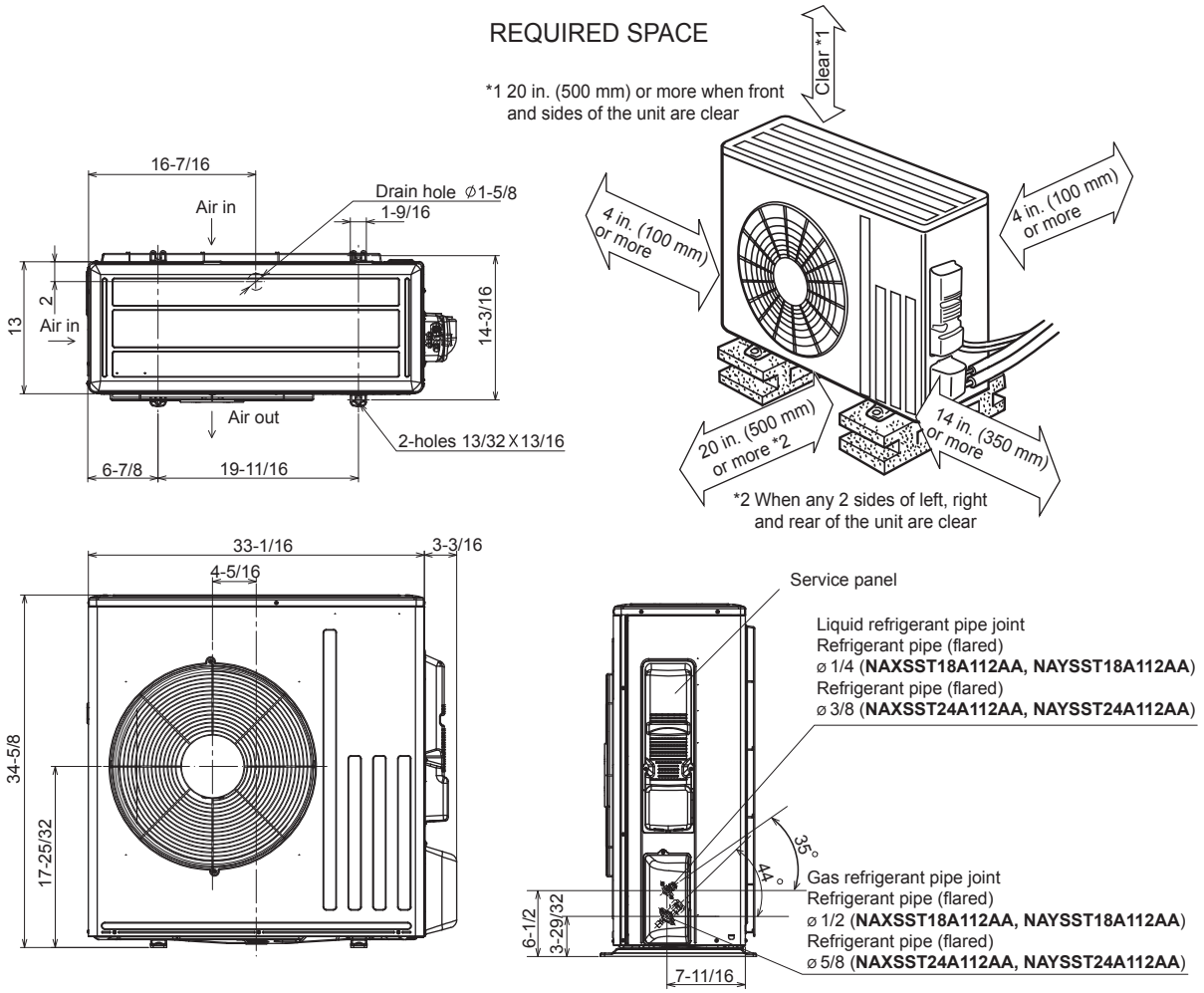
Unit: inch

REQUIRED SPACE



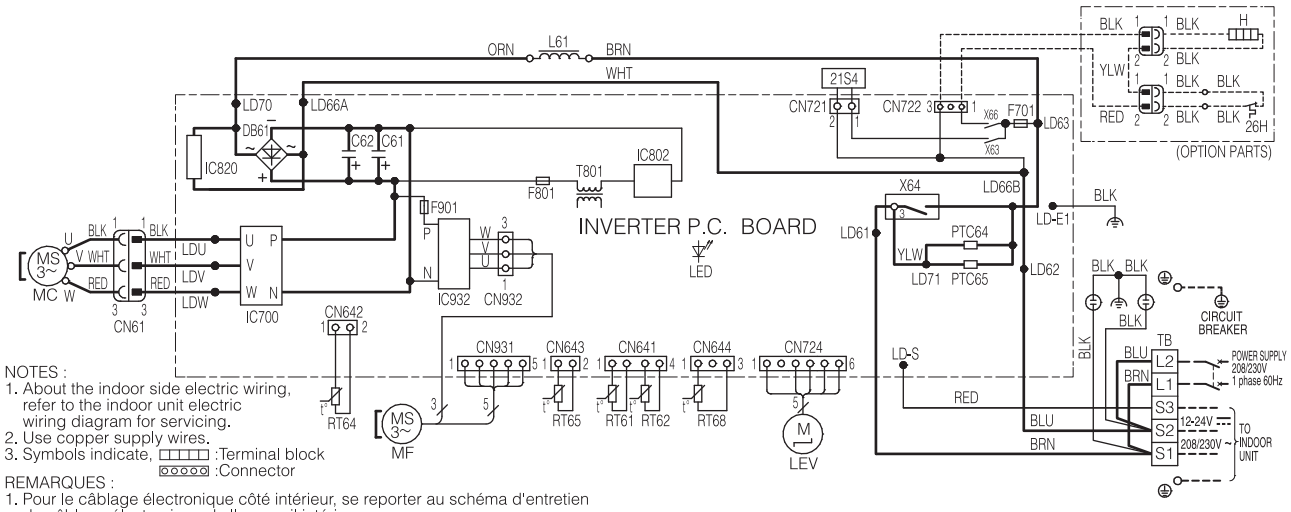
NAXSST18A112AA NAXSST24A112AA
NAYSST18A112AA NAYSST24A112AA

Unit: inch



5 WIRING DIAGRAM

NAXSST09A112AA NAXSST12A112AA

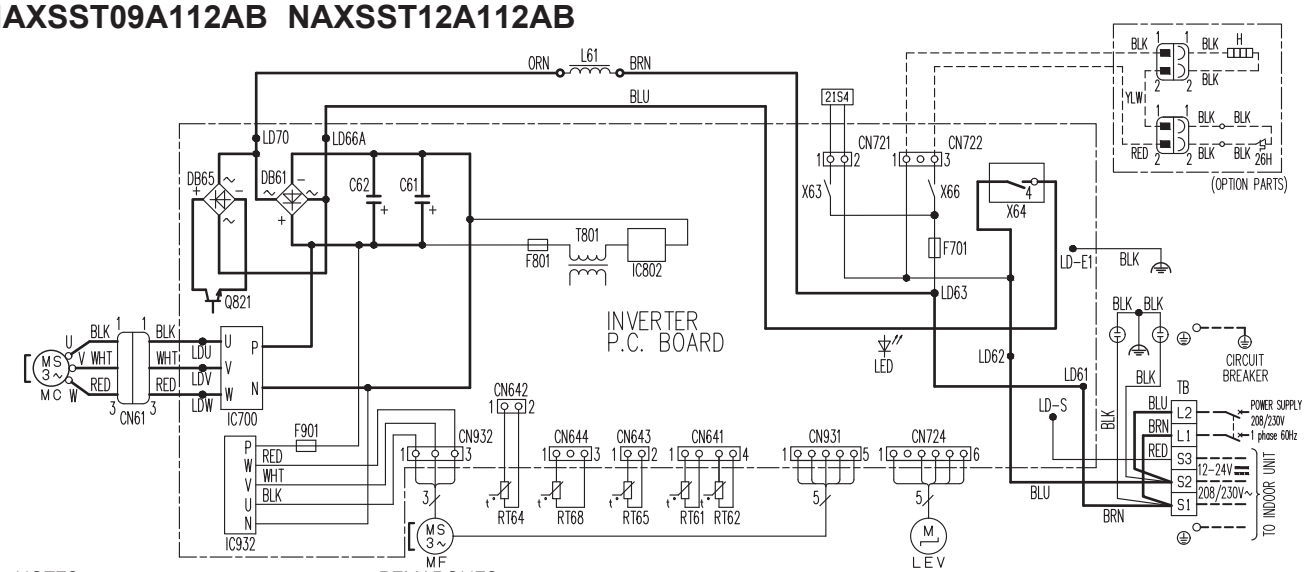


NOTES :
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, ▭▭▭ :Terminal block
   ▭▭▭ :Connector

REMARQUES :
1. Pour le câblage électronique côté intérieur, se reporter au schéma d'entretien du câblage électronique de l'appareil intérieur.
2. Utiliser des fils d'alimentation en cuivre.
3. Les symboles ont les significations suivantes, ▭▭▭ :Borne
   ▭▭▭ :Connecteur

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61	DIODE MODULE	MC	COMPRESSOR		
F701,F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
H	DEFROST HEATER(OPTION PARTS)	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC700,IC820,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	X63, X64, X66	RELAY
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	21S4	REVERSING VALVE COIL
LED	LED	RT64	FIN TEMP. THERMISTOR	26H	HEATER PROTECTOR(OPTION PARTS)

NAXSST09A112AB NAXSST12A112AB



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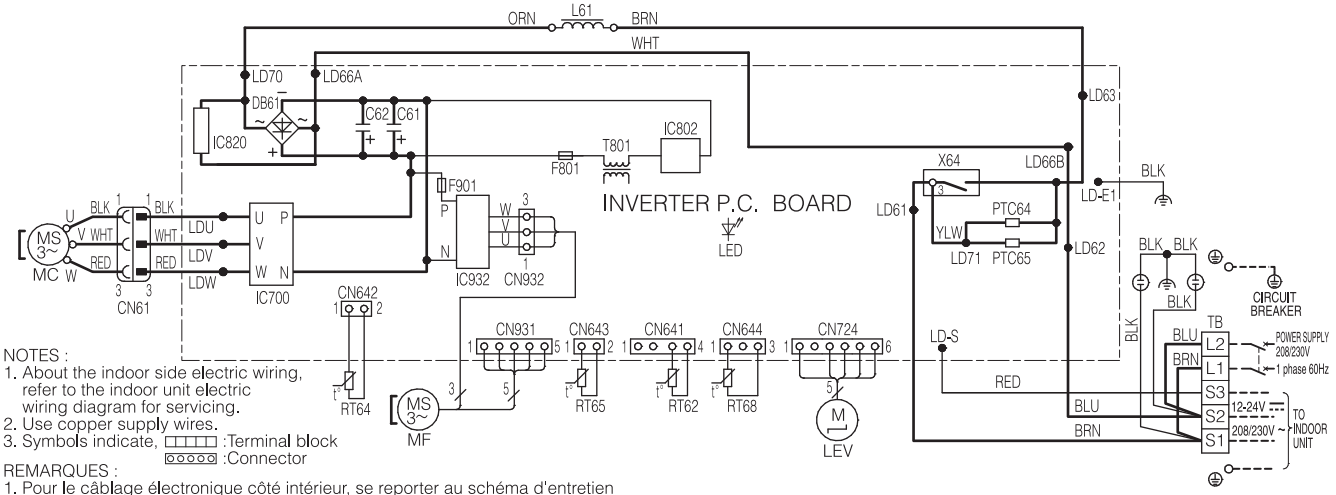
   ▭▭▭ :Connecteur

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61,DB65	DIODE MODULE	MC	COMPRESSOR		
F701,F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
H	DEFROST HEATER (OPTION PARTS)	Q821	SWITCHING POWER TRANSISTOR	T801	TRANSFORMER
IC700,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	X63, X64, X66	RELAY
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	21S4	REVERSING VALVE COIL
LED	LED	RT64	FIN TEMP. THERMISTOR	26H	HEATER PROTECTOR (OPTION PARTS)

NAYSST09A112AA NAYSST12A112AA

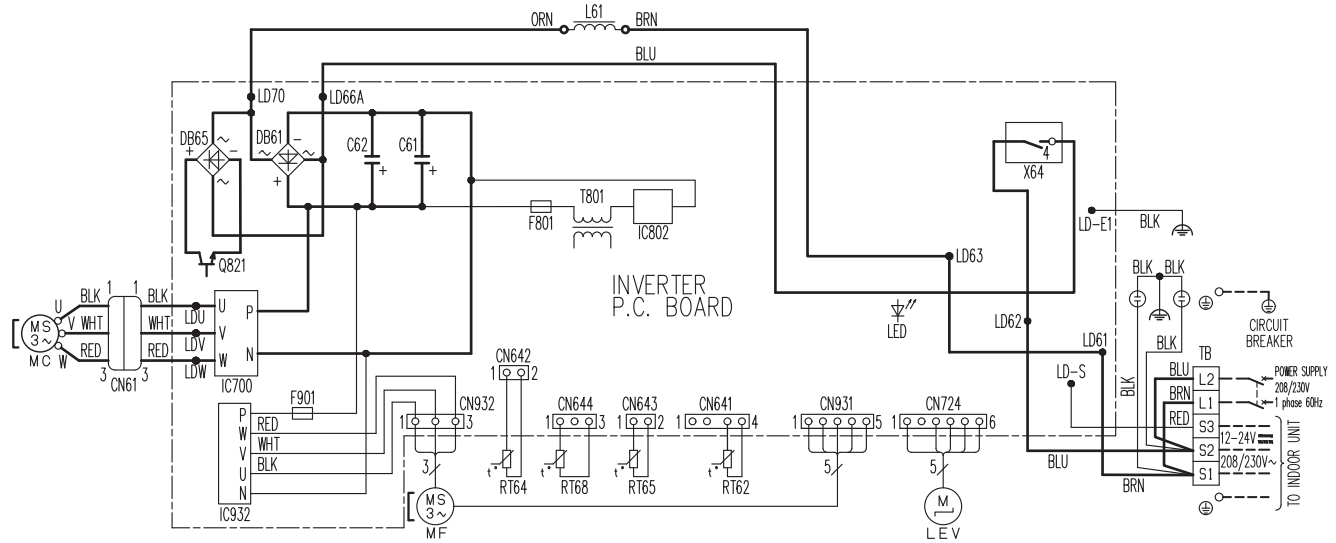


NOTES :
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, □□□□□ :Terminal block ○○○○○ :Connector

REMARQUES :
1. Pour le câblage électronique côté intérieur, se reporter au schéma d'entretien du câblage électronique de l'appareil intérieur.
2. Utiliser des fils d'alimentation en cuivre.
3. Les symboles ont les significations suivantes, □□□□□ :Borne ○○○○○ :Connecteur

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61	DIODE MODULE	MC	COMPRESSOR		
F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
IC700,IC820,IC932	POWER MODULE	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	X64	RELAY
LED	LED	RT64	FIN TEMP. THERMISTOR		

NAYSST09A112AB NAYSST12A112AB



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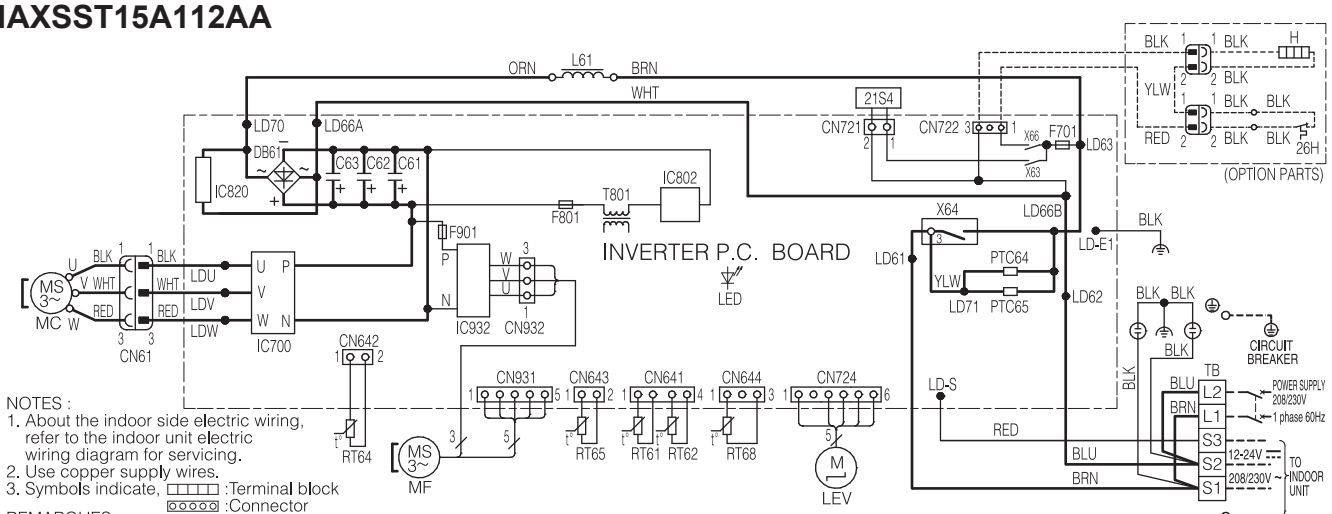
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61,DB65	DIODE MODULE	MC	COMPRESSOR		
F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
IC700,IC932	POWER MODULE	Q821	SWITCHING POWER TRANSISTOR	T801	TRANSFORMER
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	X64	RELAY
LED	LED	RT64	FIN TEMP. THERMISTOR		

NAXSST15A112AA



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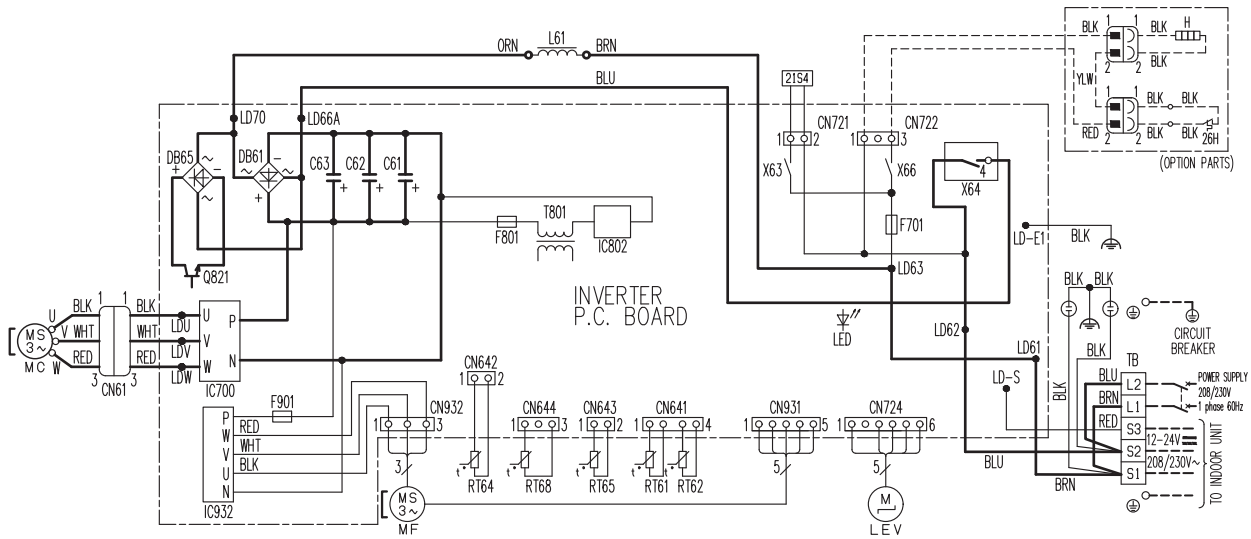
C61,C62,C63	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61	DIODE MODULE	MC	COMPRESSOR		
F701,F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
H	DEFROST HEATER(OPTION PARTS)	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC700,IC820,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	X63, X64, X66	RELAY
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	21S4	REVERSING VALVE COIL
LED	LED	RT64	FIN TEMP. THERMISTOR	26H	HEATER PROTECTOR(OPTION PARTS)

NAXSST15A112AB



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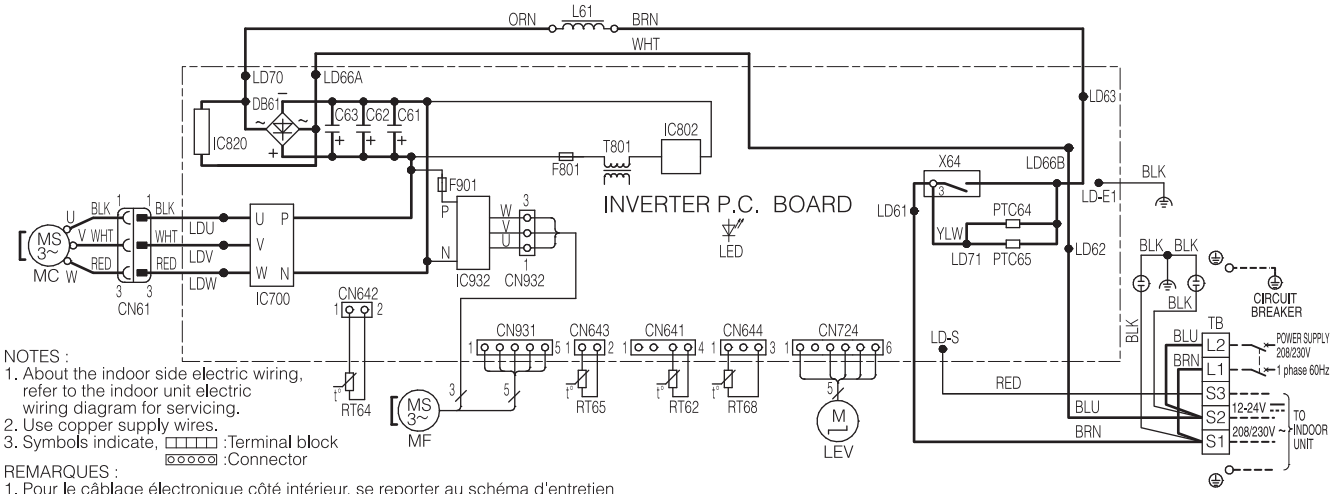
C61,C62,C63	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61,DB65	DIODE MODULE	MC	COMPRESSOR		
F701,F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
H	DEFROST HEATER (OPTION PARTS)	Q821	SWITCHING POWER TRANSISTOR	T801	TRANSFORMER
IC700,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	X63, X64, X66	RELAY
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	21S4	REVERSING VALVE COIL
LED	LED	RT64	FIN TEMP. THERMISTOR	26H	HEATER PROTECTOR (OPTION PARTS)

NAYSST15A112AA



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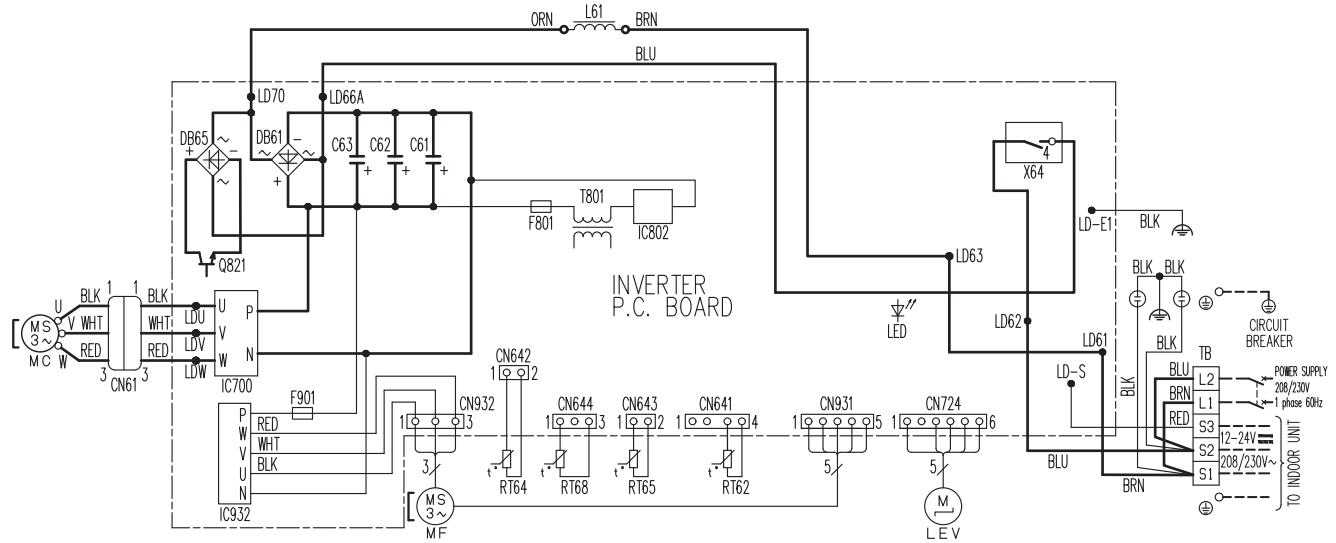
DB61	DIODE MODULE	MC	COMPRESSOR		
F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
IC700,IC820,IC932	POWER MODULE	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	X64	RELAY
LED	LED	RT64	FIN TEMP. THERMISTOR		

NAYSST15A112AB



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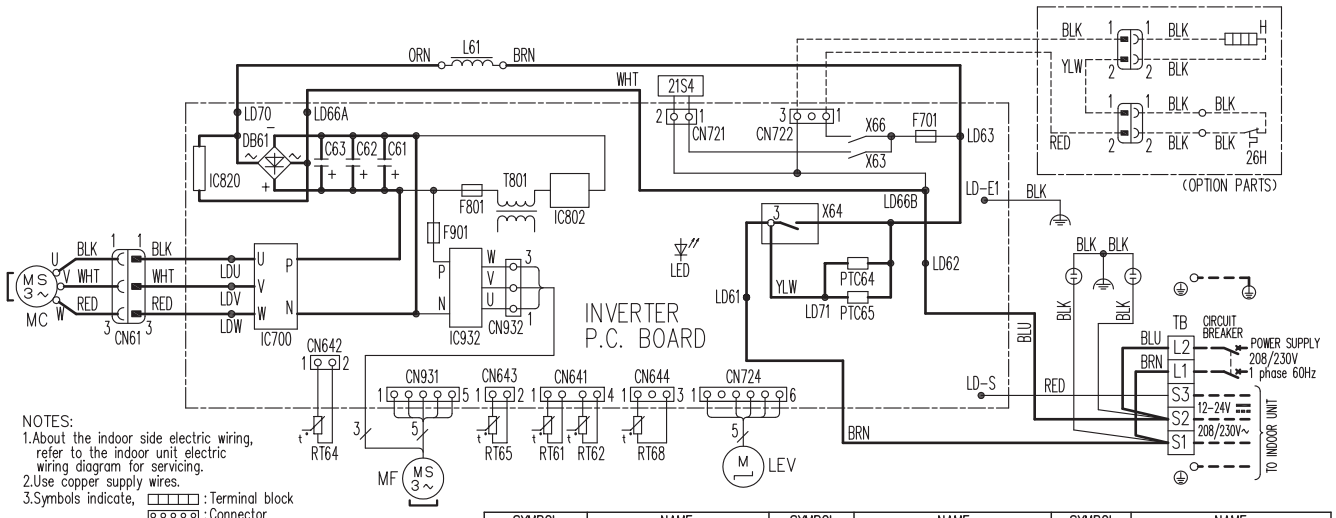
DB61,DB65	DIODE MODULE	MC	COMPRESSOR		
F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
IC700,IC932	POWER MODULE	Q821	SWITCHING POWER TRANSISTOR	T801	TRANSFORMER
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	X64	RELAY
LED	LED	RT64	FIN TEMP. THERMISTOR		

NAXSST18A112AA



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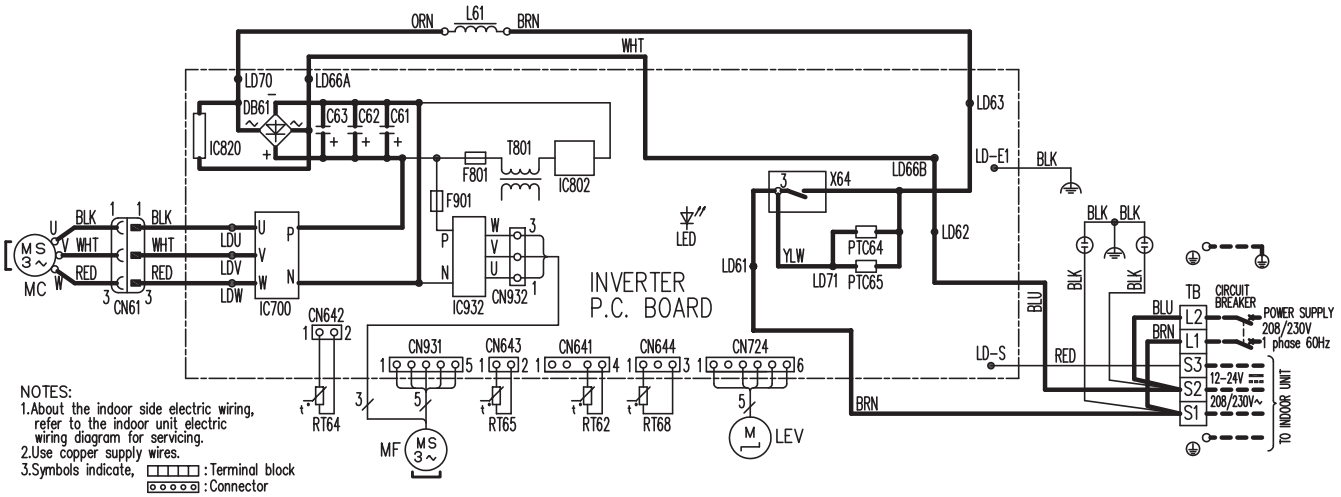
C61, C62, C63	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61	DIODE MODULE	MC	COMPRESSOR		
F701, F801, F901	FUSE (T3.15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
H	DEFROST HEATER (OPTION PARTS)	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC700, IC820, IC932	POWER MODULE	RT61	DEFROST THERMISTOR	X63, X64, X66	RELAY
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	21S4	REVERSING VALVE COIL
LED	LED	RT64	FIN TEMP. THERMISTOR	26H	HEATER PROTECTOR (OPTION PARTS)

NAYSST18A112AA



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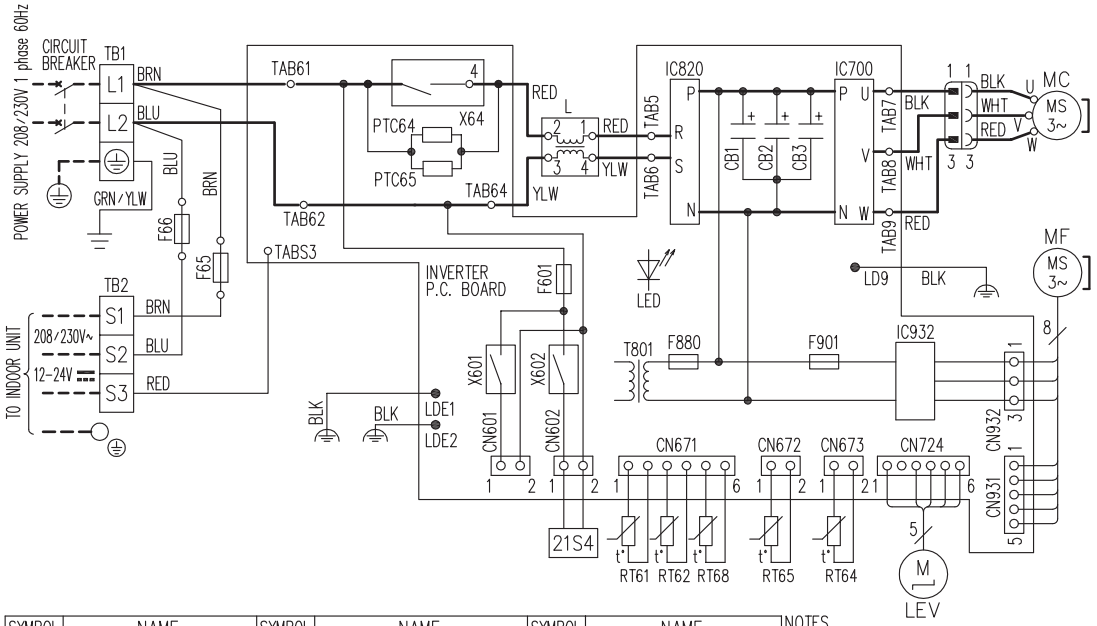
DB61	DIODE MODULE	MC	COMPRESSOR		
F801, F901	FUSE (T3.15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
IC700, IC820, IC932	POWER MODULE	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	X64	RELAY
LED	LED	RT64	FIN TEMP. THERMISTOR		

NAXSST24A112AA



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	LED	LED	RT65	AMBIENT TEMP.THERMISTOR
F65, F66	FUSE (T6.3AL250V)	LEV	EXPANSION VALVE COIL	RT68	OUTDOOR HEAT EXCHANGER TEMP.THERMISTOR
F601	FUSE (T3.15AL250V)	MC	COMPRESSOR		
F880	FUSE (T3.15AL250V)	MF	FAN MOTOR	TB1, TB2	TERMINAL BLOCK
F901	FUSE (T3.15AL250V)	PTC64	CIRCUIT PROTECTION	T801	TRANSFORMER
IC700	IGBT MODULE	PTC65	CIRCUIT PROTECTION	X601	RELAY
IC820	DIODE MODULE	RT61	DEFROST THERMISTOR	X602	RELAY
IC932	IGBT MODULE	RT62	DISCHARGE TEMP.THERMISTOR	X64	RELAY
L	REACTOR	RT64	FIN TEMP.THERMISTOR	21S4	REVERSING VALVE COIL

NOTES
1.About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
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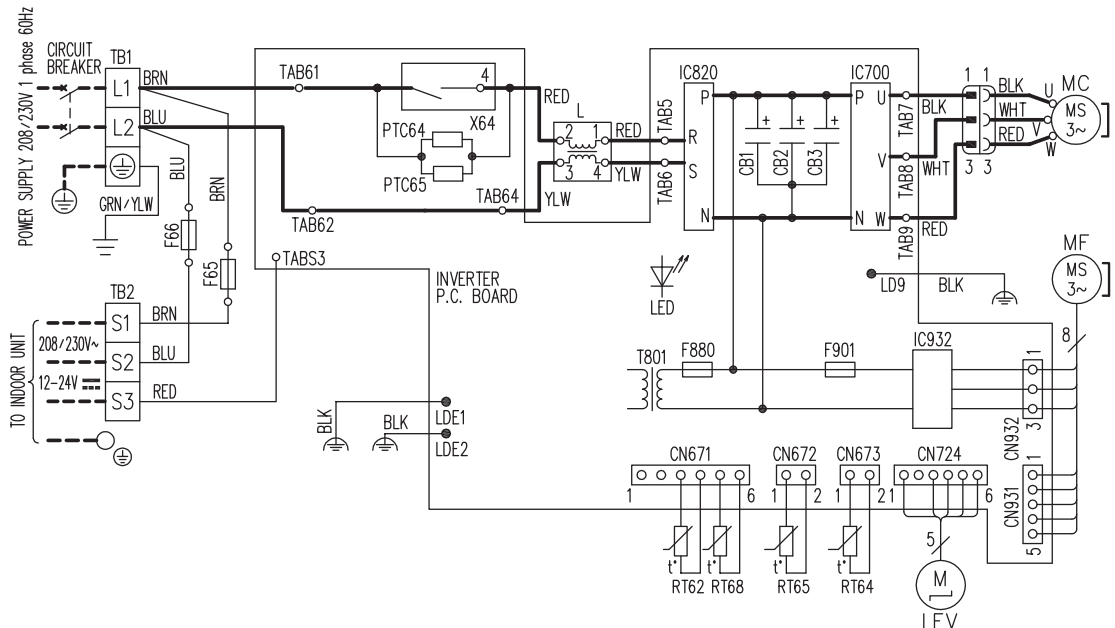
NAYSST24A112AA



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	LED	LED	RT64	FIN TEMP.THERMISTOR
F65, F66	FUSE (T6.3AL250V)	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP.THERMISTOR
F880	FUSE (T3.15AL250V)	MC	COMPRESSOR	RT68	OUTDOOR HEAT EXCHANGER TEMP.THERMISTOR
F901	FUSE (T3.15AL250V)	MF	FAN MOTOR		
IC700	IGBT MODULE	PTC64	CIRCUIT PROTECTION	TB1, TB2	TERMINAL BLOCK
IC820	DIODE MODULE	PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC932	IGBT MODULE	RT62	DISCHARGE TEMP.THERMISTOR	X64	RELAY
L	REACTOR				

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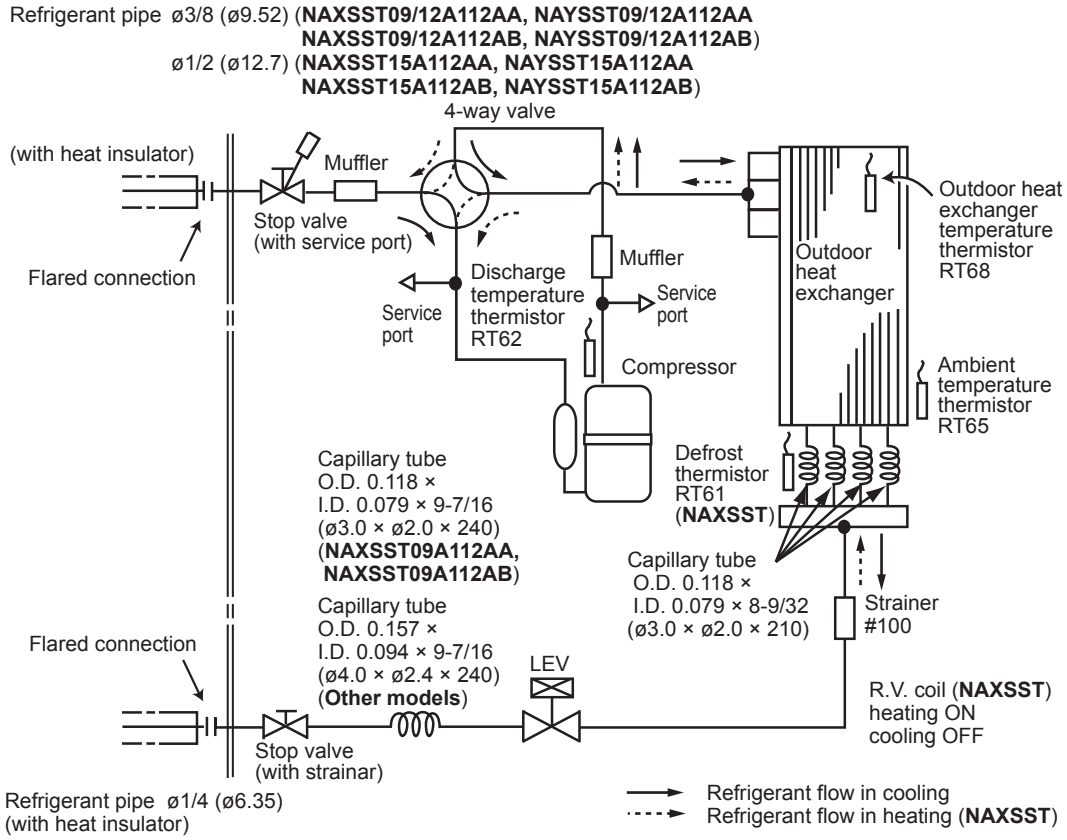
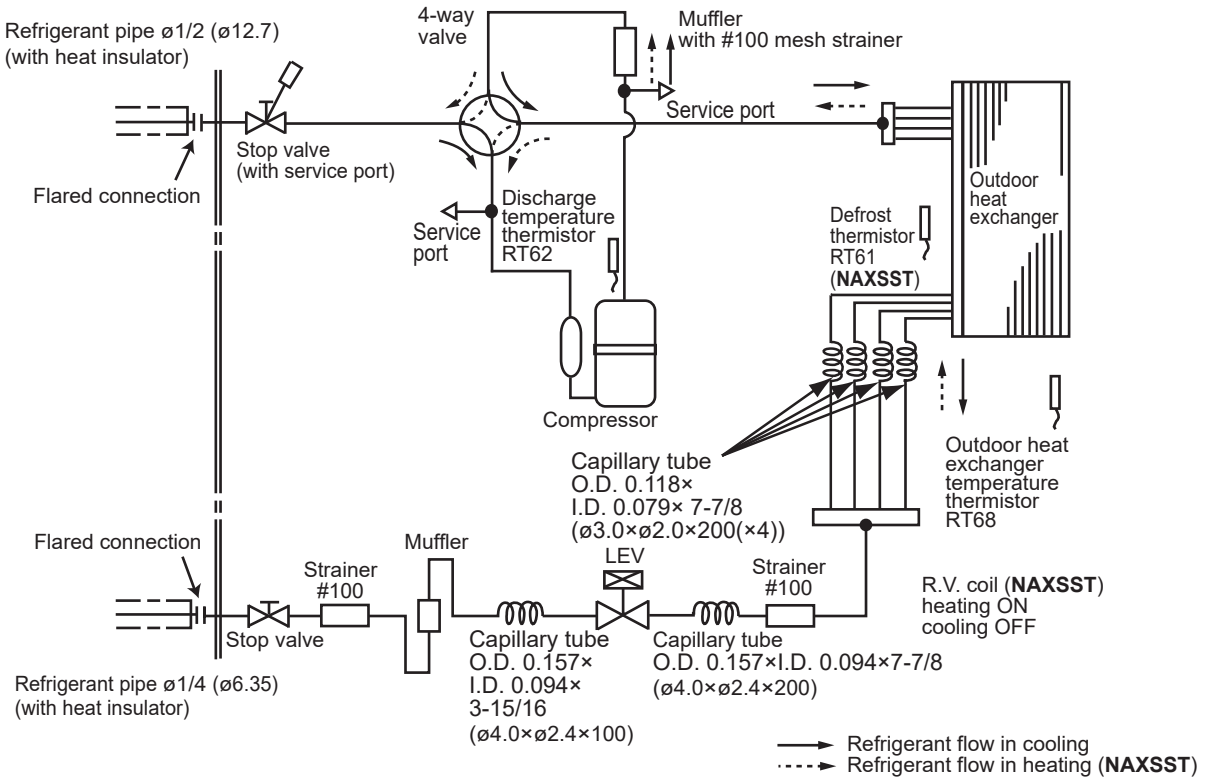
6 REFRIGERANT SYSTEM DIAGRAM

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB NAXSST15A112AA NAXSST15A112AB NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB NAYSST15A112AA NAYSST15A112AB

Unit: Inch (mm)

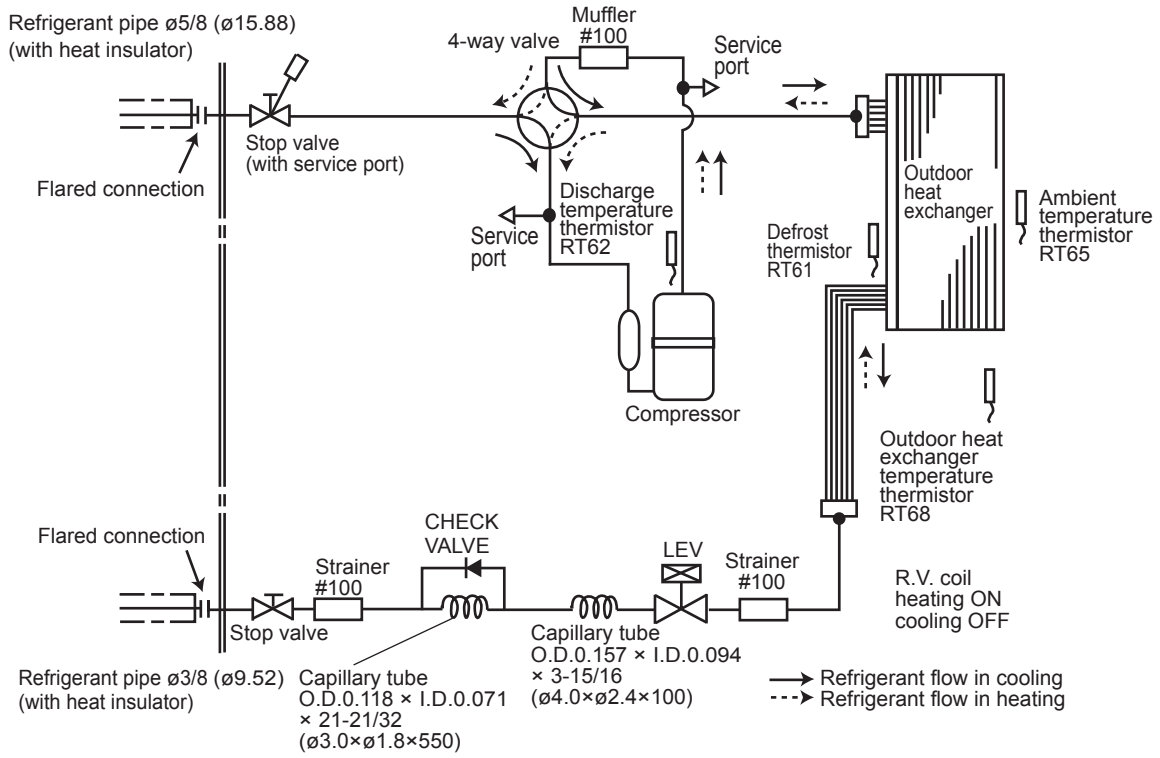


NAXSST18A112AA NAYSST18A112AA

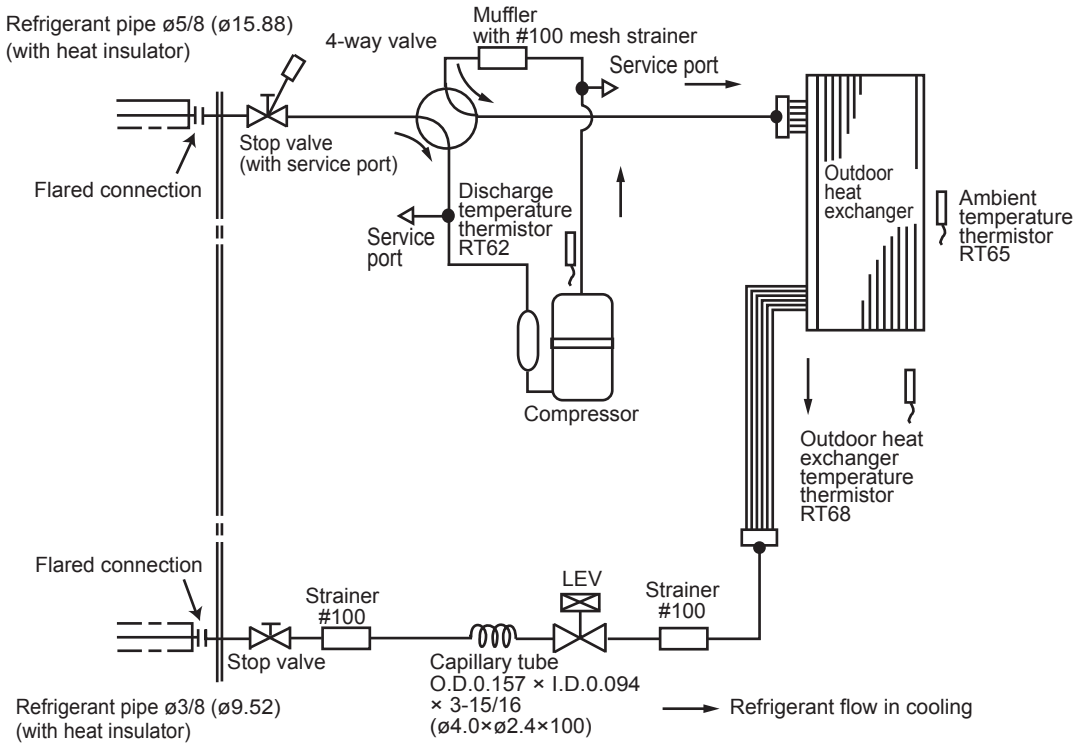


NAXSST24A112AA

Unit: Inch (mm)

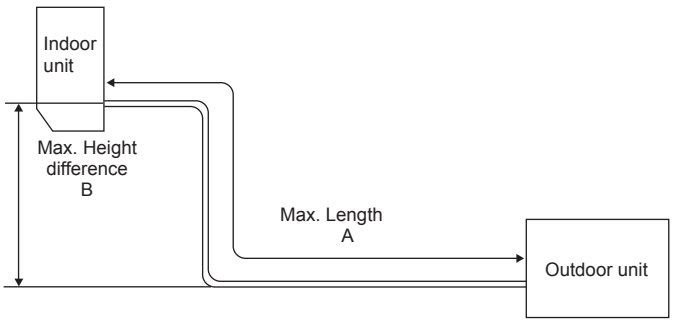


NAYSST24A112AA



MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

Model	Refrigerant piping: ft.		Piping size O.D: in.	
	Max. Length A	Max. Height difference B	Gas	Liquid
NAXSST09A112AA **NAXSST09A112AB** **NAXSST12A112AA** **NAXSST12A112AB** **NAYSST09A112AA** **NAYSST09A112AB** **NAYSST12A112AA** **NAYSST12A112AB**	65	40	3/8	1/4
NAXSST15A112AA **NAXSST15A112AB** **NAYSST15A112AA** **NAYSST15A112AB**			1/2	
NAXSST18A112AA **NAYSST18A112AA**	100	50		
NAXSST24A112AA **NAYSST24A112AA**			5/8	3/8



ADDITIONAL REFRIGERANT CHARGE (R410A: oz.)

NOTE: Refrigerant piping exceeding 25 ft. requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.					
		25	30	40	50	60	65
NAXSST09A112AA **NAXSST09A112AB**	2 lb. 5 oz.	0	1.08	3.24	5.40	7.56	8.64
NAXSST12A112AA **NAXSST12A112AB** **NAXSST15A112AA** **NAXSST15A112AB** **NAYSST09A112AA** **NAYSST09A112AB** **NAYSST12A112AA** **NAYSST12A112AB** **NAYSST15A112AA** **NAYSST15A112AB**	2 lb. 9 oz.						

Calculation: X oz. = 1.08/5 oz./ft. × (Refrigerant piping length (ft.) - 25)

NOTE: Refrigerant piping exceeding 25 ft. requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.								
		25	30	40	50	60	70	80	90	100
NAXSST18A112AA NAYSST18A112AA	3 lb. 9 oz.	0	1.08	3.24	5.40	7.56	9.72	11.88	14.04	16.20

Calculation: X oz. = 1.08/5 oz./ft. × (Refrigerant piping length (ft.) - 25)

NOTE: Refrigerant piping exceeding 33 ft. requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.							
		33	40	50	60	70	80	90	100
NAXSST24A112AA NAYSST24A112AA	4 lb. 3 oz.	0	4.14	10.06	15.98	21.90	27.82	33.74	39.66

Calculation: X oz. = 2.96/5 oz./ft. × (Refrigerant piping length (ft.) - 33)

7 DATA

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB
NAXSST15A112AA NAXSST15A112AB NAXSST18A112AA NAXSST24A112AA
NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB
NAYSST15A112AA NAYSST15A112AB NAYSST18A112AA NAYSST24A112AA

7-1. PERFORMANCE DATA

1) COOLING CAPACITY

Model	Indoor air IWB (˚F)	Outdoor intake air DB temperature (˚F)														
		75			85			95			105			115		
		TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC
NAXSST09A112AA NAXSST09A112AB NAYSST09A112AA NAYSST09A112AB	71	11.0	7.6	0.52	10.3	7.1	0.57	9.7	6.6	0.61	9.0	6.2	0.65	8.3	5.7	0.67
	67	10.4	8.6	0.49	9.7	8.0	0.54	9.0	7.4	0.59	8.4	6.9	0.62	7.7	6.3	0.65
	63	9.8	9.4	0.47	9.1	8.7	0.52	8.5	8.1	0.56	7.7	7.3	0.60	7.0	6.7	0.62
NAXSST12A112AA NAXSST12A112AB NAYSST12A112AA NAYSST12A112AB	71	14.7	9.4	0.82	13.7	8.7	0.90	12.9	8.2	0.97	12.0	7.6	1.02	11.0	7.0	1.06
	67	13.9	10.7	0.77	13.0	10.0	0.85	12.0	9.2	0.92	11.2	8.6	0.98	10.3	7.9	1.02
	63	13.1	11.8	0.74	12.1	10.9	0.81	11.3	10.2	0.88	10.3	9.3	0.94	9.4	8.5	0.98
NAXSST15A112AA NAXSST15A112AB NAYSST15A112AA NAYSST15A112AB	71	17.2	9.7	0.96	16.0	9.1	1.05	15.1	8.5	1.13	14.0	7.9	1.19	12.9	7.3	1.24
	67	16.2	11.4	0.91	15.1	10.6	1.00	14.0	9.8	1.08	13.0	9.1	1.14	12.0	8.4	1.20
	63	15.3	12.7	0.86	14.1	11.8	0.96	13.2	11.0	1.03	12.0	10.0	1.10	10.9	9.1	1.14
NAXSST18A112AA NAYSST18A112AA	71	22.1	16.2	1.19	20.6	15.2	1.31	19.4	14.3	1.41	18.0	13.3	1.48	16.6	12.2	1.54
	67	20.9	18.2	1.13	19.4	16.9	1.24	18.0	15.7	1.34	16.7	14.6	1.42	15.4	13.4	1.49
	63	19.6	19.7	1.07	18.2	18.2	1.19	16.9	17.0	1.28	15.4	15.4	1.37	14.0	14.1	1.42
NAXSST24A112AA NAYSST24A112AA	71	27.6	17.0	1.60	25.8	15.9	1.76	24.2	14.9	1.89	22.5	13.9	1.99	20.7	12.8	2.07
	67	26.1	19.6	1.51	24.3	18.2	1.67	22.5	16.9	1.80	20.9	15.7	1.91	19.2	14.4	2.00
	63	24.5	21.7	1.44	22.7	20.1	1.59	21.2	18.7	1.72	19.2	17.0	1.84	17.6	15.5	1.91

NOTE: 1. IWB : Intake air wet-bulb temperature TC : Total Capacity (x10^{3}Btu/h)
SHC : Sensible Heat Capacity (x10^{3}Btu/h) TPC : Total Power Consumption (kW)
2. SHC is based on 80˚F of indoor Intake air DB temperature.

2) COOLING CAPACITY CORRECTIONS

Model	Refrigerant piping length (one way: ft.)			
	25 (std.)	40	65	100
NAXSST09A112AA **NAXSST09A112AB** **NAXSST12A112AA** **NAXSST12A112AB** **NAXSST15A112AA** **NAXSST15A112AB** **NAYSST09A112AA** **NAYSST09A112AB** **NAYSST12A112AA** **NAYSST12A112AB** **NAYSST15A112AA** **NAYSST15A112AB**	1.0	0.988	0.967	-
NAXSST18A112AA **NAYSST18A112AA**	1.0	0.985	0.963	0.933
NAXSST24A112AA **NAYSST24A112AA**	1.0	0.983	0.956	0.921

3) HEATING CAPACITY CORRECTIONS

Model	Refrigerant piping length (one way: ft.)			
	25 (std.)	40	65	100
NAXSST09A112AA **NAXSST09A112AB** **NAXSST12A112AA** **NAXSST12A112AB** **NAXSST15A112AA** **NAXSST15A112AB**	1.0	0.997	0.993	-
NAXSST18A112AA **NAXSST24A112AA**	1.0	0.997	0.993	0.987

4) HEATING CAPACITY (NAXSST)

Model	Indoor air IDB (˚F)	Outdoor intake air WB temperature (˚F)													
		5		15		25		35		43		45		55	
		TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC
NAXSST09A112AA NAXSST09A112AB	75	4.8	0.42	6.3	0.54	7.9	0.63	9.4	0.70	10.6	0.74	11.0	0.75	12.4	0.78
	70	5.2	0.41	6.7	0.52	8.2	0.62	9.6	0.68	10.9	0.72	11.2	0.73	12.7	0.76
	65	5.5	0.39	6.9	0.50	8.6	0.59	10.0	0.67	11.2	0.70	11.6	0.71	13.0	0.75
NAXSST12A112AA NAXSST12A112AB	75	6.3	0.65	8.4	0.82	10.4	0.96	12.5	1.07	14.0	1.13	14.5	1.14	16.4	1.19
	70	6.8	0.62	8.9	0.79	10.8	0.94	12.7	1.05	14.4	1.10	14.8	1.12	16.8	1.17
	65	7.2	0.59	9.1	0.76	11.3	0.91	13.2	1.02	14.8	1.07	15.3	1.09	17.1	1.14
NAXSST15A112AA NAXSST15A112AB	75	7.9	0.94	10.4	1.19	13.1	1.40	15.6	1.56	17.6	1.64	18.1	1.66	20.5	1.73
	70	8.6	0.90	11.1	1.15	13.5	1.37	15.9	1.52	18.0	1.60	18.5	1.63	21.0	1.70
	65	9.0	0.86	11.3	1.10	14.1	1.32	16.5	1.48	18.5	1.56	19.1	1.58	21.4	1.66
NAXSST18A112AA	75	9.5	0.99	12.5	1.25	15.7	1.47	18.7	1.64	21.1	1.72	21.7	1.75	24.6	1.81
	70	10.3	0.95	13.3	1.21	16.2	1.44	19.1	1.60	21.6	1.68	22.2	1.71	25.2	1.78
	65	10.8	0.91	13.6	1.16	17.0	1.39	19.8	1.55	22.2	1.64	22.9	1.66	25.7	1.75
NAXSST24A112AA	75	12.1	1.38	16.0	1.74	20.0	2.05	23.9	2.28	26.9	2.40	27.7	2.43	31.5	2.53
	70	13.1	1.32	17.0	1.68	20.7	2.00	24.4	2.22	27.6	2.34	28.4	2.39	32.2	2.48
	65	13.8	1.26	17.4	1.61	21.7	1.93	25.3	2.16	28.4	2.28	29.3	2.32	32.8	2.43

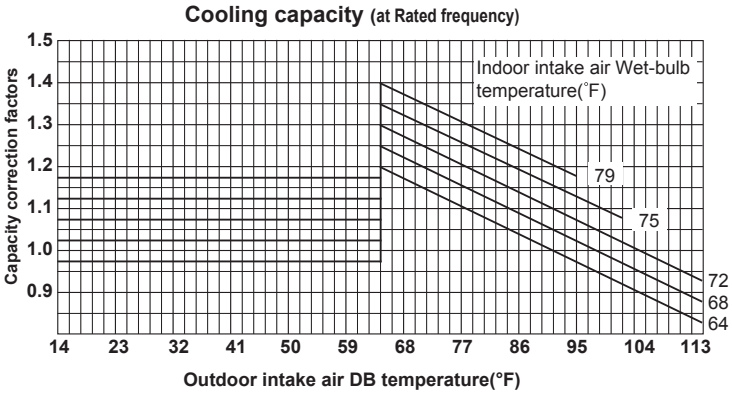
NOTE: 1. IDB : Intake air dry-bulb temperature
TC : Total Capacity (x10^3 Btu/h) TPC : Total Power Consumption (kW)
2. Above data is for heating operation without any frost.

How to operate with fixed operational frequency of the compressor.

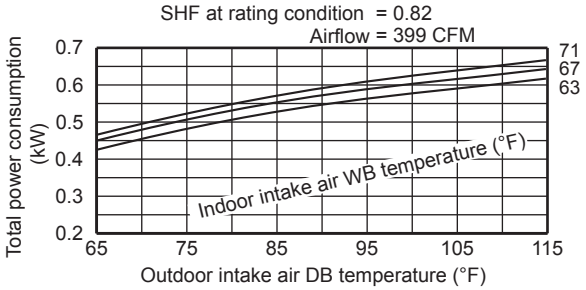
1. Press the EMERGENCY OPERATION switch on the front of the indoor unit, and select either EMERGENCY COOL mode or EMERGENCY HEAT mode before starting to operate the air conditioner.
2. The compressor starts with operational frequency.
3. The fan speed of the indoor unit is High.
4. This operation continues for 30 minutes.
5. In order to release this operation, press the EMERGENCY OPERATION switch or press any button on the remote controller.

7-2. PERFORMANCE CURVE

Cooling



NAXSST09A112AA NAXSST09A112AB
NAYSST09A112AA NAYSST09A112AB



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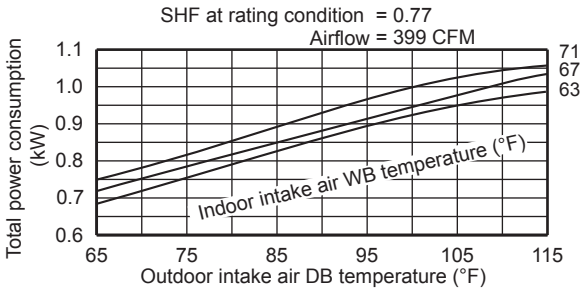
NAYSST12A112AA NAYSST12A112AB



NAXSST15A112AA NAXSST15A112AB
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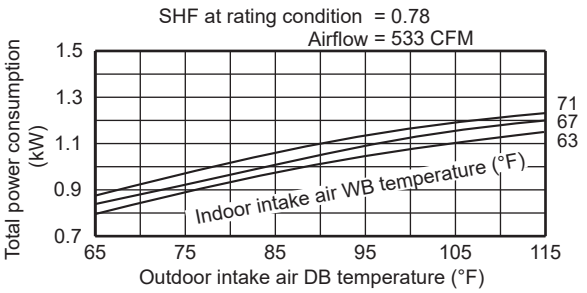

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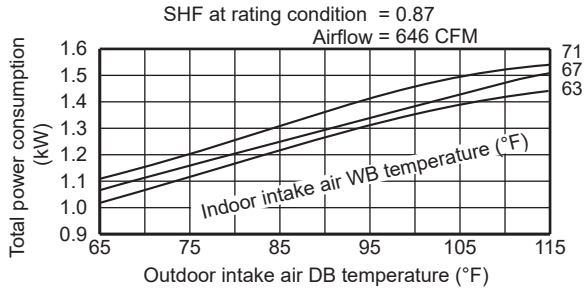

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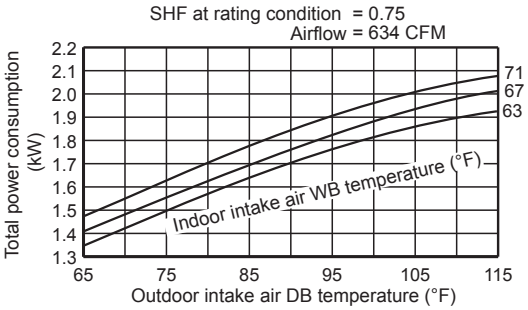
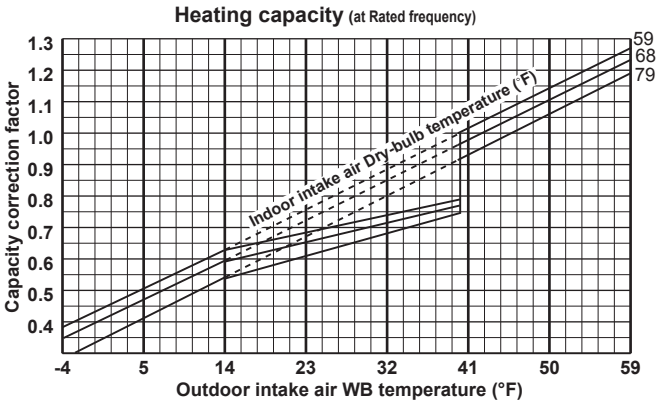
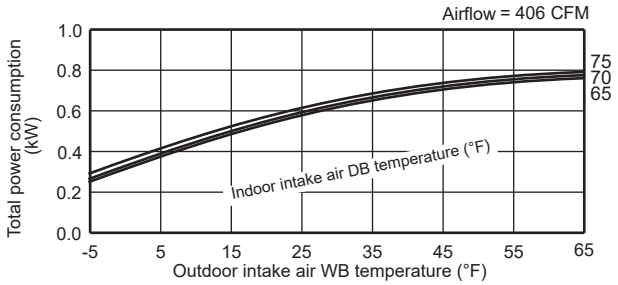


This value of frequency is not the same as the actual frequency in operating. Refer to 7-5 and 7-6 for the relationships between frequency and capacity.

Heating



NAXSST09A112AA
NAXSST09A112AB



NAXSST12A112AA
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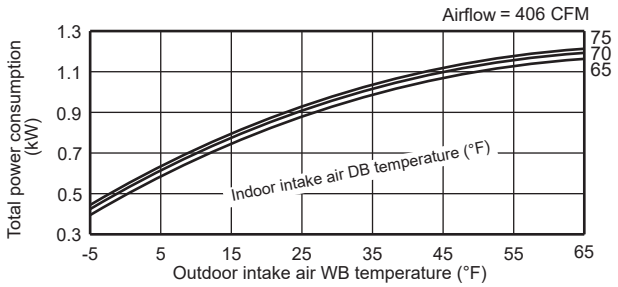

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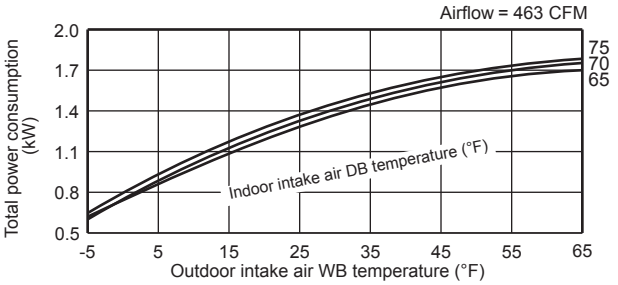

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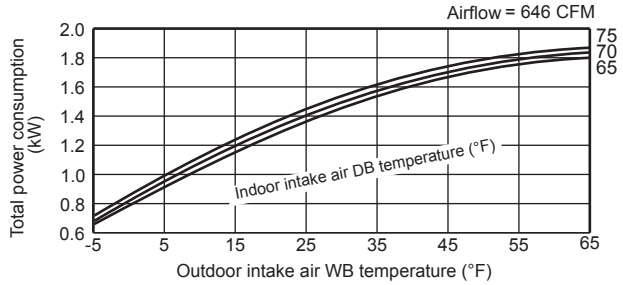

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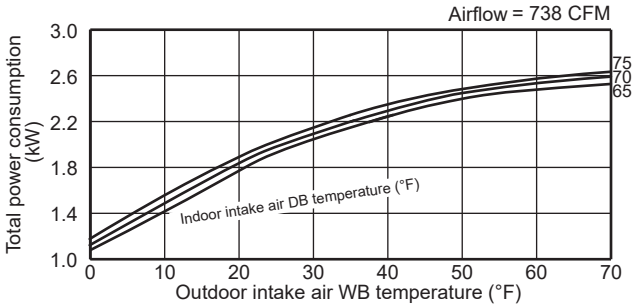


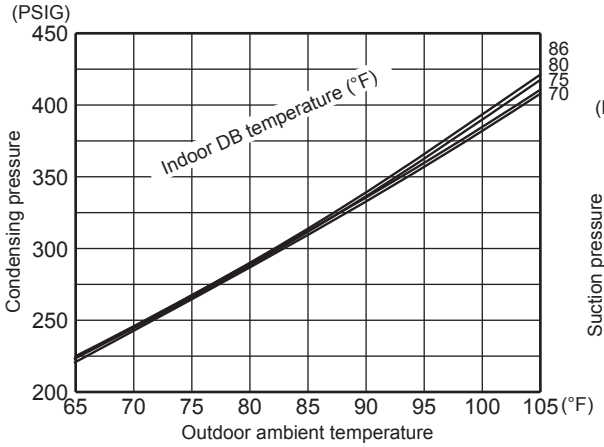
This value of frequency is not the same as the actual frequency in operating. Refer to 7-5 and 7-6 for the relationships between frequency and capacity.

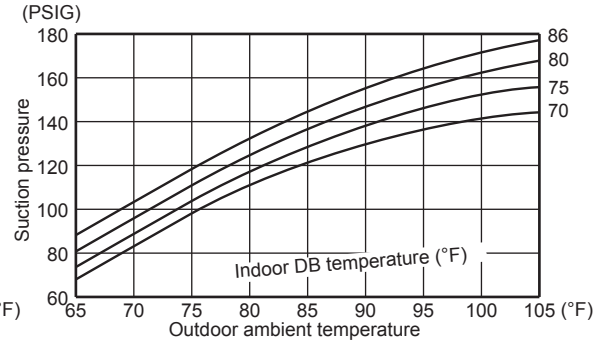
7-3. CONDENSING PRESSURE

Cooling

Data are based on the condition of indoor humidity 50 %.
Airflow should be set to High speed.

NAXSST09A112AA NAXSST09A112AB
NAYSST09A112AA NAYSST09A112AB





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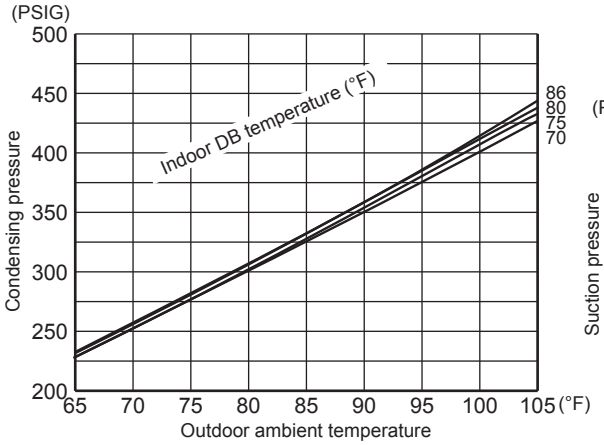
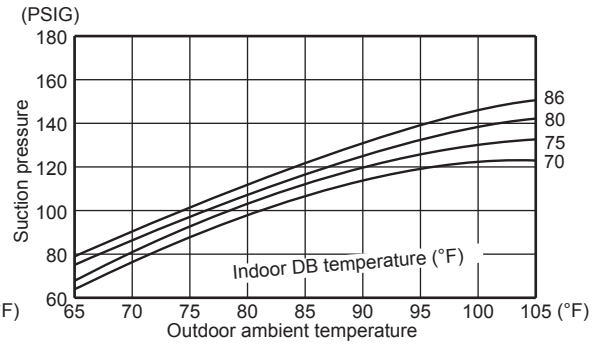
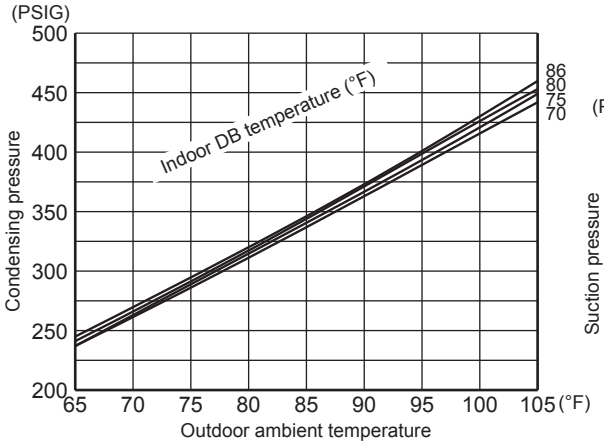
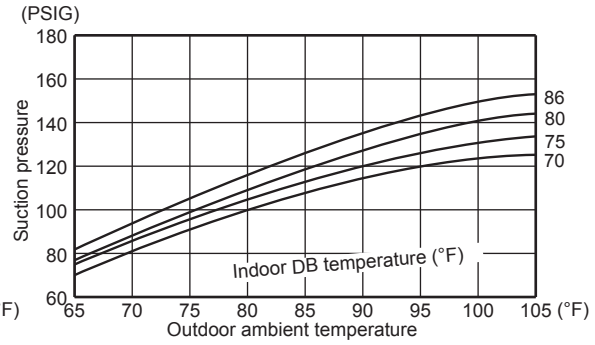
NAYSST12A112AA NAYSST12A112AB



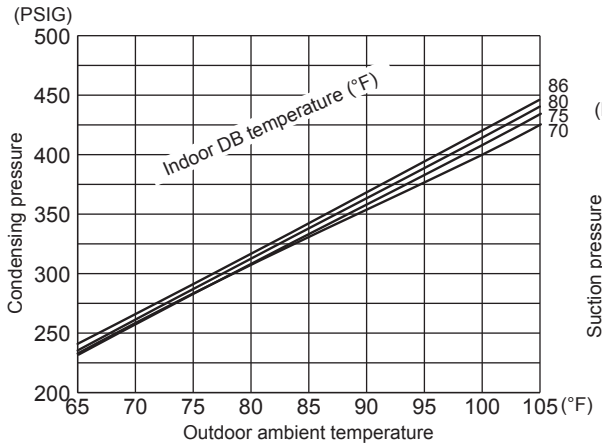


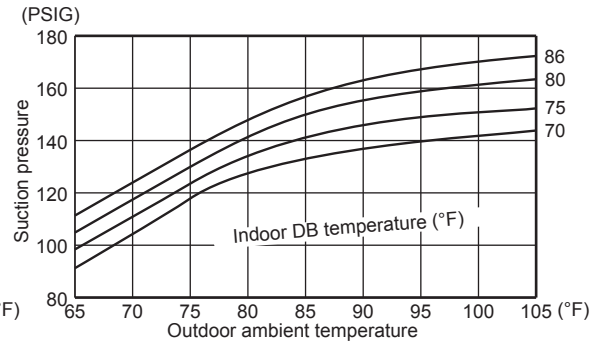
NAXSST15A112AA NAXSST15A112AB
NAYSST15A112AA NAYSST15A112AB



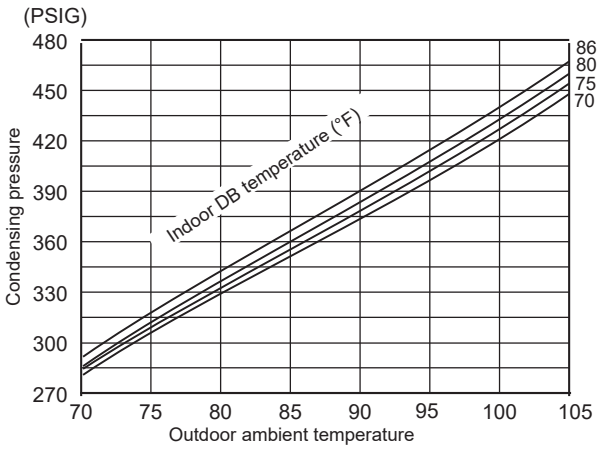


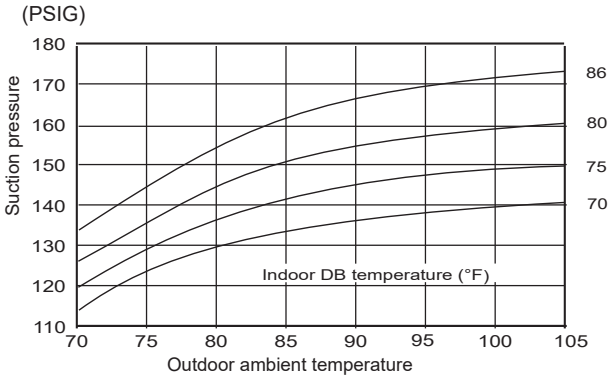
NAXSST18A112AA NAYSST18A112AA





NAXSST24A112AA NAYSST24A112AA

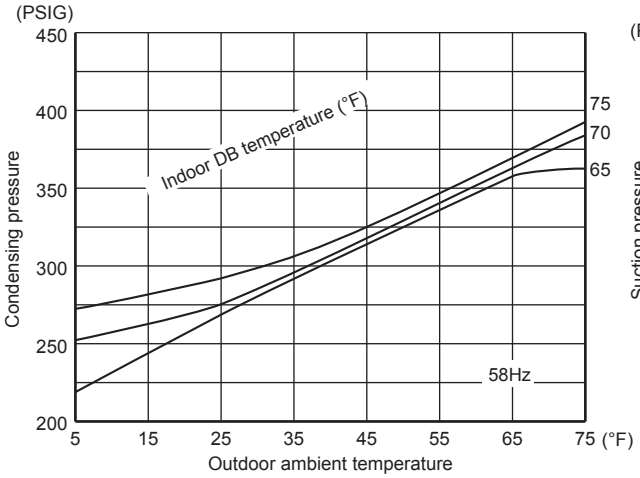


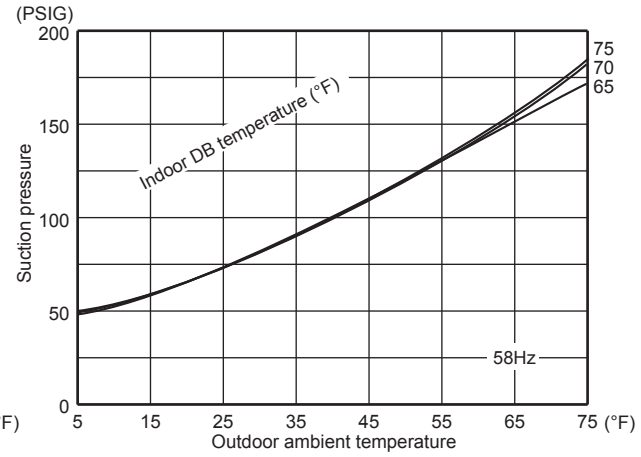


Heating

Data are based on the condition of outdoor humidity 75%.
Airflow should be set to High speed.
Data are for heating operation without any frost.

NAXSST09A112AA NAXSST09A112AB





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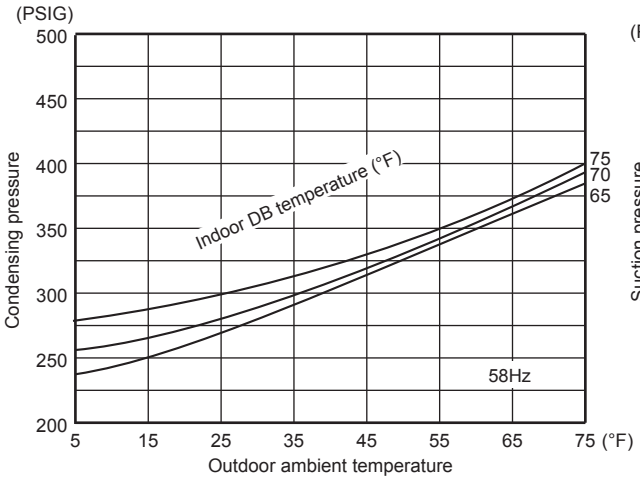

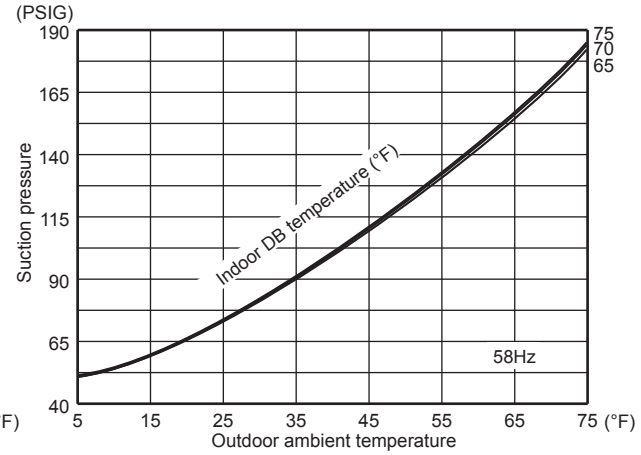

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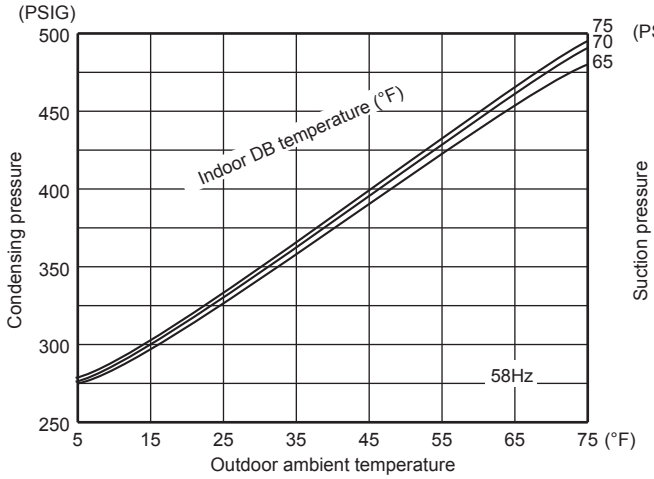

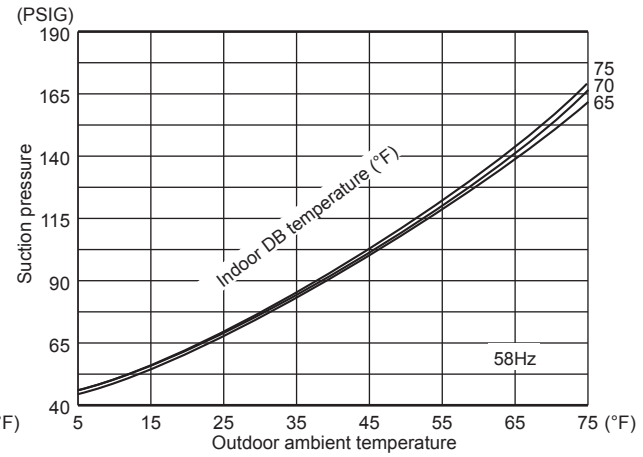

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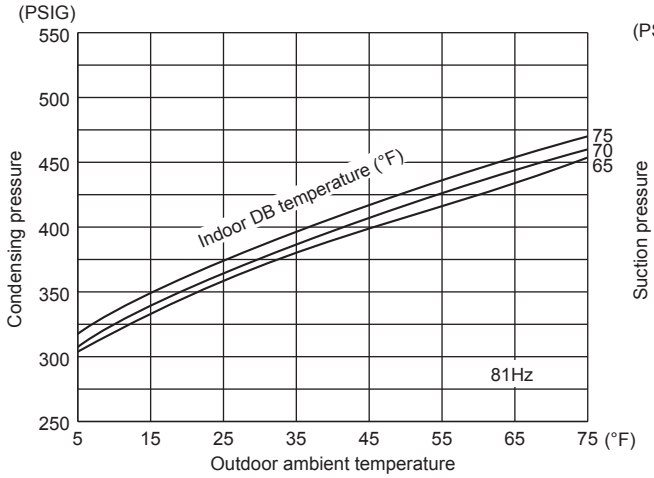

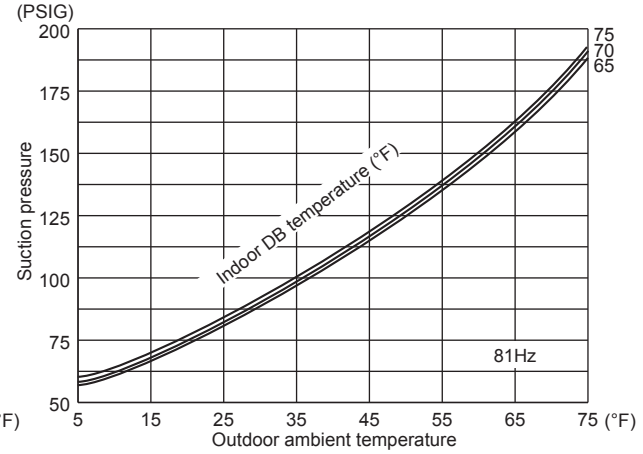

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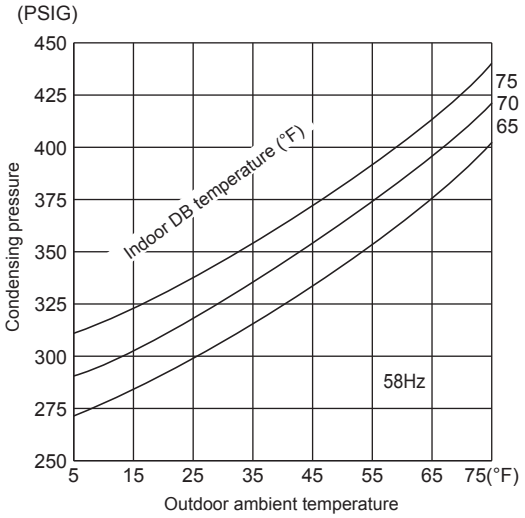
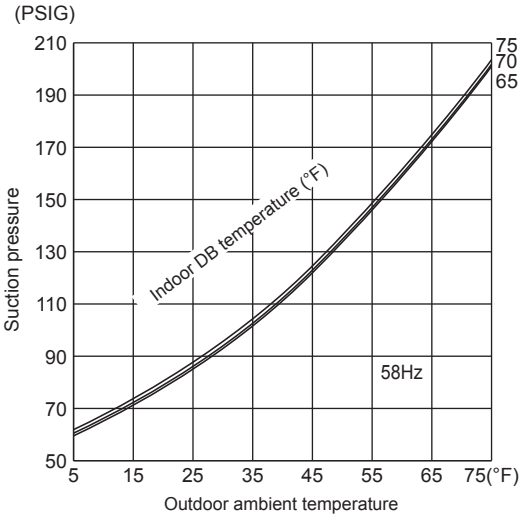




7-4. STANDARD OPERATION DATA

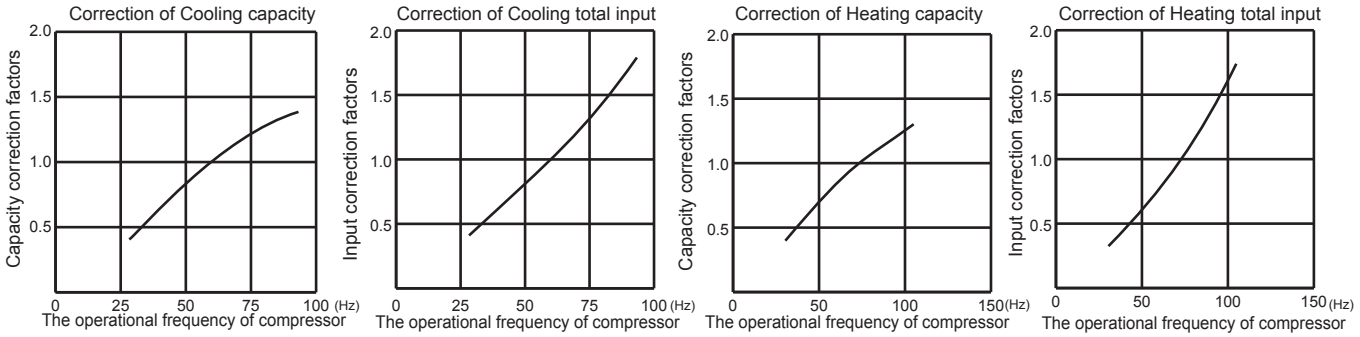
Model				NAXWST09A112AA NAXWST09A112AB		NAYWST09A112AA NAYWST09A112AB
Item			Unit	Cooling	Heating	Cooling
Total	Capacity		Btu/h	9,000	10,900	9,000
	SHF		—	0.82	—	0.82
	Input		kW	0.585	0.72	0.585
	Rated frequency		Hz	59	73	59.5
Electrical circuit	Indoor unit			NAXWST09A112AA NAXWST09A112AB		NAYWST09A112AA NAYWST09A112AB
	Power supply		V, phase, Hz	208/230, 1, 60		
	Input		kW	0.022	0.023	0.022
	Fan motor current		A	0.24/0.22	0.25/0.23	0.24/0.22
	Outdoor unit			NAXSST09A112AA NAXSST09A112AB		NAYSST09A112AA NAYSST09A112AB
	Power supply		V, phase, Hz	208/230, 1, 60		
	Input		kW	0.563	0.697	0.563
	Comp. current		A	2.67/2.41	3.25/2.94	2.63/2.37
	Fan motor current		A	0.36/0.33	0.34/0.31	0.36/0.33
Refrigerant circuit	Condensing pressure		PSIG	357	345	358
	Suction pressure		PSIG	151	107	149
	Discharge temperature		˚F	146	156	154
	Condensing temperature		˚F	108	102	108
	Suction temperature		˚F	61	44	66
	Comp. shell bottom temperature		˚F	144	154	152
	Ref. pipe length		ft.	25		
	Refrigerant charge (R410A)			2 lb 5 oz.		2 lb 9 oz.
Indoor unit	Intake air temperature	DB	˚F	80	70	80
		WB	˚F	67	60	67
	Discharge air temperature	DB	˚F	59	99	59
		WB	˚F	56	—	56
	Fan speed (High)		rpm	1,020	1,040	1,020
	Airflow (High)		CFM	367 (Wet)	413	367 (Wet)
Outdoor unit	Intake air temperature	DB	˚F	95	47	95
		WB	˚F	—	—	—
	Fan speed		rpm	900	860	900
	Airflow		CFM	1,229	1,172	1,229

Model				NAXWST12A112AA NAXWST12A112AB NAYWST12A112AA NAYWST12A112AB		NAXWST15A112AA NAXWST15A112AB NAYWST15A112AA NAYWST15A112AB	
Item			Unit	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	12,000	14,400	14,000	18,000
	SHF		—	0.77	—	0.78	—
	Input		kW	0.920	1.10	1.080	1.60
	Rated frequency		Hz	70	77	56.5	74
Electrical circuit	Indoor unit			NAXWST12A112AA NAXWST12A112AB NAYWST12A112AA NAYWST12A112AB		NAXWST15A112AA NAXWST15A112AB NAYWST15A112AA NAYWST15A112AB	
	Power supply		V, phase, Hz	208/230, 1, 60			
	Input		kW	0.022	0.023	0.043	0.030
	Fan motor current		A	0.24/0.22	0.25/0.23	0.43/0.39	0.34/0.31
	Outdoor unit			NAXWST12A112AA NAXWST12A112AB NAYWST12A112AA NAYWST12A112AB		NAXWST15A112AA NAXWST15A112AB NAYWST15A112AA NAYWST15A112AB	
	Power supply		V, phase, Hz	208/230, 1, 60			
	Input		kW	0.898	1.077	1.037	1.570
	Comp. current		A	4.01/3.62	4.86/4.39	4.51/4.08	7.11/6.43
	Fan motor current		A	0.41/0.37	0.40/0.36	0.41/0.37	0.40/0.36
Refrigerant circuit	Condensing pressure		PSIG	380	402	396	427
	Suction pressure		PSIG	133	106	138	98
	Discharge temperature		˚F	166	167	168	178
	Condensing temperature		˚F	112	115	115	120
	Suction temperature		˚F	60	35	61	31
	Comp. shell bottom temperature		˚F	152	150	152	158
	Ref. pipe length		ft.	25			
	Refrigerant charge (R410A)			2 lb 9 oz.			
Indoor unit	Intake air temperature	DB	˚F	80	70	80	70
		WB	˚F	67	60	67	60
	Discharge air temperature	DB	˚F	57	110	58	114
		WB	˚F	55	—	56	—
	Fan speed (High)		rpm	1,020	1,040	1,280	1,140
	Airflow (High)		CFM	367 (Wet)	413	498 (Wet)	463
Outdoor unit	Intake air temperature	DB	˚F	95	47	95	47
		WB	˚F	—	43	—	43
	Fan speed		rpm	900	860	910	900
	Airflow		CFM	1,229	1,172	1,243	1,229

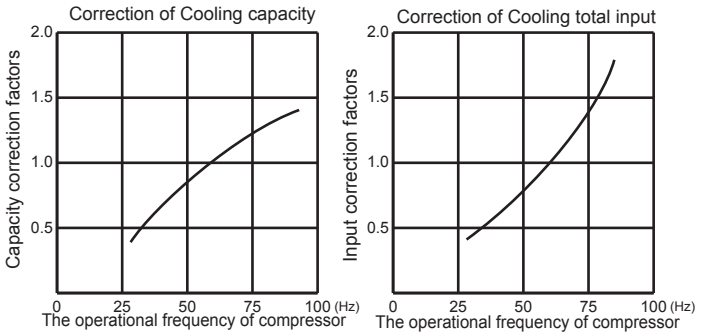
Model				NAXWST18A112AA NAYWST18A112AA		NAXWST24A112AA NAYWST24A112AA	
Item			Unit	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	18,000	21,600	22,500	27,600
	SHF		—	0.87	—	0.75	—
	Input		kW	1.34	1.68	1.80	2.34
	Rated frequency		Hz	69	81	67.5	82.0
Electrical circuit	Indoor unit			NAXWST18A112AA NAYWST18A112AA		NAXWST24A112AA NAYWST24A112AA	
	Power supply		V, phase, Hz	208/230, 1, 60			
	Input		kW	0.045		0.058	
	Fan motor current		A	0.46/0.42		0.56/0.51	
	Outdoor unit			NAXSST18A112AA NAYSST18A112AA		NAXSST24A112AA NAYSST24A112AA	
	Power supply		V, phase, Hz	208/230, 1, 60			
	Input		kW	1.295	1.635	1.742	2.282
	Comp. current		A	5.01/4.53	6.67/6.03	7.01/6.34	9.59/8.67
	Fan motor current		A	1.05/0.95	1.05/0.95	1.16/1.05	1.13/1.02
Refrigerant circuit	Condensing pressure		PSIG	377	391	395	405
	Suction pressure		PSIG	144	103	141	102
	Discharge temperature		˚F	149	178	158	171
	Condensing temperature		˚F	111	111	115	115
	Suction temperature		˚F	51	43	52	33
	Comp. shell bottom temperature		˚F	134	160	140	148
	Ref. pipe length		ft.	25			
	Refrigerant charge (R410A)			3 lb 9 oz.		4 lb 3 oz.	
Indoor unit	Intake air temperature	DB	˚F	80	70	80	70
		WB	˚F	67	60	67	60
	Discharge air temperature	DB	˚F	52	111	56	111
		WB	˚F	51	—	53	—
	Fan speed (High)		rpm	1,170	1,170	1,300	1,300
	Airflow (High)		CFM	581 (Wet)	646	634 (Wet)	738
Outdoor unit	Intake air temperature	DB	˚F	95	47	95	47
		WB	˚F	—	43	—	43
	Fan speed		rpm	810	810	840	810
	Airflow		CFM	1,691	1,691	1,769	1,701

7-5. CAPACITY AND INPUT CORRECTION BY INVERTER OUTPUT FREQUENCY

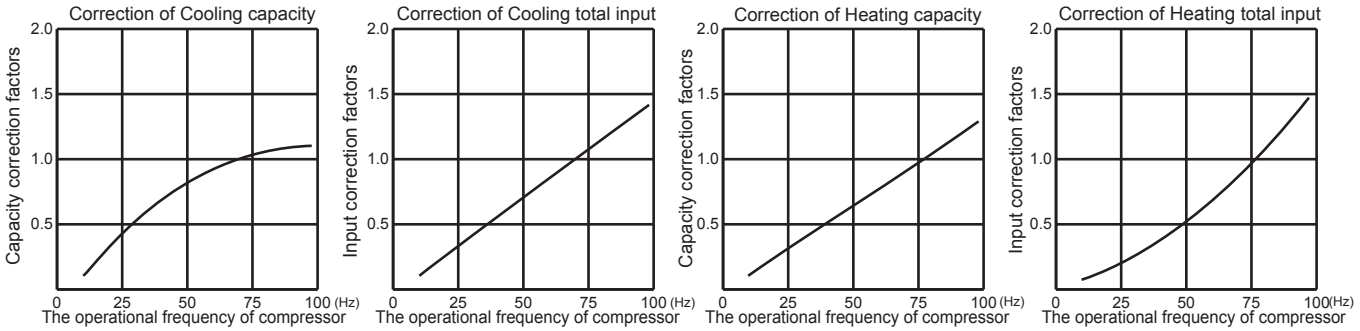
NAXSST09A112AA NAXSST09A112AB



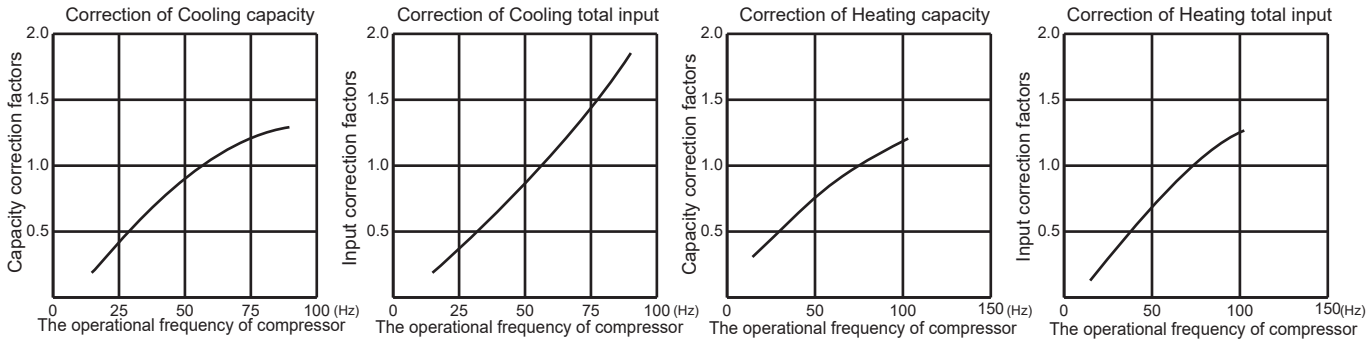
NAYSST09A112AA NAYSST09A112AB



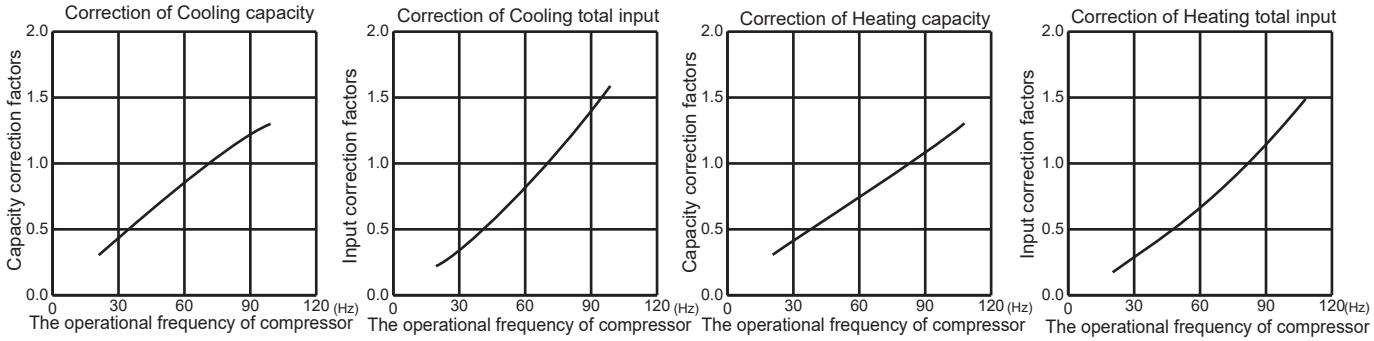
NAXSST12A112AA NAYSST12A112AA NAXSST12A112AB NAYSST12A112AB



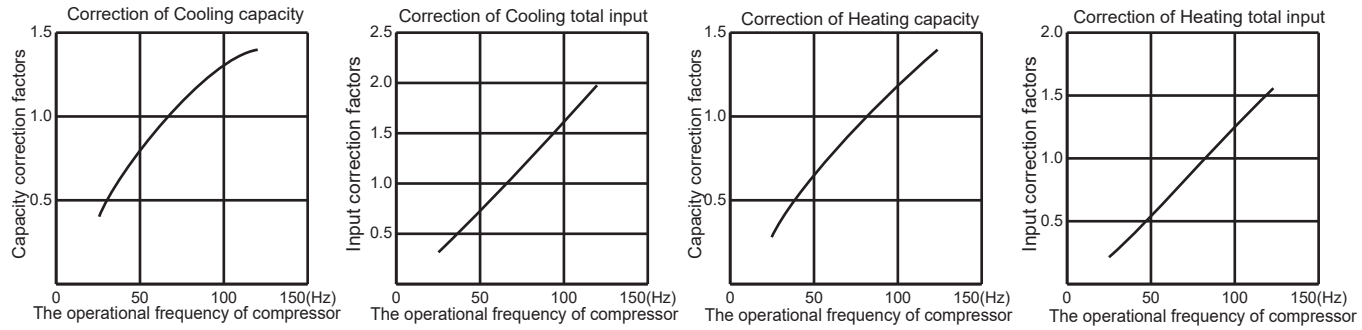
NAXSST15A112AA NAYSST15A112AA NAXSST15A112AB NAYSST15A112AB



NAXSST18A112AA NAYSST18A112AA



NAXSST24A112AA NAYSST24A112AA



7-6. HOW TO OPERATE FIXED-FREQUENCY OPERATION (Test run operation)

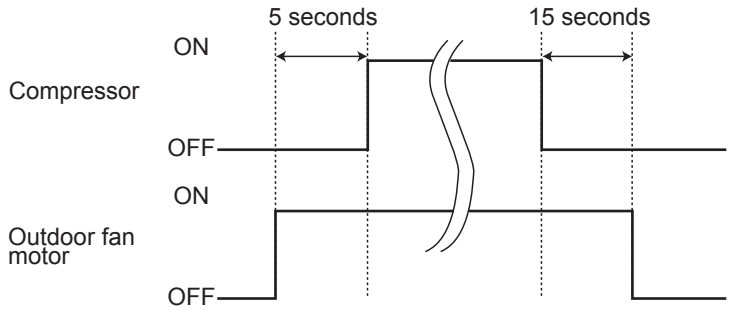
1. Press EMERGENCY OPERATION switch to start COOL or HEAT mode (COOL: Press once, HEAT: Press twice).
2. Test run operation starts and continues to operate for 30 minutes.
3. Compressor operates at rated frequency in COOL mode or 58 Hz in HEAT mode.
4. Indoor fan operates at High speed.
5. After 30 minutes, test run operation finishes and EMERGENCY OPERATION starts (operation frequency of compressor varies).
6. To cancel test run operation (EMERGENCY OPERATION), press EMERGENCY OPERATION switch or any button on the remote controller.

8 ACTUATOR CONTROL

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB
NAXSST15A112AA NAXSST15A112AB NAXSST18A112AA NAXSST24A112AA
NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB
NAYSST15A112AA NAYSST15A112AB NAYSST18A112AA NAYSST24A112AA

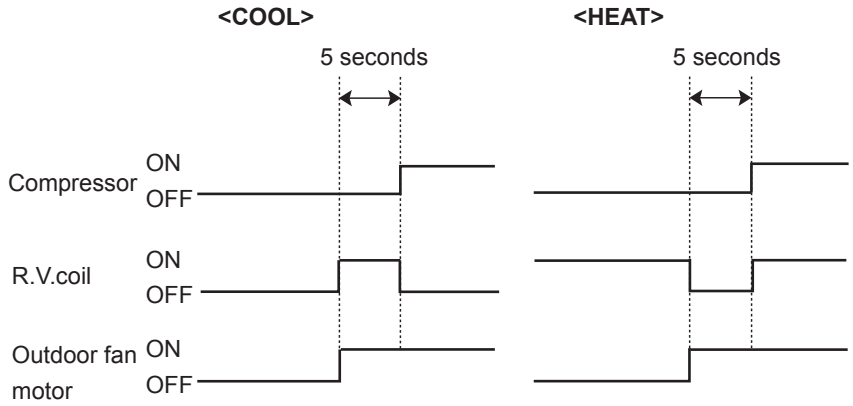
8-1. OUTDOOR FAN MOTOR CONTROL

The fan motor turns ON/OFF, interlocking with the compressor.
[ON] The fan motor turns ON 5 seconds before the compressor starts up.
[OFF] The fan motor turns OFF 15 seconds after the compressor has stopped running.



8-2. R.V. COIL CONTROL (NAXSST)

Heating · · · · · · · · · · · · · · · · · · ON
Cooling · · · · · · · · · · · · · · · · · · OFF
Dry · OFF
NOTE: The 4-way valve reverses for 5 seconds right before startup of the compressor.



8-3. RELATION BETWEEN MAIN SENSOR AND ACTUATOR

Sensor	Purpose	Actuator				
		Compressor	LEV	Outdoor fan motor	R.V.coil	Indoor fan motor
Discharge temperature thermistor	Protection	○	○			
Indoor coil temperature thermistor	Cooling: Coil frost prevention	○				
	Heating: High pressure protection	○	○			
Defrost thermistor **(NAXSST)**	Heating: Defrosting	○	○	○	○	○
Fin temperature thermistor	Protection	○		○		
Ambient temperature thermistor	Cooling: Low ambient temperature operation	○	○	○		
	Heating: Defrosting (Heater)					
Outdoor heat exchanger temperature thermistor	Cooling: Low ambient temperature operation	○	○	○		
	Cooling: High pressure protection	○	○	○		

9 SERVICE FUNCTIONS

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB
NAXSST15A112AA NAXSST15A112AB NAXSST18A112AA NAXSST24A112AA
NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB
NAYSST15A112AA NAYSST15A112AB NAYSST18A112AA NAYSST24A112AA

9-1. CHANGE IN DEFROST SETTING (NAXSST)

Changing defrost finish temperature

<JS> To change the defrost finish temperature, cut/solder the JS wire of the outdoor inverter P.C. board (Refer to 10-6.1.).

Jumper		Defrost finish temperature	
		NAXSST09/12/15A112AA NAXSST09/12/15A112AB	NAXSST18/24A112AA
JS	Soldered (Initial setting)	41°F (5°C)	50°F (10°C)
	None (Cut)	50°F (10°C)	64°F (18°C)

9-2. PRE-HEAT CONTROL SETTING (NAXSST)

NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB

When moisture gets into the refrigerant cycle, it may interfere with the startup of the compressor at low outside temperature. The pre-heat control prevents this interference. The pre-heat control turns ON when the discharge temperature thermistor is 68°F (20°C) or below. When the pre-heat control turns ON, the compressor is energized. (About 50 W)

NAXSST24A112AA

Prolonged low load operation, in which the thermostat is OFF for a long time, at low outside temperature [32°F (0°C) or less] may cause the following troubles. The pre-heat control prevents those troubles.

1) If moisture gets into the refrigerant cycle and freezes, it may interfere the startup of the compressor.
2) If liquid refrigerant collects in the compressor, a failure in the compressor may occur.

The pre-heat control turns ON when the compressor temperature is 68°F (20°C) or below. When the pre-heat control turns ON, the compressor is energized. (About 70 W)

Pre-heat control setting

<JK>
ON: To activate the pre-heat control, cut JK wire of the inverter P.C. board.
OFF: To deactivate the pre-heat control, solder JK wire of the inverter P.C. board.
(Refer to 10-6.1)

Jumper		Pre-heat control setting	
		NAXSST09/12/15/18A112AA NAXSST09/12/15A112AB	NAXSST24A112AA
JK	Soldered	Deactivated (Initial setting)	Deactivated
	Cut	Activated	Activated (Initial setting)

NOTE: When the inverter P.C. board is replaced, check the jumper wires, and cut/solder them if necessary.

10 TROUBLESHOOTING

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB
NAXSST15A112AA NAXSST15A112AB NAXSST18A112AA NAXSST24A112AA
NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB
NAYSST15A112AA NAYSST15A112AB NAYSST18A112AA NAYSST24A112AA

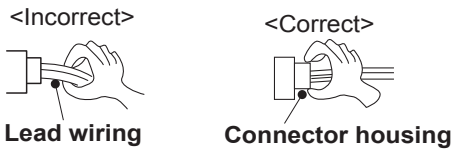
10-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for miswiring.

2. Take care of the following during servicing

1) Before servicing the air conditioner, be sure to turn OFF the main unit first with the remote controller, then after confirming the horizontal vane is closed, turn off the breaker and/or disconnect the power plug.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electrical parts, be careful of the residual voltage of smoothing capacitor.
4) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
5) When connecting or disconnecting the connectors, hold the connector housing. DO NOT pull the lead wires.



3. Troubleshooting procedure

1) Check if the OPERATION INDICATOR lamp on the indoor unit is blinking on and off to indicate an abnormality. To make sure, check how many times the OPERATION INDICATOR lamp is blinking on and off before starting service work. (See the service manual of the indoor unit for a description of those failure codes.)
2) Before servicing, check that the connector and terminal are connected properly.
3) When the electronic control P.C. board seems to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
4) Refer to 10-2 and 10-3.

10-2. FAILURE MODE RECALL FUNCTION

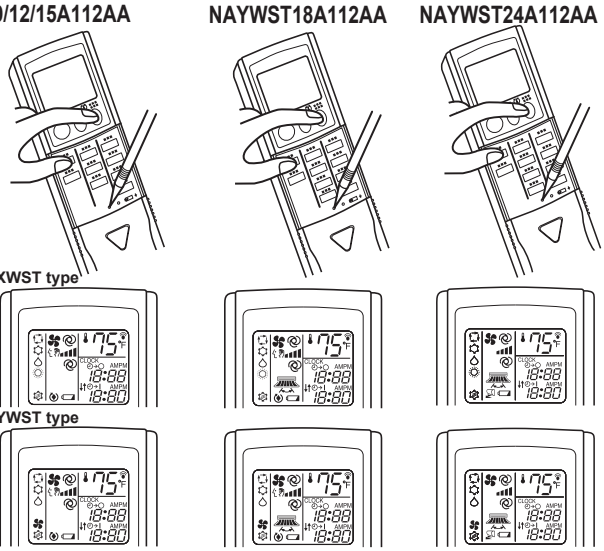
Outline of the function

This air conditioner can memorize the abnormal condition which has occurred once.

Even though LED indication listed on the troubleshooting check table (10-3.) disappears, the memorized failure details can be recalled.

1. Flow chart of failure mode recall function for the indoor/outdoor unit

NAXWST06/09/12/15A112AA NAYWST09/12/15A112AA | **NAXWST18A112AA NAYWST18A112AA** | **NAXWST24A112AA NAYWST24A112AA**



Operational procedure

The cause of abnormality cannot be found because the abnormality does not recur.

Setting up the failure mode recall function

Turn ON the power supply.
<Preparation of the remote controller>
① While pressing OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button.
Hold down the other 2 buttons for another 3 seconds. Make sure that the indicators on the LCD screen shown in the right figure are all displayed. Then release the buttons.

Press STOP/OPERATE (OFF/ON) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit. ※1

※1. Regardless of normal or abnormal condition, a short beep is emitted once the signal is received.

Judgment of indoor/outdoor abnormality

Does the upper lamp of the OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: Either indoor or outdoor unit is abnormal. Beep is emitted at the same timing as the blinking of the upper lamp of the OPERATION INDICATOR lamp. ※2

No (OFF) → Indoor unit is normal.
But the outdoor unit might be abnormal because there are some abnormalities that cannot be recalled with this way.
Check if outdoor unit is abnormal according to the detailed outdoor unit failure mode recall function. (Refer to 10-2.2)

Yes (Blinks)

Before blinking, does the upper lamp of the OPERATION INDICATOR lamp stay ON for 3 seconds?
When it stays ON for 3 seconds (without beep): The outdoor unit is abnormal.

Yes → The outdoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the outdoor unit failure recall mode table. (Refer to 10-2.3)
Make sure to check at least 2 consecutive blinking cycles. ※3

No → The indoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the indoor unit failure recall mode table. (Refer to indoor unit service manual.)
Make sure to check at least 2 consecutive blinking cycles. ※2

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures.
Turn OFF the power supply and turn it ON again.
Press RESET button of the remote controller.

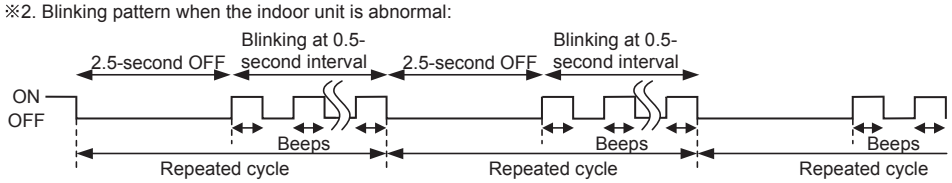
Repair the failure parts.

Deleting the memorized abnormal condition

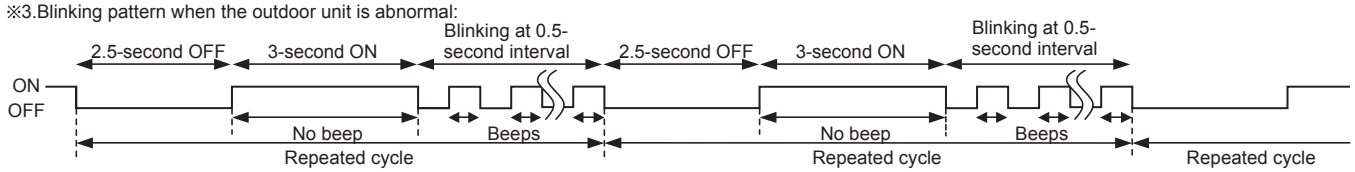
① After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall function" mentioned above.
② Press STOP/OPERATE (OFF/ON) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
③ Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
④ Release the failure mode recall function according to "Releasing the failure mode recall function" mentioned above.

NOTE: 1. Make sure to release the failure mode recall function after it is set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when the indoor unit is abnormal:



※3.Blinking pattern when the outdoor unit is abnormal:



2. Flow chart of the detailed outdoor unit failure mode recall function

Operational procedure

The outdoor unit might be abnormal.
Check if outdoor unit is abnormal according to the following procedures.

↓

Make sure that the remote controller is set to the failure mode recall function.

↓

With the remote controller headed towards the indoor unit, press TOO COOL button to adjust the set temperature to 77°F (25°C). ※1

※1. Regardless of normal or abnormal condition, 2 short beeps are emitted as the signal is received.

↓

Does the upper lamp of the OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: The outdoor unit is abnormal. Beep is emitted at the same timing as the blinking of the upper lamp of the OPERATION INDICATOR lamp. ※2

No (OFF) → The outdoor unit is normal.

Yes (Blinks)

↓

The outdoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the outdoor unit failure recall mode table (10-2.3.).
Make sure to check at least 2 consecutive blinking cycles. ※2

Releasing the failure mode recall function

↓

Release the failure mode recall function by the following procedures.
Turn OFF the power supply and turn it ON again.
Press RESET button of the remote controller.

Release the failure mode recall function according to the left mentioned procedure.

↓

Repair the failure parts.

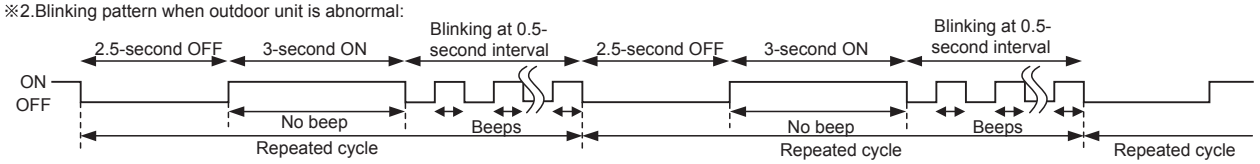
↓

Deleting the memorized abnormal condition

① After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall function" (10-2.1.).
② Press STOP/OPERATE (OFF/ON) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
③ Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
④ Release the failure mode recall function according to "Releasing the failure mode recall function" mentioned above.

NOTE: 1. Make sure to release the failure mode recall function after it is set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2.Blinking pattern when outdoor unit is abnormal:



NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (10-3.).

3. Outdoor unit failure recall mode table

The upper lamp of the OPERATION INDICATOR lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)	Condition	Remedy	Indoor/ outdoor unit failure mode recall function	Outdoor unit failure mode recall function
OFF	None (Normal)	—	—	—	—	—
1-time blink 2.5 seconds OFF	Indoor/outdoor communication, receiving error	—	Any signals from the inverter P.C. board cannot be received normally for 3 minutes.	•Refer to 10-5. Ⓜ How to check miswiring and serial signal error.	○	○
	Indoor/outdoor communication, receiving error	—	Although the inverter P.C. board sends signal "0", signal "1" has been received 30 consecutive times.	•Refer to 10-5. Ⓜ How to check miswiring and serial signal error.		
2-time blink 2.5 seconds OFF	Outdoor power system	—	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	•Reconnect connectors. •Refer to 10-5. Ⓐ"How to check inverter/ compressor". •Check stop valve.	○	○
3-time blink 2.5 seconds OFF	Discharge temperature thermistor	1-time blink every 2.5 seconds	Thermistor shorts or opens during compressor running.	•Refer to 10-5.Ⓖ"Check of outdoor thermistors". Defective outdoor thermistors can be identified by checking the blinking pattern of LED.	○	○
	Defrost thermistor					
	Fin temperature thermistor	3-time blink 2.5 seconds OFF				
	P.C. board temperature thermistor	4-time blink 2.5 seconds OFF				
	Ambient temperature thermistor	2-time blink 2.5 seconds OFF				
	Outdoor heat exchanger temperature thermistor	—				
4-time blink 2.5 seconds OFF	Overcurrent	11-time blink 2.5 seconds OFF	Large current flows into the power module (IC700)/IGBT module (IC700). *1	•Reconnect compressor connector. •Refer to 10-5.Ⓐ"How to check inverter/ compressor". •Check stop valve.	—	○
	Compressor synchronous abnormality (Compressor startup failure protection)	12-time blink 2.5 seconds OFF	Waveform of compressor current is distorted.	•Reconnect compressor connector. •Refer to 10-5.Ⓐ"How to check inverter/ compressor".	—	○
5-time blink 2.5 seconds OFF	Discharge temperature	—	Temperature of discharge temperature thermistor exceeds 241°F (116°C), compressor stops. Compressor can restart if discharge temperature thermistor reads 212°F (100°C) or less 3 minutes later.	•Check refrigerant circuit and refrigerant amount. •Refer to 10-5.Ⓚ"Check of LEV".	—	○
6-time blink 2.5 seconds OFF	High pressure	—	Temperature indoor coil thermistor exceeds 158°F (70°C) in HEAT mode. Temperature defrost thermistor exceeds 158°F (70°C) in COOL mode.	•Check refrigerant circuit and refrigerant amount. •Check stop valve.	—	○
7-time blink 2.5 seconds OFF	Fin temperature/ P.C. board temperature	7-time blink 2.5 seconds OFF	Temperature of the fin temperature thermistor on the inverter P.C. board exceeds 167 - 187°F (75 - 86°C)/167 - 176°F (75 - 80°C), or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 162 - 185°F (72 - 85°C)/158 - 167°F (70 - 75°C).*2	•Check around outdoor unit. •Check outdoor unit air passage. •Refer to 10-5.Ⓘ"Check of outdoor fan motor".	—	○
8-time blink 2.5 seconds OFF	Outdoor fan motor	—	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan startup.	•Refer to 10-5.Ⓘ"Check of outdoor fan motor". Refer to 10-5.Ⓛ"Check of inverter P.C. board".	—	○
9-time blink 2.5 seconds OFF	Non-volatile memory data	5-time blink 2.5 seconds OFF	Non-volatile memory data cannot be read properly.	•Replace the inverter P.C. board.	○	○
	Power module (IC700) IGBT module (IC700) *1	6-time blink 2.5 seconds OFF	The interface short circuit occurs in the output of the power module (IC700)/IGBT module (IC700).*1 The compressor winding shorts circuit.	•Refer to 10-5. Ⓐ"How to check inverter/ compressor".	—	

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (10-3.).

The upper lamp of the OPERATION INDICATOR lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)	Condition	Remedy	Indoor/ outdoor unit failure mode recall function	Outdoor unit failure mode recall function
10-time blink 2.5 seconds OFF	Discharge temperature	—	Temperature of discharge temperature thermistor has been 122°F (50°C) or less for 20 minutes.	•Refer to 10-5.Ⓚ"Check of LEV". •Check refrigerant circuit and refrigerant amount.	—	○
11-time blink 2.5 seconds OFF	Bus-bar voltage (DC)	8-time blink 2.5 seconds OFF	Bus-bar voltage of inverter cannot be detected normally.	•Refer to 10-5.Ⓐ"How to check inverter/ compressor".	—	○
	Each phase current of compressor	9-time blink 2.5 seconds OFF	Each phase current of compressor cannot be detected normally.			
14-time blink 2.5 seconds OFF	Stop valve (Closed valve)	14-time blink 2.5 seconds OFF	Closed valve is detected by compressor current.	•Check stop valve.	○	○
	4-way valve/ Pipe temperature	16-time blink 2.5 seconds OFF	The 4-way valve does not work properly. The indoor coil thermistor detects an abnormal temperature.	•Check the 4-way valve. •Replace the inverter P.C. board.		
16-time blink 2.5 seconds OFF	Outdoor refrigerant system abnormality	1-time blink 2.5 seconds OFF	A closed valve and air trapped in the refrigerant circuit are detected based on the temperature sensed by the indoor and outdoor thermistors and the current of the compressor.	•Check for a gas leak in a connecting piping etc. •Check the stop valve. •Refer to 10-5. Ⓝ "Check of outdoor refrigerant circuit".	○	○

*Module

Power module (IC700)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
IGBT module (IC700)	**NAXSST24A112AA, NAYSST24A112AA**

*2
Fin temperature thermistor

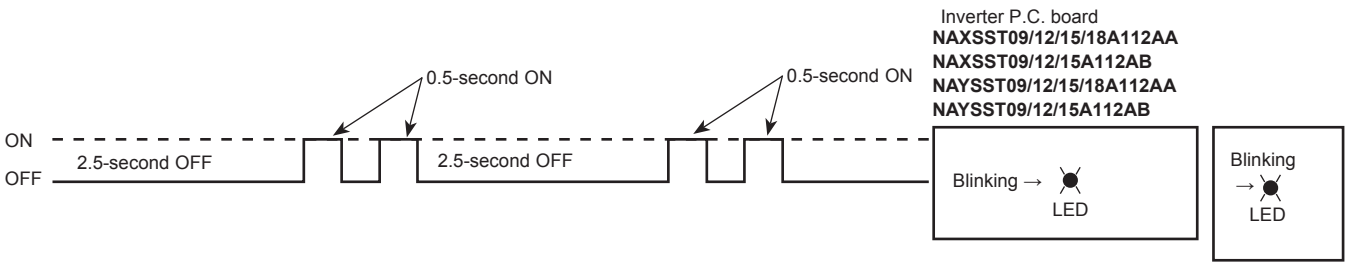
167 - 187°F (75 - 86°C)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
167 - 176°F (75 - 80°C)	**NAXSST24A112AA, NAYSST24A112AA**

P.C. board temperature thermistor

162 - 185°F (72 - 85°C)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
158 - 167°F (70 - 75°C)	**NAXSST24A112AA, NAYSST24A112AA**

10-3. TROUBLESHOOTING CHECK TABLE

No.	Symptom	LED indication	Abnormal point/ Condition	Condition	Remedy
1	Outdoor unit does not operate.	1-time blink every 2.5 seconds	Outdoor power system	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	•Reconnect connector of compressor. •Refer to 10-5.Ⓐ "How to check inverter/compressor". •Check stop valve.
2			Outdoor thermistors	Discharge temperature thermistor, fin temperature thermistor, defrost thermistor, P.C. board temperature thermistor, outdoor heat exchanger temperature thermistor or ambient temperature thermistor shorts or opens during compressor running.	•Refer to 10-5.Ⓖ "Check of outdoor thermistors".
3			Outdoor control system	Nonvolatile memory data cannot be read properly. (The upper lamp of the OPERATION INDICATOR lamp on the indoor unit lights up or blinks 7-time.)	•Replace inverter P.C. board.
4		6-time blink 2.5 seconds OFF	Serial signal	The communication fails between the indoor and outdoor unit for 3 minutes.	•Refer to 10-5.Ⓜ "How to check miswiring and serial signal error.
5		11-time blink 2.5 seconds OFF	Stop valve/ Closed valve	Closed valve is detected by compressor current.	•Check stop valve.
6		16-time blink 2.5 seconds OFF	4-way valve/ Pipe temperature	The 4-way valve does not work properly. The indoor coil thermistor detects an abnormal temperature.	•Refer to 10-5.Ⓗ "Check of R.V. coil". •Replace the inverter P.C. board.
7		17-time blink 2.5 seconds OFF	Outdoor refrigerant system abnormality	A closed valve and air trapped in the refrigerant circuit are detected based on the temperature sensed by the indoor and outdoor thermistors and the current of the compressor.	•Check for a gas leak in a connecting piping etc. •Check the stop valve. •Refer to 10-5. Ⓝ “Check of outdoor refrigerant circuit”.
8	'Outdoor unit stops and restarts 3 minutes later' is repeated.	2-time blink 2.5 seconds OFF	Overcurrent protection	Large current flows into the power module (IC700)/IGBT module (IC700).*1	•Reconnect connector of compressor. •Refer to 10-5.Ⓐ "How to check inverter/compressor". •Check stop valve.
9		3-time blink 2.5 seconds OFF	Discharge temperature overheat protection	Temperature of discharge temperature thermistor exceeds 241°F (116°C), compressor stops. Compressor can restart if discharge temperature thermistor reads 212°F (100°C) or less 3 minutes later.	•Check refrigerant circuit and refrigerant amount. •Refer to 10-5.Ⓚ "Check of LEV".
10		4-time blink 2.5 seconds OFF	Fin temperature / P.C. board temperature thermistor overheat protection	Temperature of the fin temperature thermistor on the heat sink exceeds 167 - 187°F (75 - 86°C)/167 - 176°F (75 - 80°C) or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 162 - 185°F (72 - 85°C)/158 - 167°F (70 - 75°C). *2	•Check around outdoor unit. •Check outdoor unit air passage. •Refer to 10-5.Ⓘ "Check of outdoor fan motor".
11		5-time blink 2.5 seconds OFF	High pressure protection	Indoor coil thermistor exceeds 158°F (70°C) in HEAT mode. Defrost thermistor exceeds 158°F (70°C) in COOL mode.	•Check refrigerant circuit and refrigerant amount. •Check stop valve.
12		8-time blink 2.5 seconds OFF	Compressor synchronous abnormality	The waveform of compressor current is distorted.	•Reconnect connector of compressor. •Refer to 10-5.Ⓐ "How to check inverter/compressor".
13		10-time blink 2.5 seconds OFF	Outdoor fan motor	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan startup.	•Refer to 10-5.Ⓘ "Check of outdoor fan motor. •Refer to 10-5.Ⓛ "Check of inverter P.C. board.
14		12-time blink 2.5 seconds OFF	Each phase current of compressor	Each phase current of compressor cannot be detected normally.	•Refer to 10-5.Ⓐ "How to check inverter/compressor".



*1
Module

Power module (IC700)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
IGBT module (IC700)	**NAXSST24A112AA, NAYSST24A112AA**

*2
Fin temperature thermistor

167 - 187°F (75 - 86°C)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
167 - 176°F (75 - 80°C)	**NAXSST24A112AA, NAYSST24A112AA**

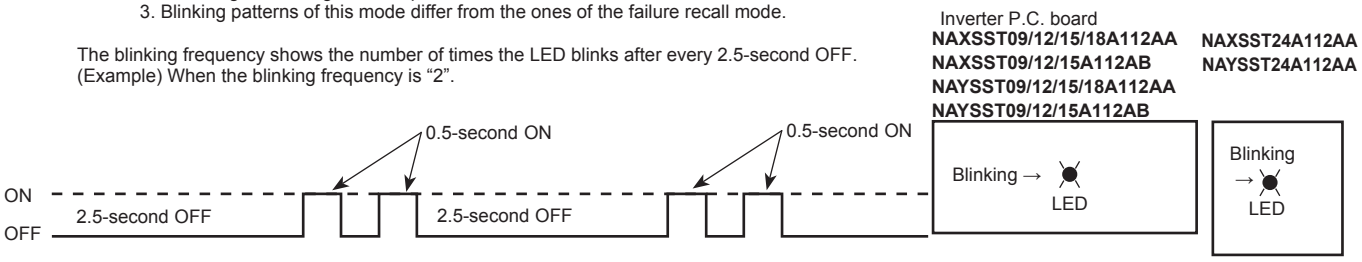
P.C. board temperature thermistor

162 - 185°F (72 - 85°C)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
158 - 167°F (70 - 75°C)	**NAXSST24A112AA, NAYSST24A112AA**

No.	Symptom	LED indication	Abnormal point/ Condition	Condition	Remedy
15	'Outdoor unit stops and restarts 3 minutes later' is repeated.	13-time blink 2.5 seconds OFF	Bus-bar voltage (DC)	Bus-bar voltage of inverter cannot be detected normally.	•It occurs with following case. Instantaneous power voltage drop. (Short time power failure) (**NAXSST24A112AA, NAYSST24A112AA**) •Refer to 10-5. Ⓙ "Check of power supply". (**NAXSST24A112AA, NAYSST24A112AA**) •Refer to 10-5.Ⓐ "How to check inverter/compressor".
16	Outdoor unit operates.	1-time blink 2.5 seconds OFF	Frequency drop by current protection	When the input current exceeds approximately 10.5A, compressor frequency lowers.	The unit is normal, but check the following. •Check if indoor filters are clogged. •Check if refrigerant is short. •Check if indoor/outdoor unit air circulation is short cycled.
17		3-time blink 2.5 seconds OFF	Frequency drop by high pressure protection	Temperature of indoor coil thermistor exceeds 131 °F (55°C) in HEAT mode, compressor frequency lowers.	
			Frequency drop by defrosting in COOL mode	Indoor coil thermistor reads 46°F (8°C) or less in COOL mode, compressor frequency lowers.	
18		4-time blink 2.5 seconds OFF	Frequency drop by discharge temperature protection	Temperature of discharge temperature thermistor exceeds 232°F (111°C), compressor frequency lowers.	•Check refrigerant circuit and refrigerant amount. •Refer to 10-5.Ⓚ "Check of LEV". •Refer to 10-5.Ⓖ "Check of outdoor thermistors".
19		5-time blink 2.5 seconds OFF	Outside temperature thermistor protection	When the outside temperature thermistor shorts or opens, protective operation without that thermistors is performed.	•Refer to 10-5. Ⓖ Check of outdoor thermistors.
20		7-time blink 2.5 seconds OFF	Low discharge temperature protection	Temperature of discharge temperature thermistor has been 122°F (50°C) or less for 20 minutes.	•Refer to 10-5.Ⓚ "Check of LEV". •Check refrigerant circuit and refrigerant amount.
21		8-time blink 2.5 seconds OFF	**NAXSST09/12/15/18A112AA** **NAXSST09/12/15A112AB** **NAYSST09/12/15/18A112AA** **NAYSST09/12/15A112AB** PAM protection PAM: Pulse Amplitude Modulation	The overcurrent flows into PFC (Power factor correction :IC820) or the bus-bar voltage reaches 394 V or more, PAM stops and restarts.	This is not malfunction. PAM protection will be activated in the following cases: 1 Instantaneous power voltage drop. (Short time power failure) 2 When the power supply voltage is high.
			NAXSST24A112AA **NAYSST24A112AA** Zero cross detecting circuit	Zero cross signal cannot be detected.	•It occurs with following cases. 1 Instantaneous power voltage drop. (Short time power failure) 2 Distortion of primary voltage •Refer to 10-5. Ⓙ "Check of power supply".
22		9-time blink 2.5 seconds OFF	Inverter check mode	The connector of compressor is disconnected, inverter check mode starts.	•Check if the connector of the compressor is correctly connected. Refer to 10-5.Ⓐ "How to check inverter/compressor".

NOTE: 1. The location of LED is illustrated at the right figure. Refer to 10-6.1.
2. LED is lighted during normal operation.
3. Blinking patterns of this mode differ from the ones of the failure recall mode.

The blinking frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the blinking frequency is “2”.

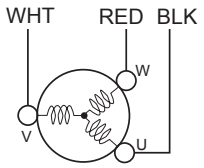
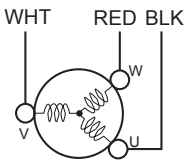


10-4. TROUBLE CRITERION OF MAIN PARTS

NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB NAXSST15A112AA NAXSST15A112AB NAXSST18A112AA NAXSST24A112AA NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB NAYSST15A112AA NAYSST15A112AB NAYSST18A112AA NAYSST24A112AA

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Defrost thermistor (RT61) (NAXSST)
Fin temperature thermistor (RT64)
Ambient temperature thermistor (RT65)
Outdoor heat exchanger temperature thermistor (RT68)</td><td>Measure the resistance with a tester.

Refer to 10-6. “TEST POINT DIAGRAM AND VOLTAGE”, 1. “Inverter P.C. board”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Discharge temperature thermistor (RT62)</td><td>Measure the resistance with a tester. Before measurement, hold the thermistor with your hands to warm it up.

Refer to 10-6. “TEST POINT DIAGRAM AND VOLTAGE”, 1. “Inverter P.C. board”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Compressor</td><td>Measure the resistance between terminals using a tester.
[Temperature: 14 - 104°F (-10 - 40°C)]
<table>
<tr><th></th><th colspan="5">Normal (Ω)</th></tr>
<tr><th></th><th>NAXSST09A112AA
NAYSST09A112AA</th><th>NAXSST09A112AB
NAYSST09A112AB</th><th>NAXSST12A112AA
NAXSST12A112AB
NAYSST12A112AA
NAYSST12A112AB</th><th>NAXSST15/18A112AA
NAXSST15A112AB
NAYSST15/18A112AA
NAYSST15A112AB</th><th>NAXSST24A112AA
NAYSST24A112AA</th></tr>
<tr><td>U-V
U-W
V-W</td><td>1.26 - 1.72</td><td>1.59 - 2.16</td><td>1.60 - 2.17</td><td>0.82 - 1.11</td><td>0.87 - 1.18</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Outdoor fan motor</td><td>Measure the resistance between lead wires using a tester.
[Temperature: 14 - 104°F (-10 - 40°C)]
<table>
<tr><th rowspan="2">Color of lead wire</th><th colspan="3">Normal (Ω)</th></tr>
<tr><th>NAXSST09/12/15A112AA
NAYSST09/12/15A112AA</th><th>NAXSST09/12/15A112AB
NAYSST09/12/15A112AB</th><th>NAXSST18/24A112AA
NAYSST18/24A112AA</th></tr>
<tr><td>RED – BLK
BLK – WHT
WHT – RED</td><td>29 - 40</td><td>28 - 39</td><td>12 - 16</td></tr>
</table></td><td> 
</td></tr>
<tr><td>R. V. coil (21S4)</td><td>Measure the resistance using a tester.
[Temperature: 14 - 104°F (-10 - 40°C)]
<table>
<tr><th colspan="2">Normal (kΩ)</th></tr>
<tr><th>NAXSST09/12/15A112AA NAYSST09/12/15A112AA
NAXSST15A112AB NAYSST15A112AB
NAXSST18/24A112AA NAYSST18/24A112AA</th><th>NAXSST09/12A112AB
NAYSST09/12A112AB</th></tr>
<tr><td>0.97 - 1.38</td><td>1.65 - 2.48</td></tr>
</table></td><td></td></tr>
</table>

<table>
<tr>
<td>Expansion valve coil (LEV)</td>
<td>Measure the resistance using a tester.
[Temperature: 14 - 104°F (-10 - 40°C)]
<table>
<tr><th>Color of lead wire</th><th>Normal (Ω)</th></tr>
<tr><td>RED – ORN</td><td rowspan="4">37 - 54</td></tr>
<tr><td>RED – WHT</td></tr>
<tr><td>RED – BLU</td></tr>
<tr><td>RED – YLW</td></tr>
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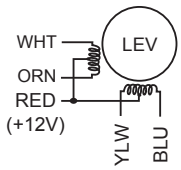
</td>
<td> 
</td>
</tr>
<tr>
<td>Defrost heater
(Optional parts)</td>
<td>Measure the resistance using a tester.
[Temperature: 14 - 104°F (-10 - 40°C)]
<table>
<tr><th colspan="2">Normal (Ω)</th></tr>
<tr><td>NAXSST09/12/15/18A112AA
NAXSST09/12/15A112AB</td><td>NAXSST24A112AA</td></tr>
<tr><td>349 - 428</td><td>376 - 461</td></tr>
</table>
</td>
<td></td>
</tr>
</table>

10-5. TROUBLESHOOTING FLOW

Ⓐ How to check inverter/compressor

Disconnect the connector between the compressor and the power module (IC700)/IGBT module (IC700).*

↓

Check the voltage between terminals. ····· See 10-5.Ⓑ “Check of open phase”.

↓

Are the voltages balanced? — No → Replace the inverter P.C. board.

↓ Yes

Check the compressor. ····· See 10-5.Ⓒ “Check of compressor”.

*Module

Power module (IC700)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
IGBT module (IC700)	**NAXSST24A112AA, NAYSST24A112AA**

Ⓑ Check of open phase

● With the connector between the compressor and the module* disconnected, activate the inverter and check if the inverter is normal by measuring **the voltage balance** between the terminals.

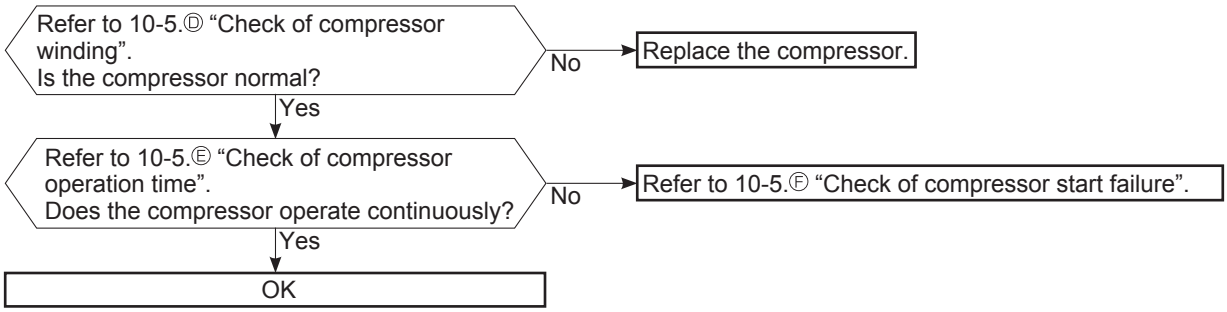
Output voltage is 50 - 130 V. (The voltage may differ according to the tester.)

<< Operation method>>
Start cooling or heating operation by pressing EMERGENCY OPERATION switch on the indoor unit. (TEST RUN OPERATION: Refer to 7-6.)
<<Measurement point>>
At 3 points
BLK (U)-WHT (V)
BLK (U)-RED (W)
WHT(V)-RED (W)

※ Measure AC voltage between the lead wires at 3 points.

NOTE: 1. Output voltage varies according to power supply voltage.
2. Measure the voltage by analog type tester.
3. During this check, LED of the inverter P.C. board blinks 9 times. (Refer to 10-6.1.)

Ⓒ Check of compressor



Ⓓ Check of compressor winding

●Disconnect the connector between the compressor and the module*, and measure the resistance between the compressor terminals.

<<Measurement point>>

At 3 points

BLK-WHT

BLK-RED

WHT-RED

※ Measure the resistance between the lead wires at 3 points.

<<Judgement>>

Refer to 10-4.

0 [Ω] ·····Abnormal [short]

Infinite [Ω] ·····Abnormal [open]

NOTE: Be sure to zero the ohmmeter before measurement.

*Module

Power module (IC700)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
IGBT module (IC700)	**NAXSST24A112AA, NAYSST24A112AA**

Ⓔ Check of compressor operation time

● Connect the compressor and activate the inverter. Then measure the time until the inverter stops due to overcurrent.

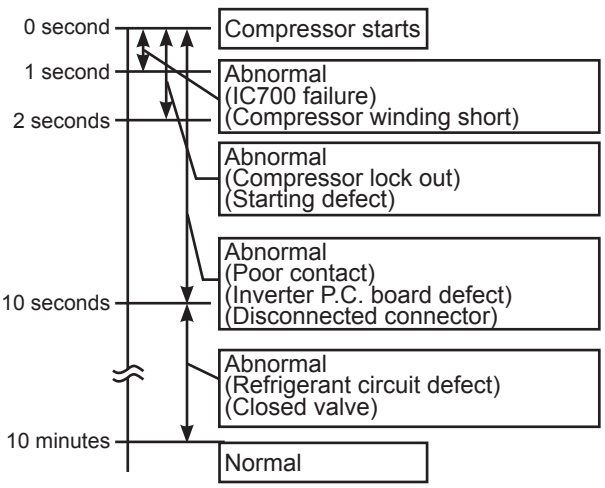
<<Operation method>>

Start heating or cooling operation by pressing EMERGENCY OPERATION switch on the indoor unit. (TEST RUN OPERATION: Refer to 7-6.)

<<Measurement>>

Measure the time from the start of compressor to the stop of compressor due to overcurrent.

<<Judgement>>



Ⓕ Check of compressor start failure

Confirm that ①~④ is normal.
•Electrical circuit check
①. Contact of the compressor connector
②. Output voltage of inverter P.C. board and balance of them (See 10-5.Ⓑ)
③. Direct current voltage between DB61(+) and (-)/JP715(+) and JP30(-) on the inverter P.C. board
④. Voltage between outdoor terminal block S1-S2

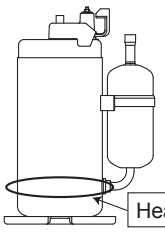
*Direct current voltage

Between DB61(+) and (-)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
Between JP715(+) and JP30(-)	**NAXSST24A112AA, NAYSST24A112AA**

Does the compressor run for 10 seconds or more after it starts?
Yes → Check the refrigerant circuit. Check the stop valve.
No

After the compressor is heated with a drier, does the compressor start? ※1
No → Replace the compressor.
Yes

Compressor start failure. Activate pre-heat control. (Refer to 9-2. "PRE-HEAT CONTROL SETTING")



※1
Heat the compressor with a drier for about 20 minutes. Do not recover refrigerant gas while heating.

Ⓖ Check of outdoor thermistors

Disconnect the connector of thermistor in the inverter P.C. board (see below table), and measure the resistance of thermistor.

Is the resistance of thermistor normal? (Refer to 10-6.1.)
No → Replace the thermistor except RT64. When RT64 is abnormal, replace the inverter P.C. board.
Yes

Reconnect the connector of thermistor.
Turn ON the power supply and press EMERGENCY OPERATION switch.

Does the unit operate for 10 minutes or more without showing thermistor abnormality?
No → Replace the inverter P.C. board.
Yes

OK
(Cause is poor contact.)

NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB
NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB

Thermistor	Symbol	Connector, Pin No.	Board
Defrost (**NAXSST**)	RT61	Between CN641 pin1 and pin2	Inverter P.C. board
Discharge temperature	RT62	Between CN641 pin3 and pin4	
Fin temperature	RT64	Between CN642 pin1 and pin2	
Ambient temperature	RT65	Between CN643 pin1 and pin2	
Outdoor heat exchanger temperature	RT68	Between CN644 pin1 and pin3	

NAXSST24A112AA, NAYSST24A112AA

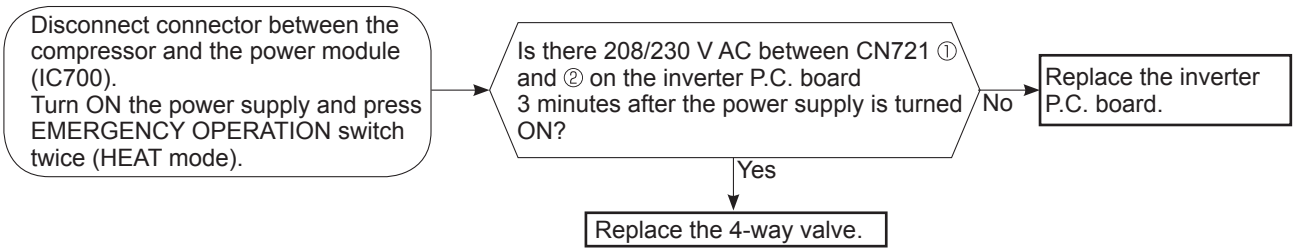
Thermistor	Symbol	Connector, Pin No.	Board
Defrost (**NAXSST**)	RT61	Between CN671 pin1 and pin2	Inverter P.C. board
Discharge temperature	RT62	Between CN671 pin3 and pin4	
Fin temperature	RT64	Between CN673 pin1 and pin2	
Ambient temperature	RT65	Between CN672 pin1 and pin2	
Outdoor heat exchanger temperature	RT68	Between CN671 pin5 and pin6	

Ⓗ Check of R.V. coil (NAXSST)

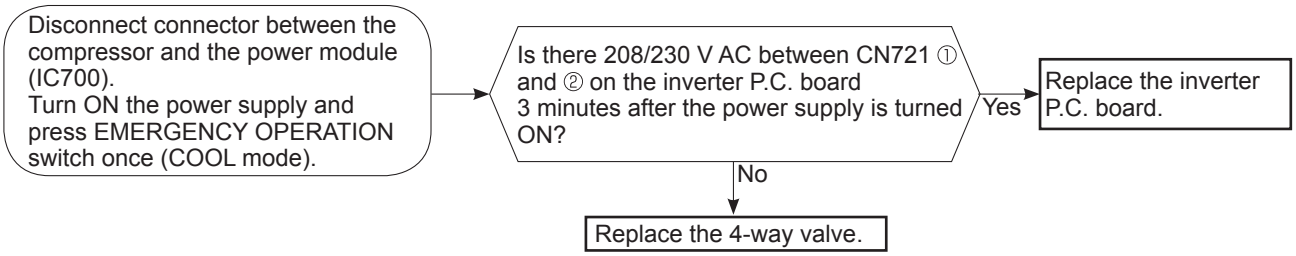
NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB

※ First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to 10-4.
※ In case CN721 is disconnected or R.V. coil is open, voltage is generated between the terminal pins of the connector although no signal is being transmitted to R.V. coil.
Check if CN721 is connected.

Unit operates in COOL mode even if it is set to HEAT mode.



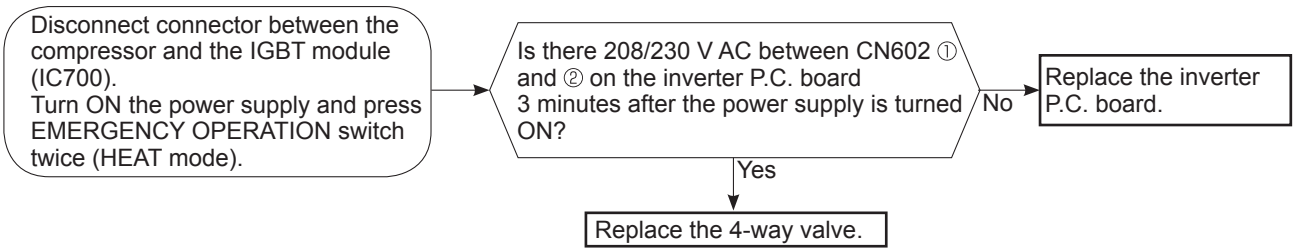
Unit operates in HEAT mode even if it is set to COOL mode.



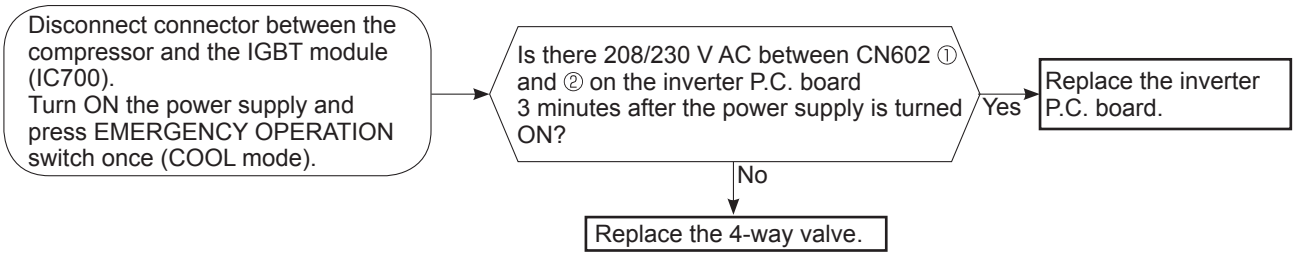
NAXSST24A112AA

※ First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to 10-4.
※ In case CN602 is disconnected or R.V. coil is open, voltage is generated between the terminal pins of the connector although no signal is being transmitted to R.V. coil.
Check if CN602 is connected.

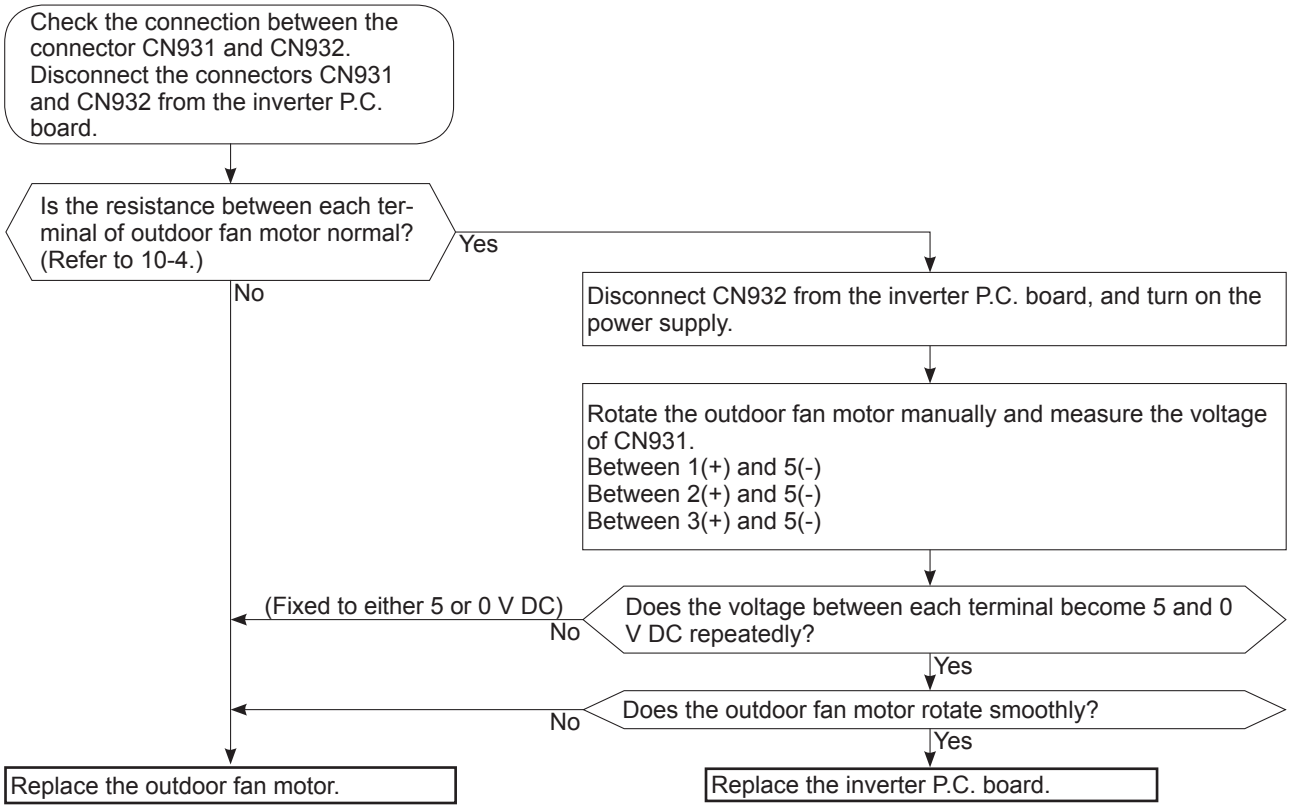
Unit operates in COOL mode even if it is set to HEAT mode.



Unit operates in HEAT mode even if it is set to COOL mode.



ⓘ Check of outdoor fan motor



Ⓙ Check of power supply

*Module

Power module (IC700)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
IGBT module (IC700)	**NAXSST24A112AA, NAYSST24A112AA**

Disconnect the connector between the compressor and the power module (IC700) IGBT module (IC700).*
Turn ON power supply and press EMERGENCY OPERATION switch.

Does the upper lamp of the OPERATION INDICATOR lamp on the indoor unit light up?

No → Is there voltage 208/230 V AC between the indoor terminal block S1 and S2?

No → Rectify indoor/outdoor connecting wire.

Yes → Replace the indoor electronic control P.C. board.

Yes

Is there bus-bar voltage 260 - 370 V DC between DB61 (+) and DB61 (–)/294 - 370 V DC between JP715 (+) and JP30 (–) on the inverter P.C. board? (Refer to 10-6.1.)

Yes → Does LED on the inverter P.C. board light up or blink? (Refer to 10-6.1.)

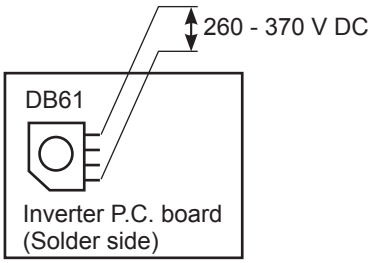
No → Replace the inverter P.C. board.

Yes → If lights up, OK.
If blinks, refer to 10-3.

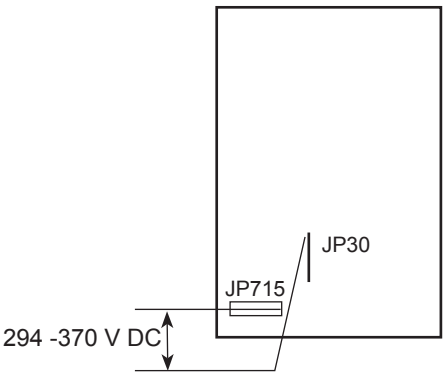
No → Check the electric parts in main circuit.

*2 Bus-bar voltage

260 - 370 V DC between DB61(+) and (-)	**NAXSST09/12/15/18A112AA, NAXSST09/12/15A112AB, NAYSST09/12/15/18A112AA, NAYSST09/12/15A112AB**
294 - 370 V DC between JP715(+) and JP30(-)	**NAXSST24A112AA, NAYSST24A112AA**



NAXSST09/12/15/18A112AA
NAXSST09/12/15A112AB
NAYSST09/12/15/18A112AA
NAYSST09/12/15A112AB



NAXSST24A112AA
NAYSST24A112AA

Ⓚ Check of LEV (Expansion valve)

Turn ON the power supply.
<Preparation of the remote controller>
① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button.
Hold down the other 2 buttons for another 3 seconds. Make sure that the indicators on the LCD screen shown in the right figure are all displayed. Then release the buttons.

↓

Press STOP/OPERATE (OFF/ON) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit. ※1

↓

Expansion valve operates in full-opening direction.

↓

Do you hear the expansion valve "click, click·····"?
Do you feel the expansion valve vibrates when touching it ?

Yes → OK

No ↓

Is LEV coil properly fixed to the expansion valve?

No → Properly fix the LEV coil to the expansion valve.

Yes ↓

Does the resistance of LEV coil have the characteristics? (Refer to 10-4.)

Yes → Measure each voltage between connector pins of CN724 on the inverter P.C. board.
1. Pin③(-) — Pin①(+)
2. Pin④(-) — Pin①(+)
3. Pin⑤(-) — Pin①(+)
4. Pin⑥(-) — Pin①(+)
Is there about 3 - 5 V AC between each?
NOTE: Measure the voltage by an analog tester.

No → Replace the inverter P.C. board.

Yes ↓

Replace the expansion valve.

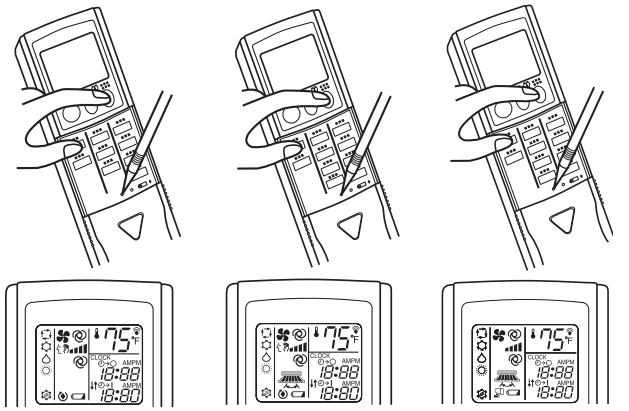
No ↓

Replace the LEV coil.

NAXWST06/09/12/15A112AA
NAYWST09/12/15A112AA

NAXWST18A112AA
NAYWST18A112AA

NAXWST24A112AA
NAYWST24A112AA

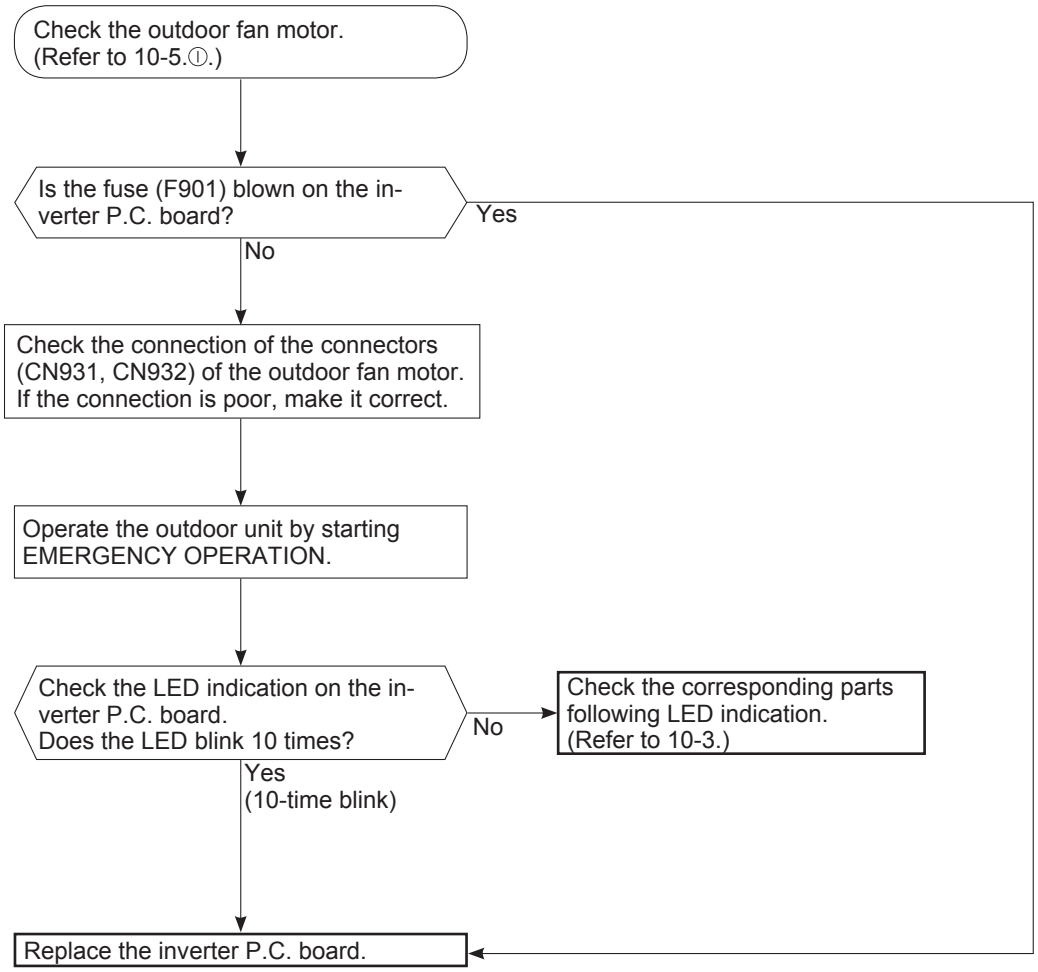


E.g.: NAXWST type

※1. Regardless of normal or abnormal condition, a short beep is emitted once the signal is received.

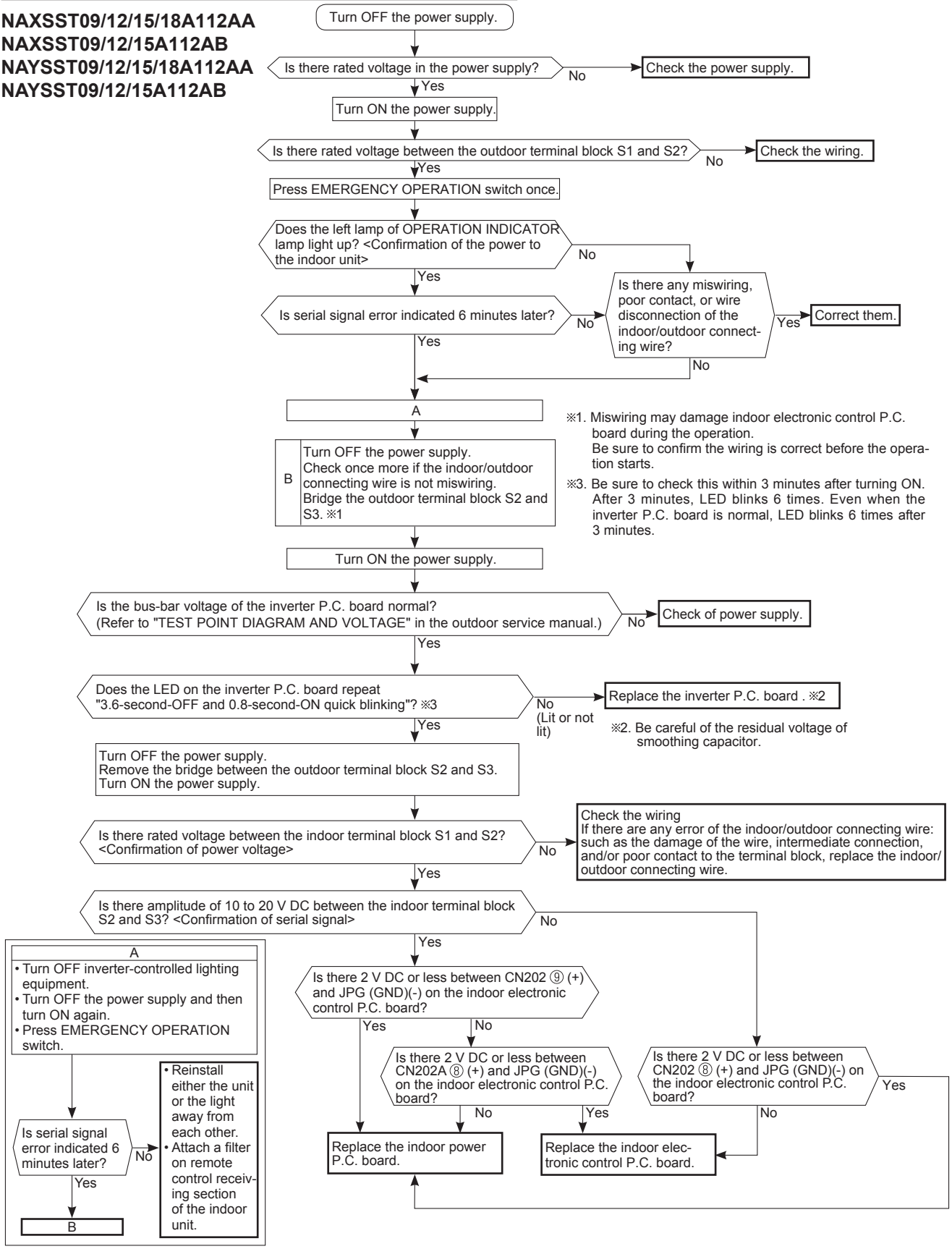
NOTE: After check of LEV, take the following steps.
1. Turn OFF the power supply and turn it ON again.
2. Press RESET button on the remote controller.

Ⓛ Check of inverter P.C. board

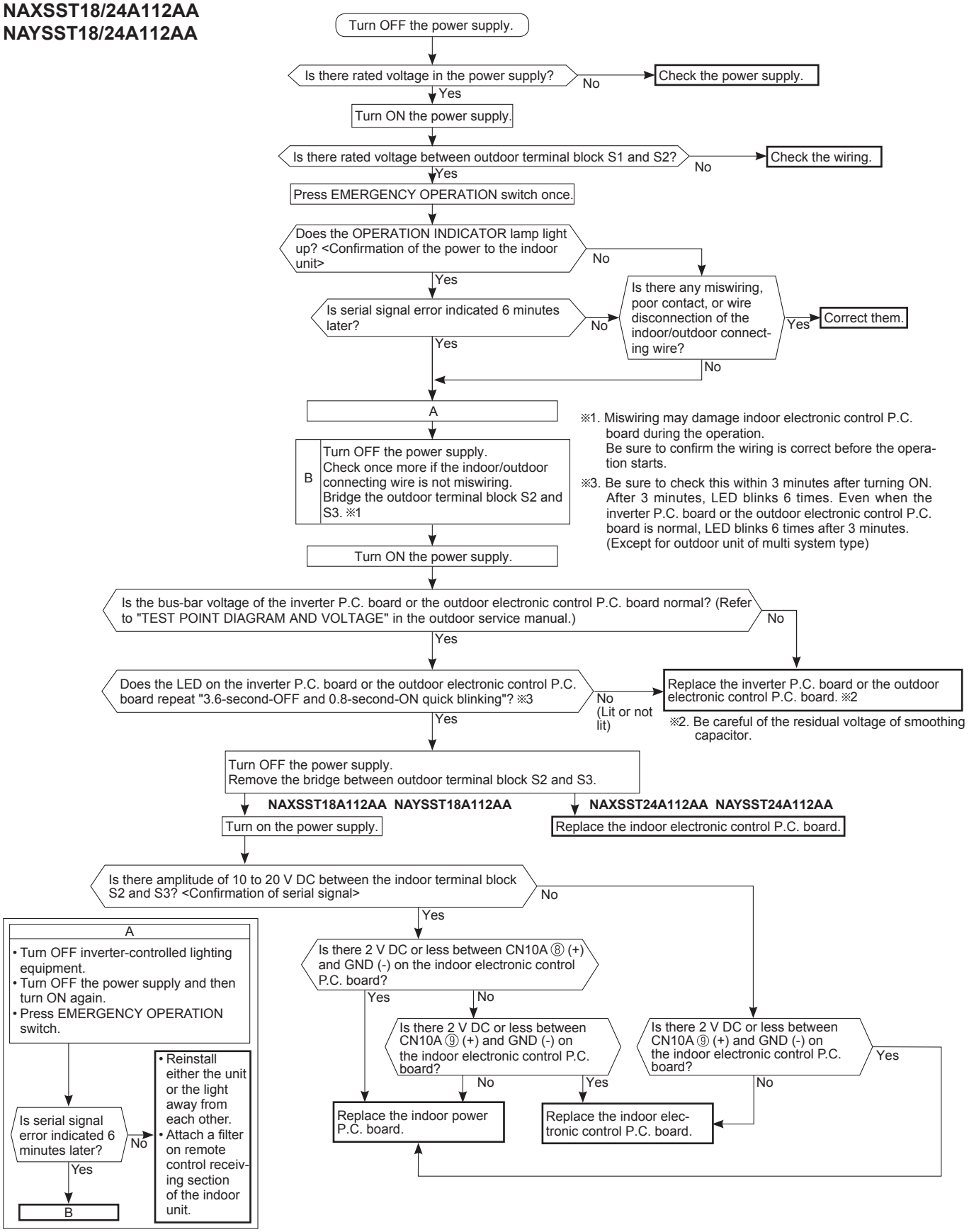


Ⓜ How to check miswiring and serial signal error

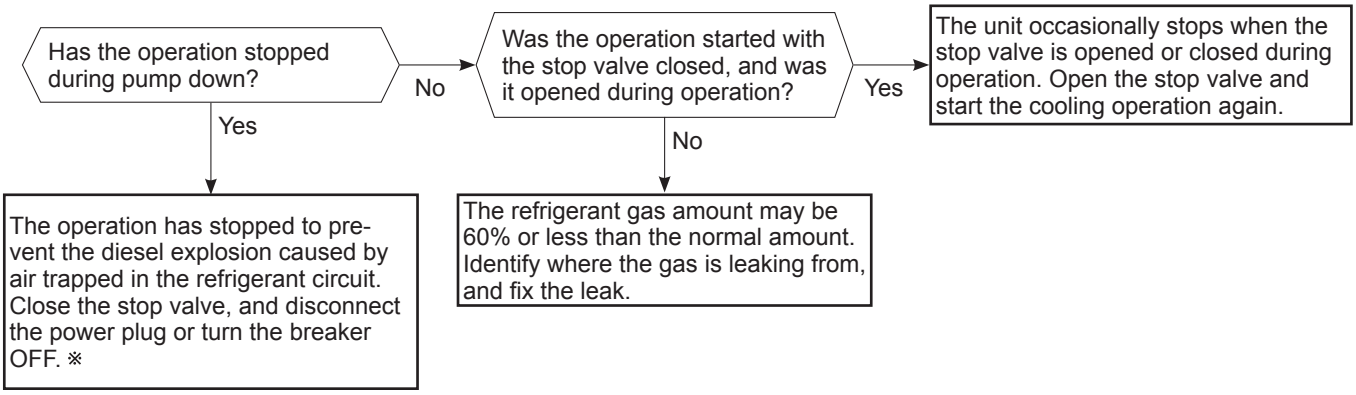
NAXSST09/12/15/18A112AA
NAXSST09/12/15A112AB
NAYSST09/12/15/18A112AA
NAYSST09/12/15A112AB



NAXSST18/24A112AA
NAYSST18/24A112AA

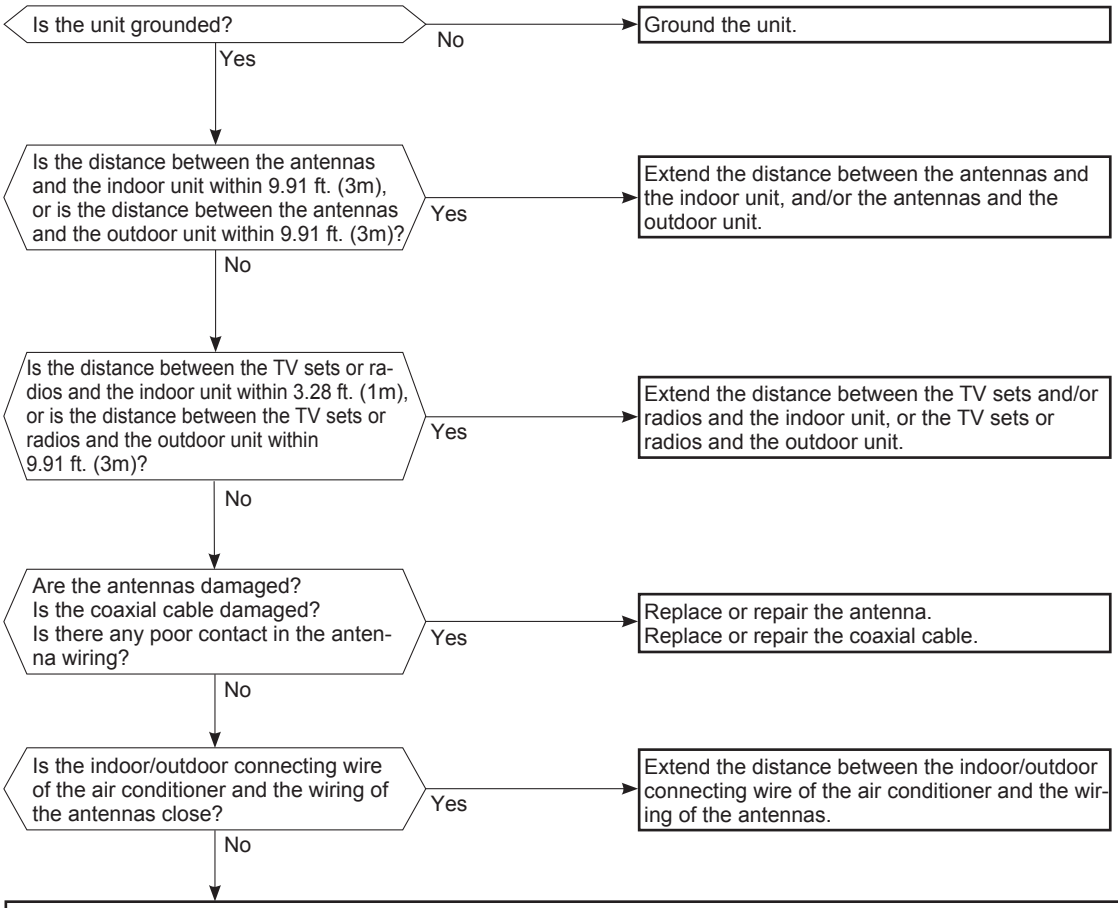


Ⓝ Check of outdoor refrigerant circuit



※ CAUTION : Do not start the operation again to prevent hazards.

Ⓞ Electromagnetic noise enters into TV sets or radios



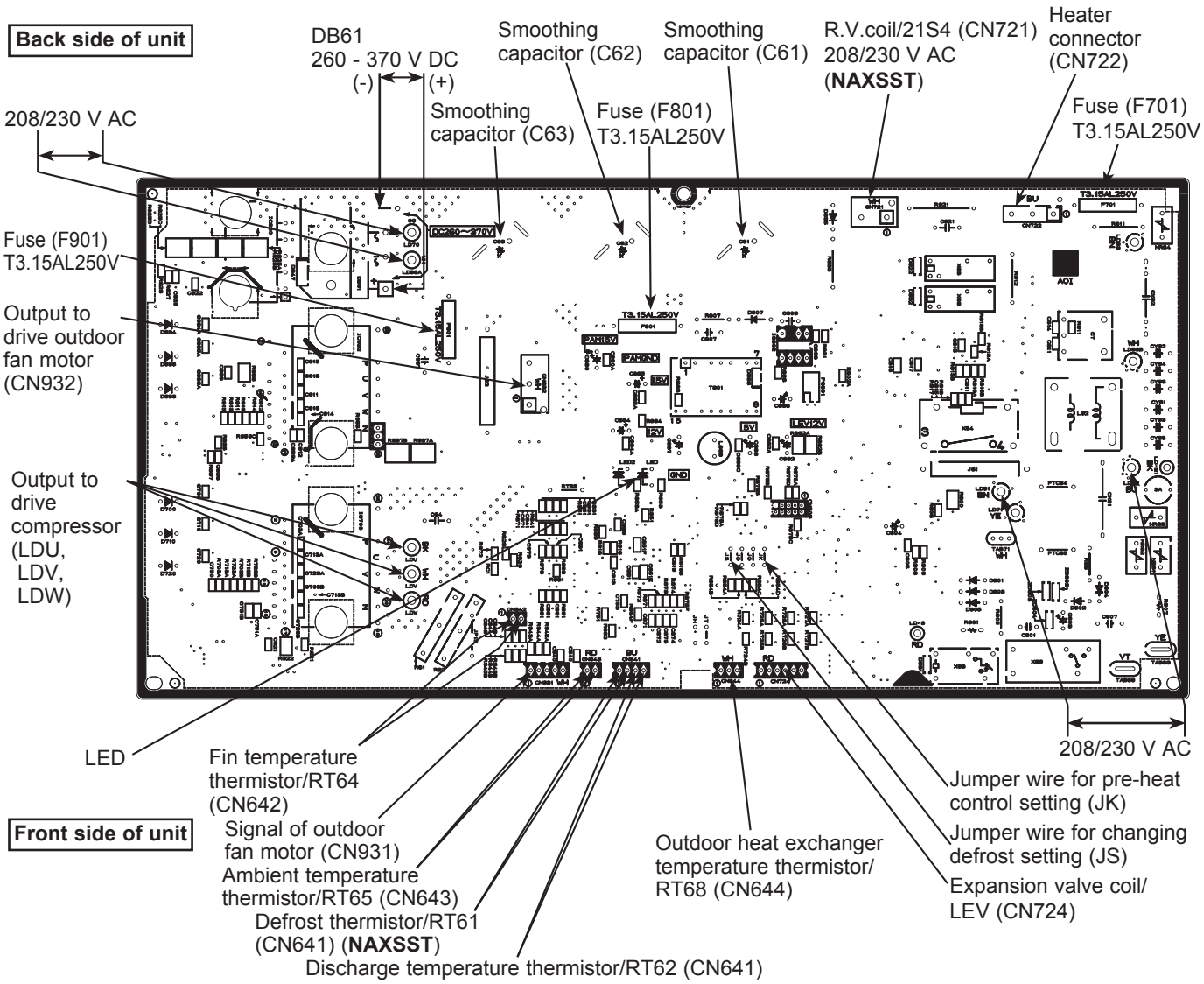
Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the following before asking for service.

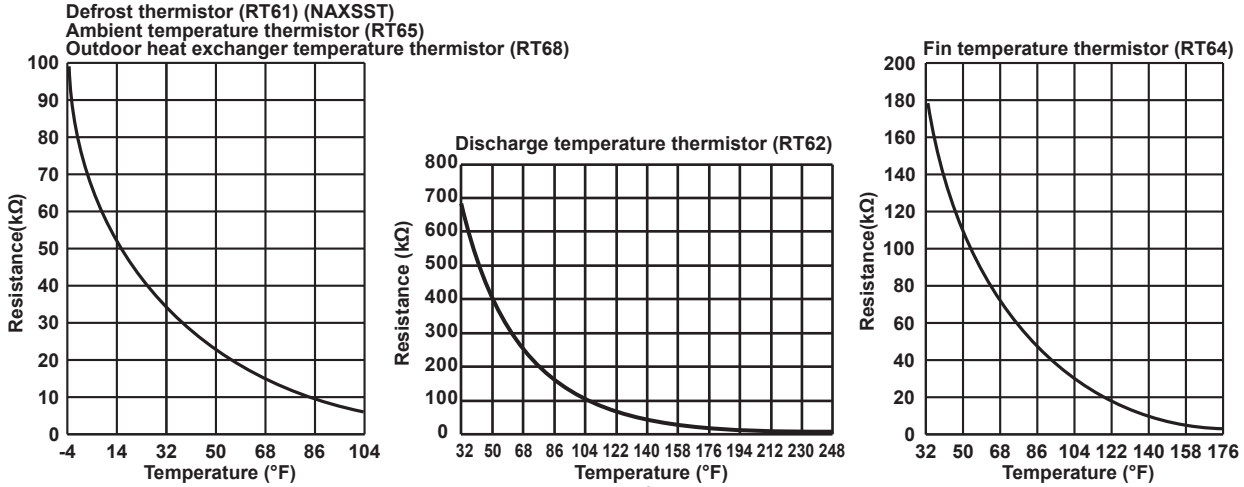
1. Devices affected by the electromagnetic noise
   TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of:
   indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, ground wire, antennas, wiring from antennas, receiver
5. Electric field intensity of the broadcast station affected by the electromagnetic noise
6. Presence or absence of amplifier such as booster
7. Operation condition of air conditioner when the electromagnetic noise enters in
   1) Turn OFF the power supply once, and then turn ON the power supply. In this situation, check for the electromagnetic noise.
   2) Within 3 minutes after turning ON the power supply, press STOP/OPERATE (OFF/ON) button on the remote controller for power ON, and check for the electromagnetic noise.
   3) After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
   4) Press STOP/OPERATE (OFF/ON) button on the remote controller for power OFF, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation, check for the electromagnetic noise.

10-6. TEST POINT DIAGRAM AND VOLTAGE

1. Inverter P.C. board

NAXSST09A112AA NAXSST12A112AA NAXSST15A112AA
NAYSST09A112AA NAYSST12A112AA NAYSST15A112AA

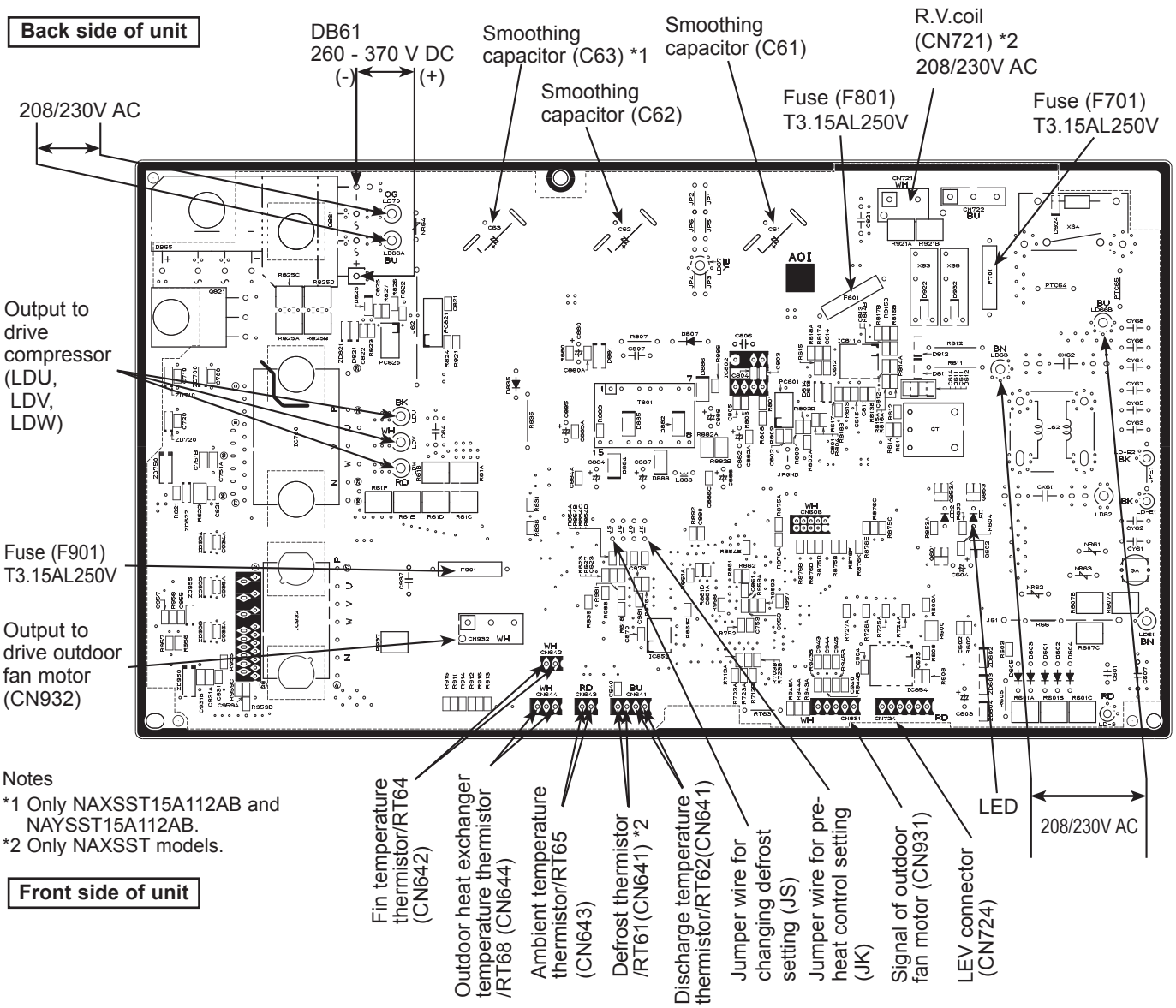




OBHA733A

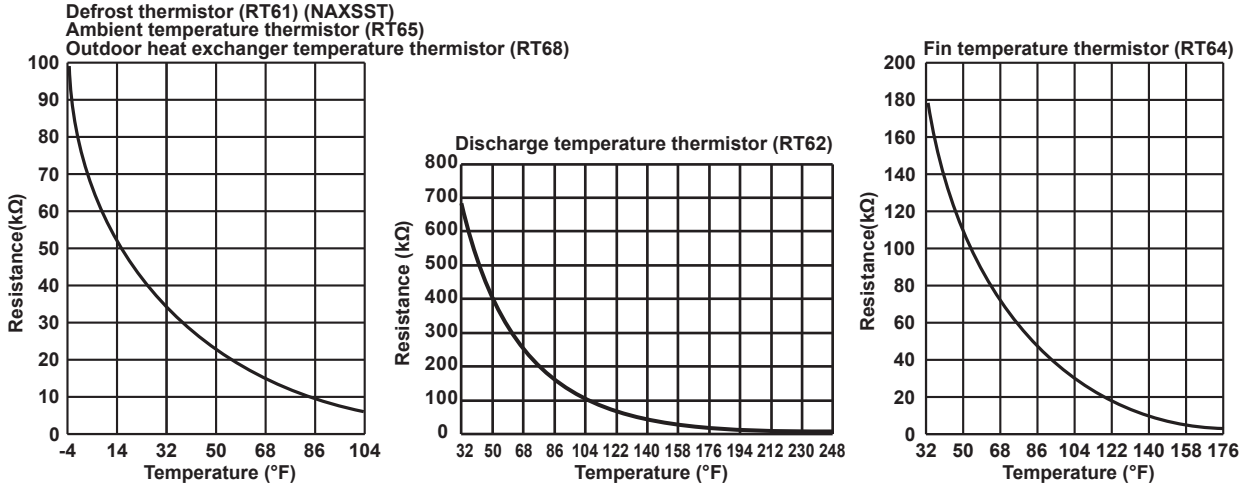
NAXSST09A112AB NAXSST12A112AB NAXSST15A112AB
NAYSST09A112AB NAYSST12A112AB NAYSST15A112AB

Back side of unit

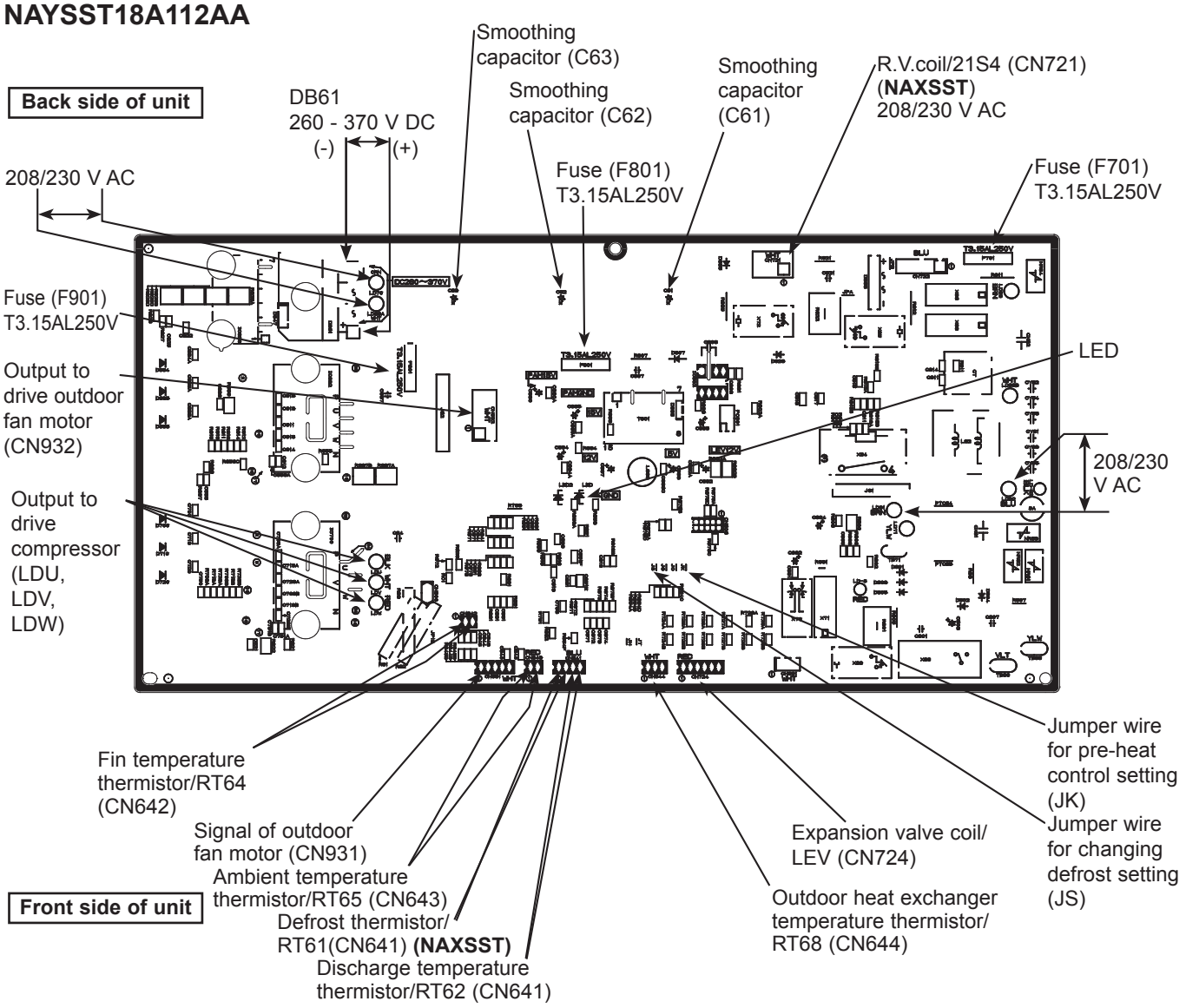


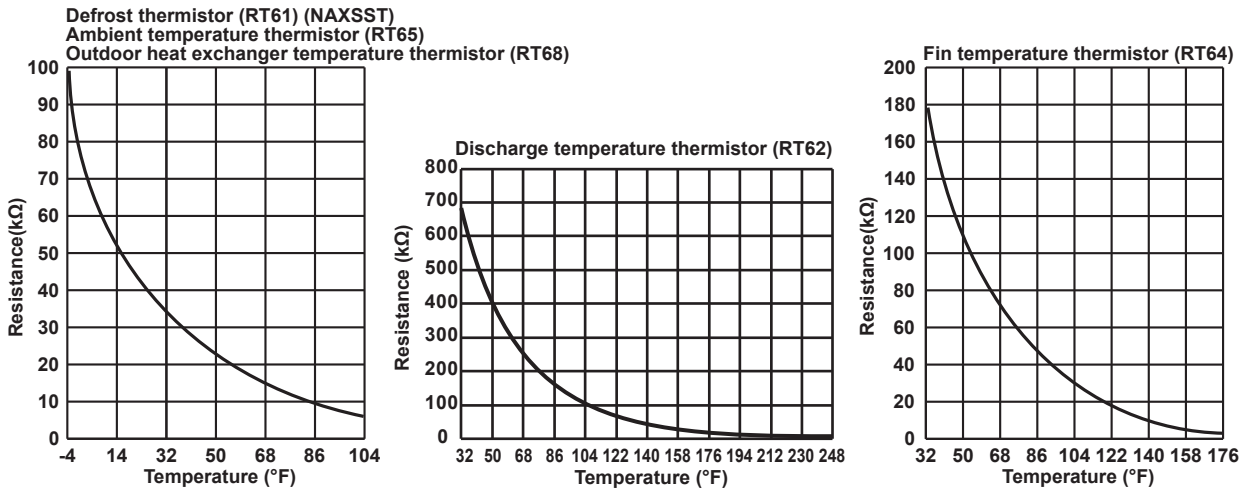
Notes
*1 Only NAXSST15A112AB and NAYSST15A112AB.
*2 Only NAXSST models.

Front side of unit

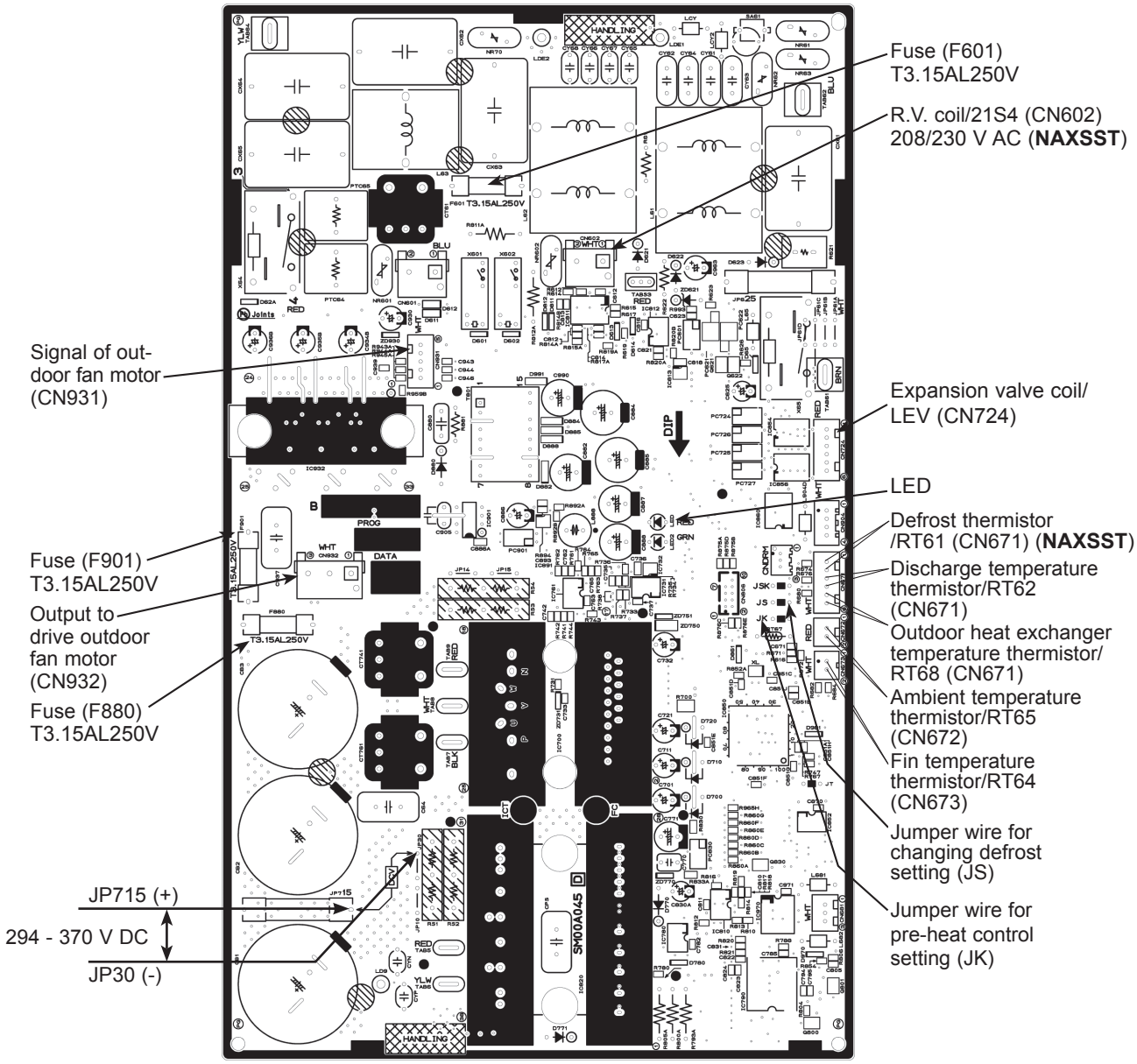


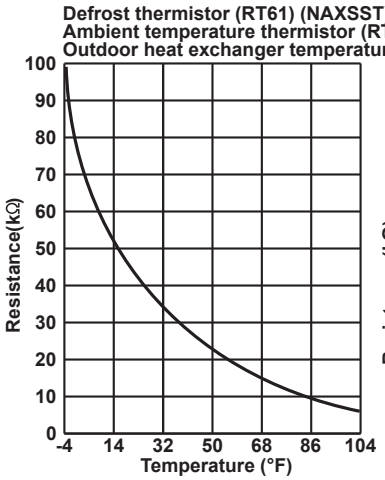
NAXSST18A112AA
NAYSST18A112AA

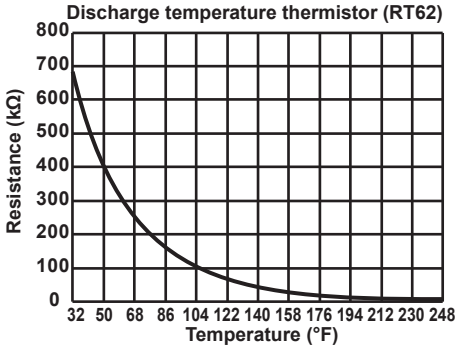


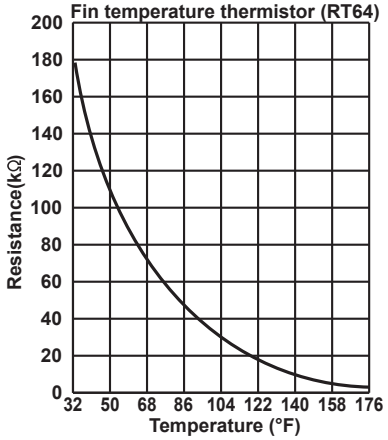


NAXSST24A112AA
NAYSST24A112AA







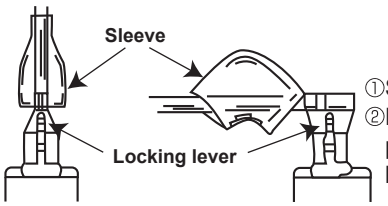


11 DISASSEMBLY INSTRUCTIONS

<Detaching method of the terminal with locking mechanism>

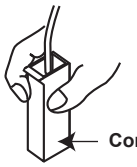
The terminal which has the locking mechanism can be detached as shown below.
There are 2 types of the terminals with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector shown below has the locking mechanism.

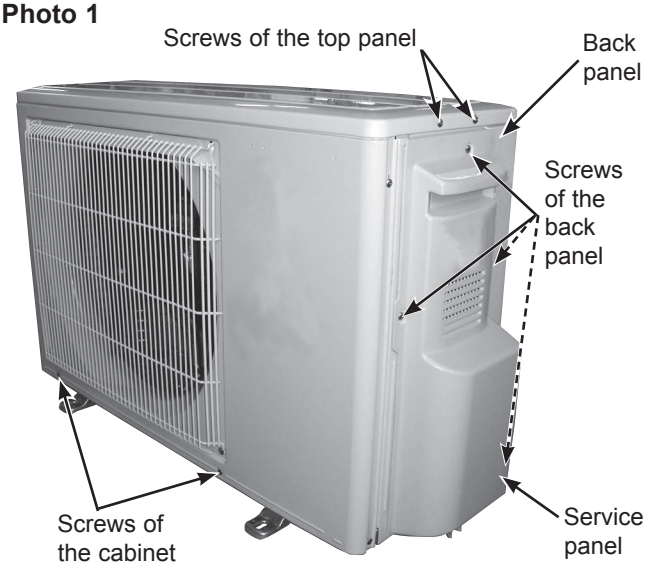
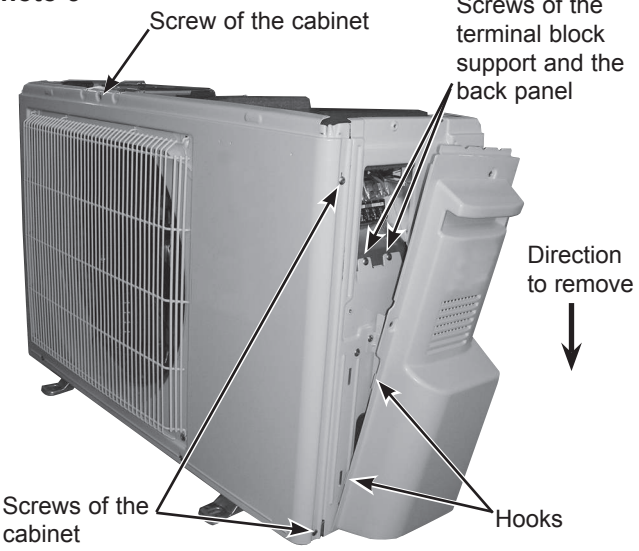


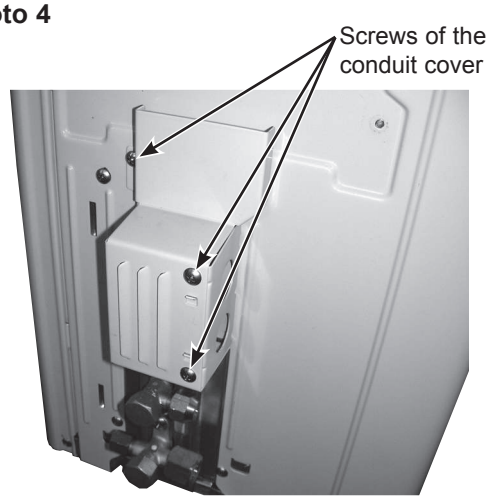
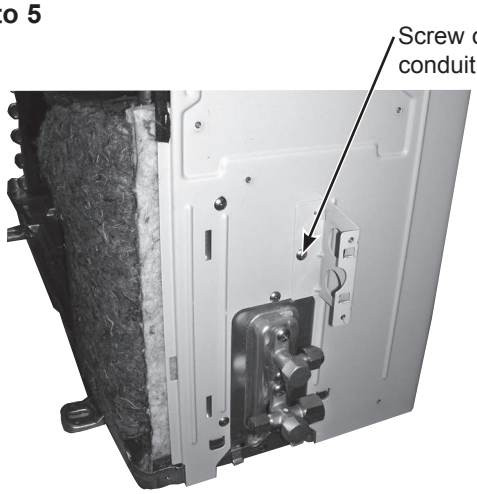
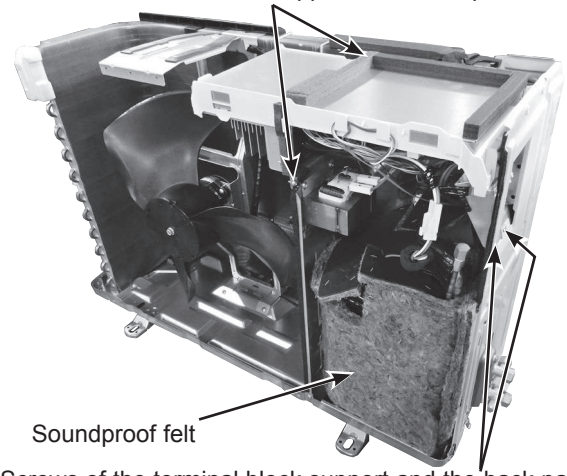
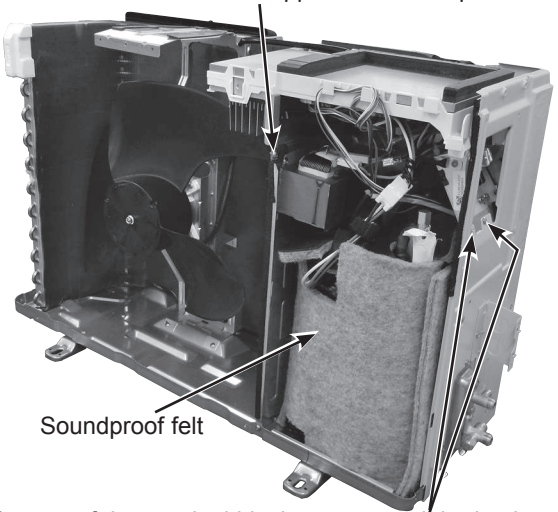
①Hold the sleeve, and pull out the terminal slowly.

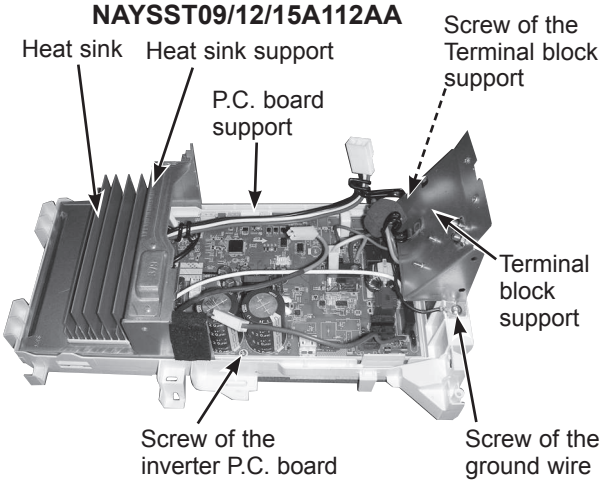
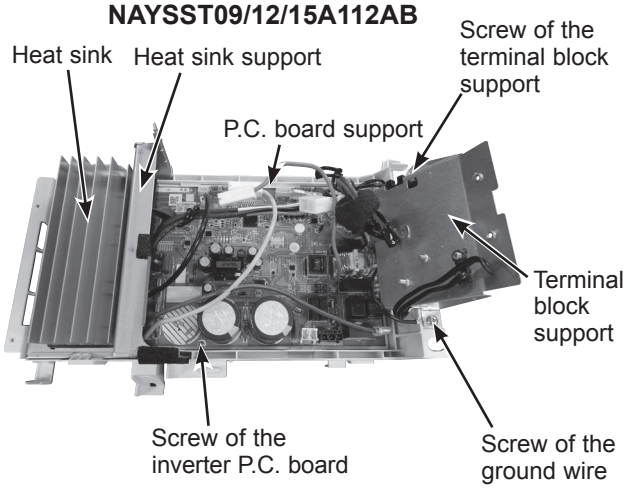
11-1. NAXSST09A112AA NAXSST09A112AB NAXSST12A112AA NAXSST12A112AB NAXSST15A112AA NAXSST15A112AB NAYSST09A112AA NAYSST09A112AB NAYSST12A112AA NAYSST12A112AB NAYSST15A112AA NAYSST15A112AB

NOTE: Turn OFF the power supply before disassembly.

→: Indicates the visible parts in the photos/figures.
- - - →: Indicates the invisible parts in the photos/figures.

OPERATING PROCEDURE	PHOTOS/FIGURES
1. Removing the cabinet (1) Remove the screw fixing the service panel. (2) Pull down the service panel and remove it. (3) Remove the screws fixing the conduit cover. (4) Remove the conduit cover. (Photo 4) (5) Remove the screw fixing the conduit plate. (Photo 5) (6) Remove the conduit plate. (7) Disconnect the power supply wire and indoor/outdoor connecting wire. (8) Remove the screws fixing the top panel. (9) Remove the top panel. (10) Remove the screws fixing the cabinet. (11) Remove the cabinet. (12) Remove the screws fixing the back panel. (13) Remove the back panel.	**Photo 1** 
Photo 2  	**Photo 3** 

OPERATING PROCEDURE	PHOTOS/FIGURES
Photo 4  	**Photo 5** 
2. Removing the inverter assembly, inverter P.C. board (1) Remove the cabinet and panels. (Refer to section 1.) (2) Disconnect the lead wire to the reactor and the following connectors: <Inverter P.C. board> CN721 (R.V. coil) (**NAXSST**) CN931, CN932 (Fan motor) CN641 (Defrost thermistor (**NAXSST**) and discharge temperature thermistor) CN643 (Ambient temperature thermistor) CN644 (Outdoor heat exchanger temperature thermistor) CN724 (LEV) (3) Remove the compressor connector (CN61). (4) Remove the screws fixing the heat sink support and the separator. (5) Remove the fixing screws of the terminal block support and the back panel. (6) Remove the inverter assembly. (7) Remove the screw of the ground wire and screw of the terminal block support. (8) Remove the heat sink support from the P.C. board support. (9) Remove the screw of the inverter P.C. board and remove the inverter P.C. board from the P.C. board support.	**Photo 6 NAXSST09/12/15A112AA** **NAYSST09/12/15A112AA** Screws of the heat sink support and the separator  **Photo 7 NAXSST09/12/15A112AB** **NAYSST09/12/15A112AB** Screws of the heat sink support and the separator 

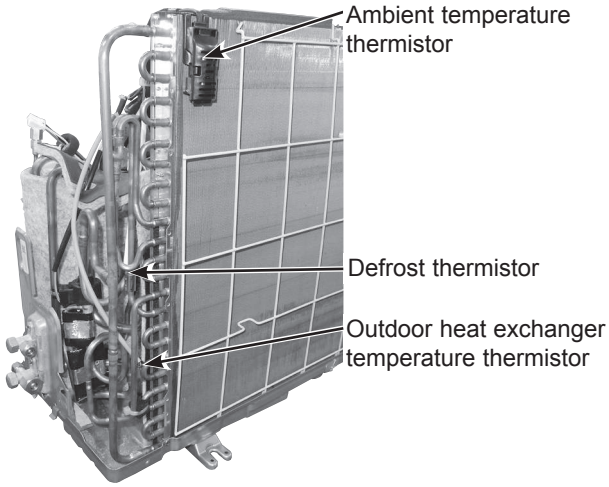
OPERATING PROCEDURE	PHOTOS/FIGURES
3. Removing R.V. coil (1) Remove the cabinet and panels. (Refer to section 1.) (2) Disconnect the following connectors: <Inverter P.C. board> CN721 (R.V. coil) (**NAXSST**) (3) Remove the R.V. coil.	**Photo 8 NAXSST09/12/15A112AA** **NAYSST09/12/15A112AA**  **Photo 9 NAXSST09/12/15A112AB** **NAYSST09/12/15A112AB** 

OPERATING PROCEDURE

4. Removing the discharge temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor

(1) Remove the cabinet and panels. (Refer to section 1.)
(2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN641 (Defrost thermistor (**NAXSST**) and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
(3) Pull out the discharge temperature thermistor from its holder.
(4) Pull out the defrost thermistor from its holder.
(5) Pull out the outdoor heat exchanger temperature thermistor from its holder.
(6) Pull out the ambient temperature thermistor from its holder.

Photo 12 NAXSST09/12A112AB NAYSST09/12A112AB



PHOTOS/FIGURES

Photo 8

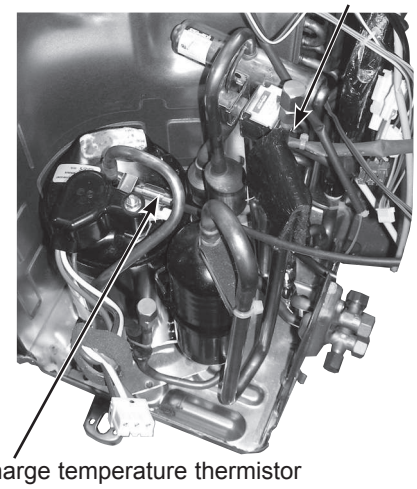


Photo 11 NAXSST09/12A112AA NAYSST09/12A112AA

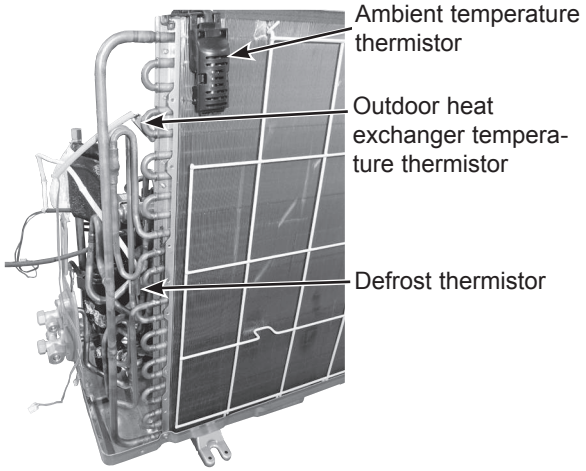
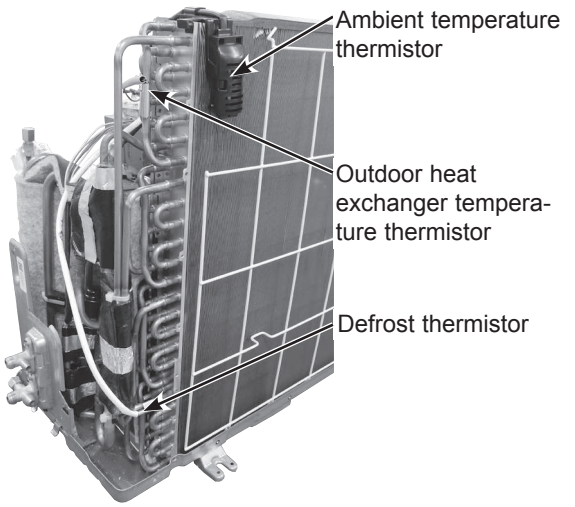
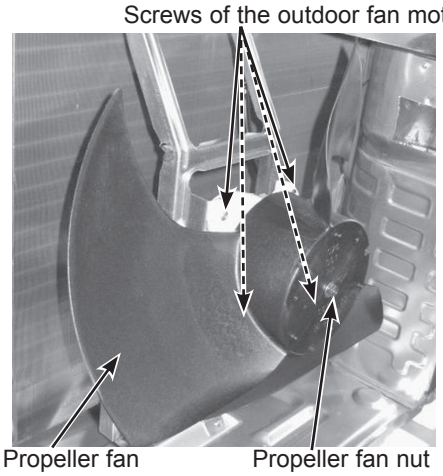
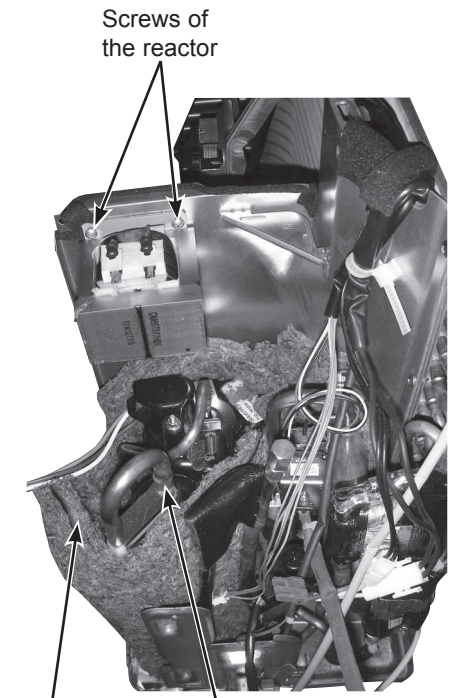
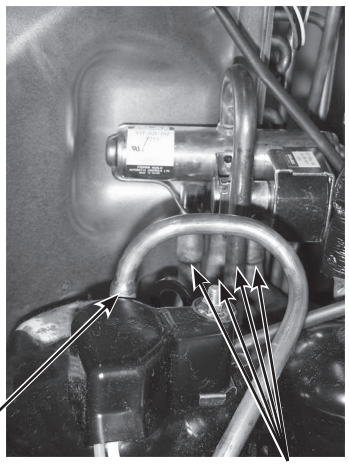


Photo 13 NAXSST15A112AA NAXSST15A112AB NAYSST15A112AA NAYSST15A112AB



OPERATING PROCEDURE	PHOTOS/FIGURES
5. Removing outdoor fan motor (1) Remove the cabinet and panels. (Refer to section 1.) (2) Disconnect the following connectors: <Inverter P.C. board> CN931, CN932 (Fan motor) (3) Remove the propeller fan nut. (4) Remove the propeller fan. (5) Remove the screws fixing the fan motor. (6) Remove the fan motor. **NOTE**: The propeller fan nut is a reverse thread.	**Photo 10** 
6. Removing the compressor and 4-way valve (1) Remove the cabinet and panels. (Refer to section 1.) (2) Remove the inverter assembly. (Refer to section 2.) (3) Remove the screws fixing the reactor. (4) Remove the reactor. (5) Remove the soundproof felt. (6) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 PSIG. (7) Detach the brazed part of the suction and the discharge pipe connected with compressor. (8) Remove the nuts fixing the compressor. (9) Remove the compressor. (10) Detach the brazed part of pipes connected with 4-way valve.	**Photo 11** 
Photo 12  	

11-2. NAXSST18A112AA NAYSST18A112AA

NOTE: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE	PHOTOS/FIGURES

1. Removing the cabinet

(1) Remove the screws of the service panel.
(2) Remove the screws of the top panel.
(3) Remove the screw of the valve cover.
(4) Remove the service panel.
(5) Remove the screws fixing the conduit cover.
(6) Remove the conduit cover.
(7) Remove the screw of fixing the conduit plate.
(8) Remove the conduit plate.
(9) Remove the top panel.
(10) Remove the valve cover.
(11) Disconnect the power supply and indoor/outdoor connecting wire.
(12) Remove the screws of the cabinet.
(13) Remove the cabinet.
(14) Remove the screws of the back panel.
(15) Remove the back panel.

Photo 1

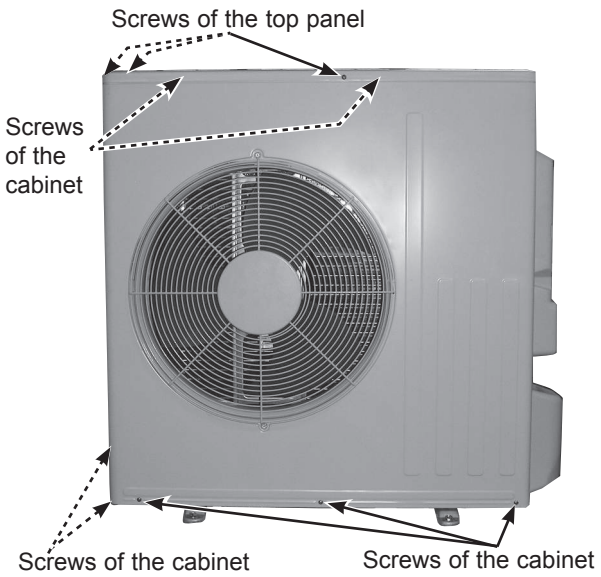


Photo 3

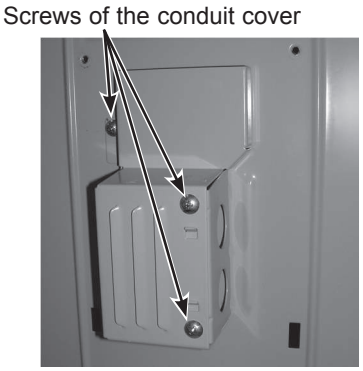


Photo 2

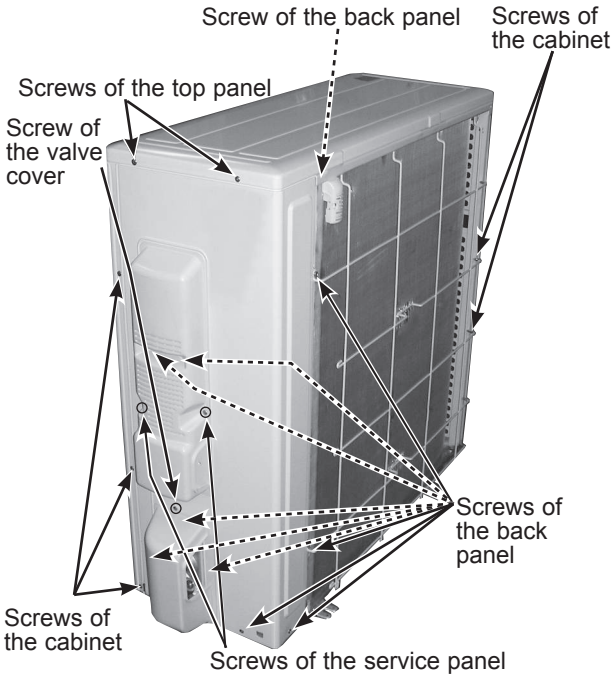


Photo 4

OPERATING PROCEDURE

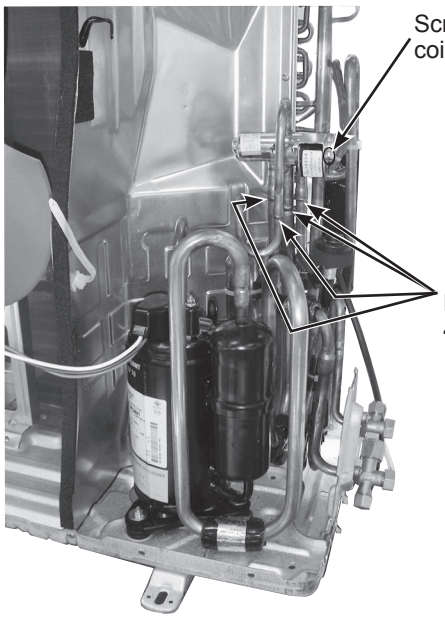
2. Removing the inverter assembly, inverter P.C. board

(1) Remove the cabinet and panels. (Refer to section 1.)
(2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN721 (R.V. coil) (**NAXSST**)
CN931, CN932 (Fan motor)
CN641 (Defrost thermistor (**NAXSST**) and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
CN724 (LEV)
(3) Remove the compressor connector.
(4) Remove the screw fixing the heat sink support and the separator.
(5) Remove the fixing screws of the terminal block support and the back panel.
(6) Remove the inverter assembly.
(7) Remove the screw of the ground wire, screw of the P.C. board cover and screws of the terminal block support.
(8) Remove the heat sink support from the P.C. board support.
(9) Remove the screw of the inverter P.C. board and the inverter P.C. board from the P.C. board support.

3. Removing R.V. coil (NAXSST)

(1) Remove the cabinet and panels. (Refer to section 1.)
(2) Disconnect the following connector:
<Inverter P.C. board>
CN721 (R.V. coil) (**NAXSST**)
(3) Remove the R.V. coil.

Photo 7



PHOTOS/FIGURES

Photo 5

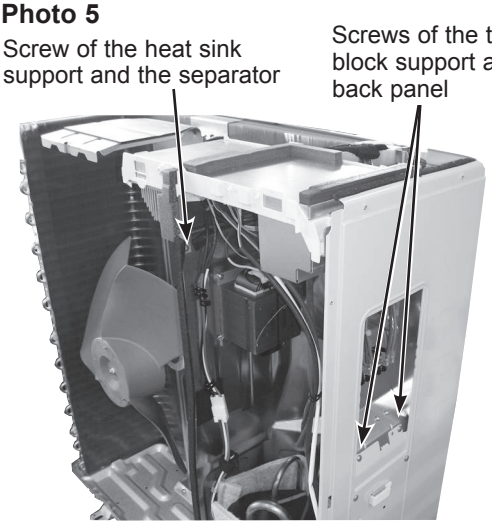
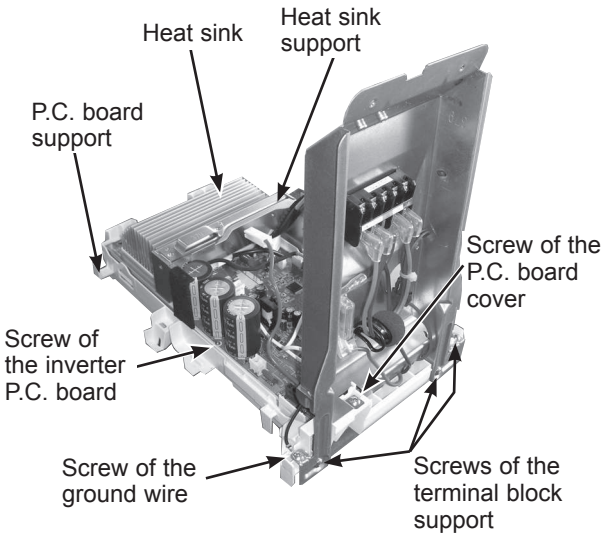


Photo 6



OPERATING PROCEDURE

4. Removing the discharge temperature thermistor, defrost thermistor (NAXSST), outdoor heat exchanger temperature thermistor and ambient temperature thermistor

(1) Remove the cabinet and panels. (Refer to section 1.)
(2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN641 (Defrost thermistor (**NAXSST**) and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
(3) Pull out the discharge temperature thermistor from its holder.
(4) Pull out the defrost thermistor from its holder.
(5) Pull out the outdoor heat exchanger temperature thermistor from its holder.
(6) Pull out the ambient temperature thermistor from its holder.

5. Removing outdoor fan motor

(1) Remove the top panel, cabinet and service panel. (Refer to section 1.)
(2) Disconnect the following connectors:
<Inverter P.C. board>
CN931 and CN932 (Fan motor)
(3) Remove the propeller fan nut.
(4) Remove the propeller fan.
(5) Remove the screws fixing the fan motor.
(6) Remove the fan motor.
NOTE: The propeller fan nut is a reverse thread.

6. Removing the compressor and 4-way valve

(1) Remove the top panel, cabinet and service panel. (Refer to section 1.)
(2) Remove the back panel. (Refer to section 1.)
(3) Remove the inverter assembly. (Refer to section 2.)
(4) Recover gas from the refrigerant circuit.
NOTE: Recover gas from the pipes until the pressure gauge shows 0 PSIG.
(5) Detach the brazed part of the suction and the discharge pipe connected with compressor.
(6) Remove the compressor nuts.
(7) Remove the compressor.
(8) Detach the brazed part of 4-way valve and pipe. (Photo 7)

PHOTOS/FIGURES

Photo 8

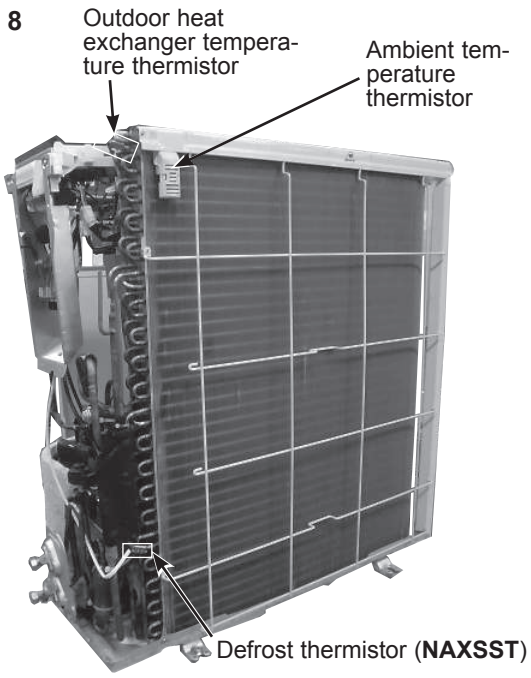


Photo 9

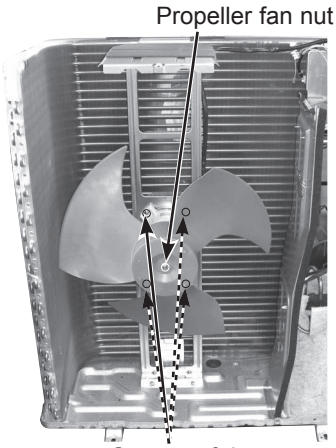
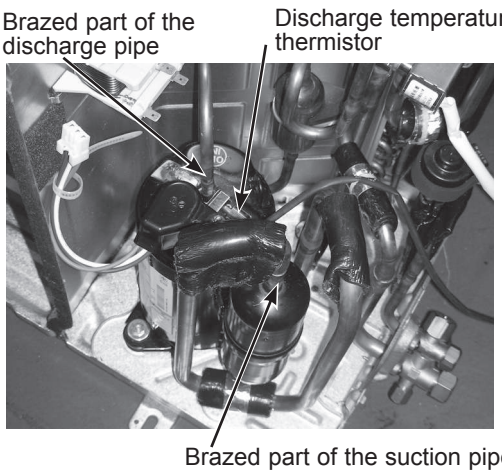


Photo 10



11-3. NAXSST24A112AA NAYSST24A112AA

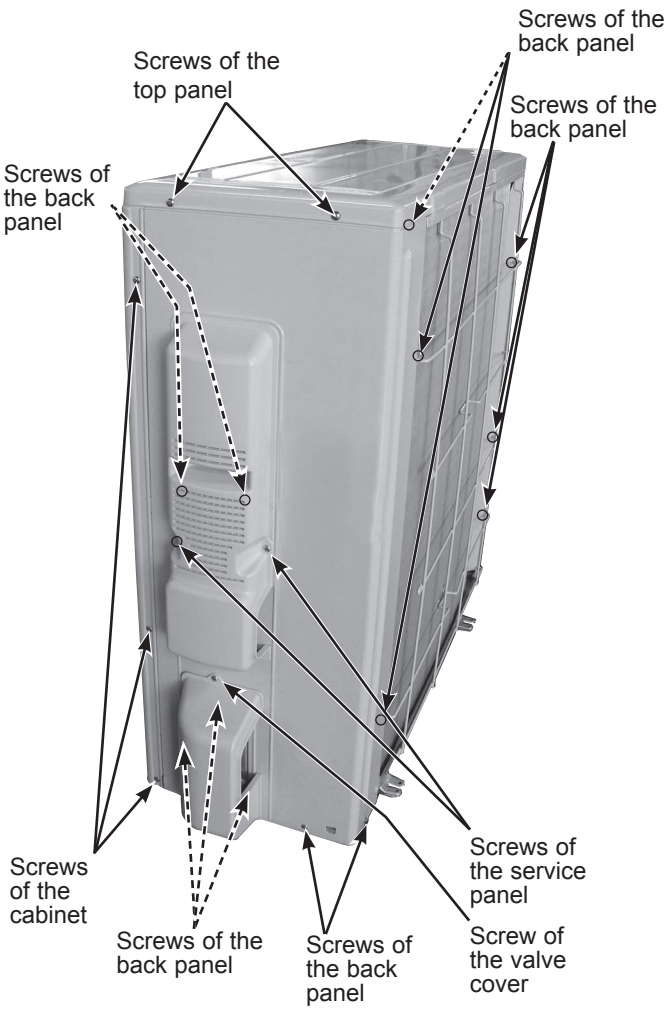
NOTE: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE

1. Removing the cabinet

(1) Remove the screws of the service panel.
(2) Remove the screws of the top panel.
(3) Remove the screw of the valve cover.
(4) Remove the service panel.
(5) Remove the screws fixing the conduit cover.
(6) Remove the conduit cover.
(7) Remove the top panel.
(8) Remove the valve cover.
(9) Disconnect the power supply and indoor/outdoor connecting wire.
(10) Remove the screws of the cabinet.
(11) Remove the cabinet.
(12) Remove the screws of the back panel.
(13) Remove the back panel.

Photo 2



PHOTOS/FIGURES

Photo 1

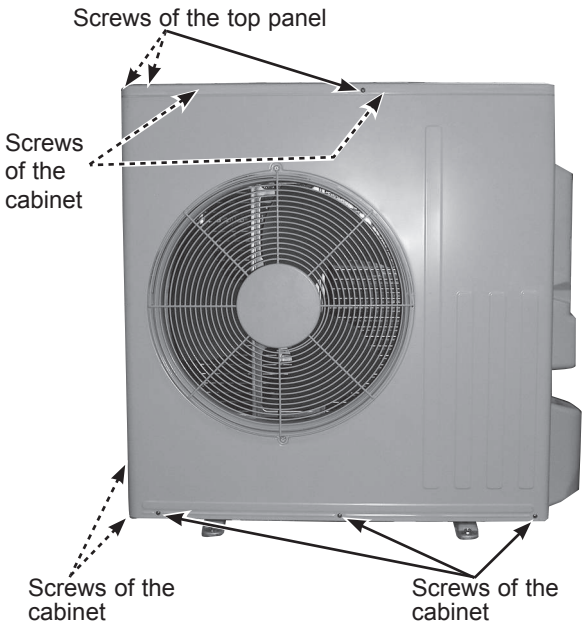


Photo 3

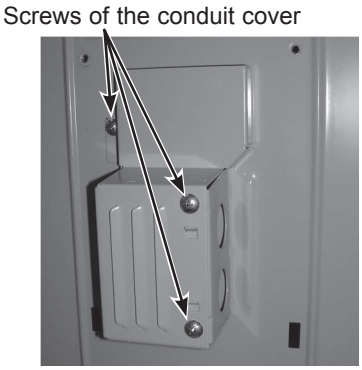
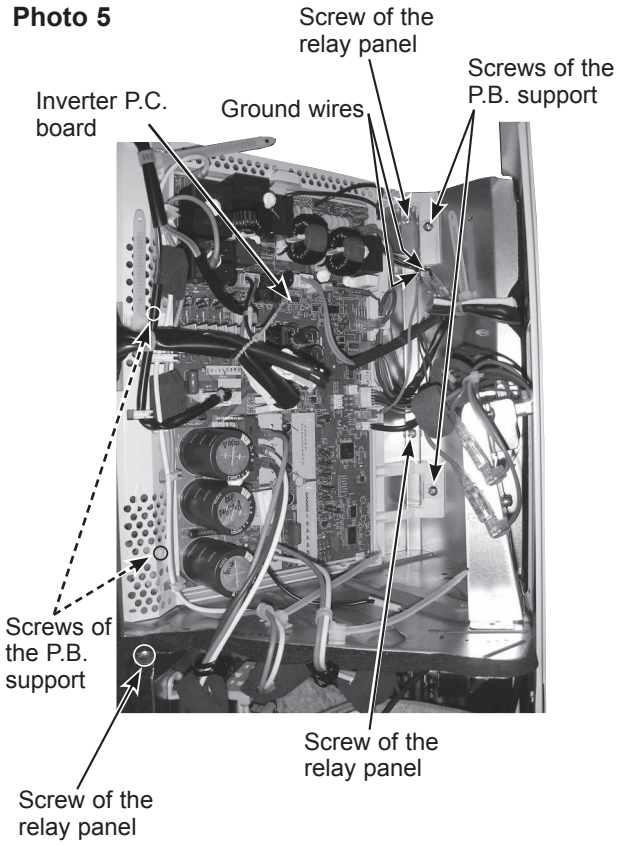
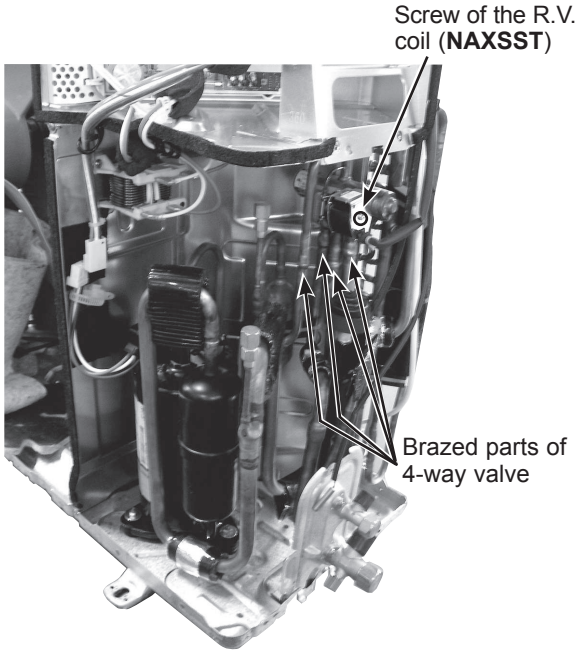
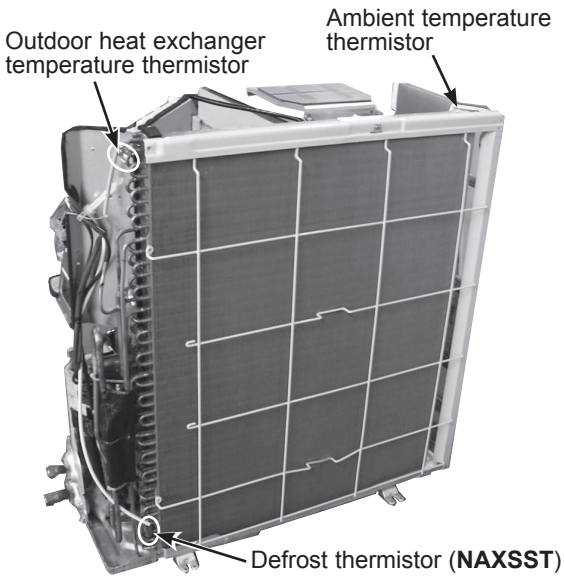
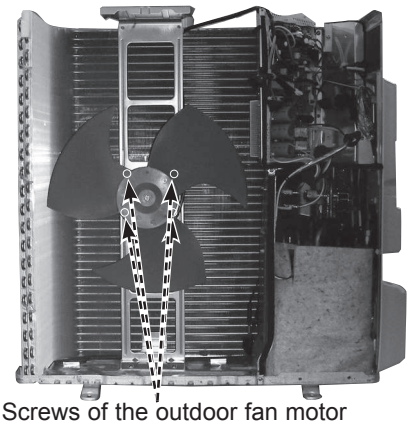
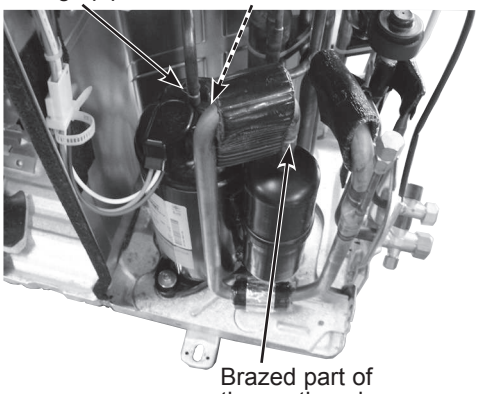


Photo 4

OPERATING PROCEDURE	PHOTOS/FIGURES
2. Removing the inverter assembly, inverter P.C. board and relay P.C. board (1) Remove the cabinet and panels. (Refer to section 1.) (2) Disconnect the lead wire to the reactor and the following connectors: <Inverter P.C. board> CN602 (R.V. coil) (**NAXSST**) CN931, CN932 (Fan motor) CN671 (Defrost thermistor (**NAXSST**), discharge temperature thermistor and outdoor heat exchanger temperature thermistor) CN672 (Ambient temperature thermistor) CN724 (LEV) (3) Remove the compressor connector. (4) Remove the screws fixing the relay panel. (5) Remove the relay panel. (6) Remove the ground wires and the lead wires of the inverter P.C. board. (7) Remove the screws of the P.B. support. (8) Remove the inverter P.C. board from the P.B. support.	**Photo 5** 
3. Removing R.V. coil (NAXSST) (1) Remove the cabinet and panels. (Refer to section 1.) (2) Disconnect the following connector: <Inverter P.C. board> CN602 (R.V. coil) (**NAXSST**) (3) Remove the R.V. coil.	**Photo 6** 

OPERATING PROCEDURE	PHOTOS/FIGURES
4. Removing the discharge temperature thermistor, defrost thermistor (NAXSST), outdoor heat exchanger temperature thermistor and ambient temperature thermistor (1) Remove the cabinet and panels. (Refer to section 1.) (2) Disconnect the lead wire to the reactor and the following connectors: <Inverter P.C. board> CN671 (Defrost thermistor (**NAXSST**), discharge temperature thermistor and outdoor heat exchanger temperature thermistor) CN672 (Ambient temperature thermistor) (3) Pull out the discharge temperature thermistor from its holder. (4) Pull out the defrost thermistor from its holder. (5) Pull out the outdoor heat exchanger temperature thermistor from its holder. (6) Pull out the ambient temperature thermistor from its holder.	**Photo 7** 
5. Removing outdoor fan motor (1) Remove the top panel, cabinet and service panel. (Refer to section 1.) (2) Disconnect the following connectors: <Inverter P.C. board> CN931 and CN932 (Fan motor) (3) Remove the propeller. (4) Remove the screws fixing the fan motor. (5) Remove the fan motor. **NOTE**: The propeller fan nut is a reverse thread.	**Photo 8** 
6. Removing the compressor and 4-way valve (1) Remove the top panel, cabinet and service panel. (Refer to section 1.) (2) Remove the back panel. (Refer to section 1.) (3) Remove the inverter assembly. (Refer to section 2.) (4) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 PSIG. (5) Detach the brazed part of the suction and the discharge pipes connected with compressor. (6) Remove the compressor nuts. (7) Remove the compressor. (8) Detach the brazed parts of 4-way valve and pipes. (Photo 6)	**Photo 9** 

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