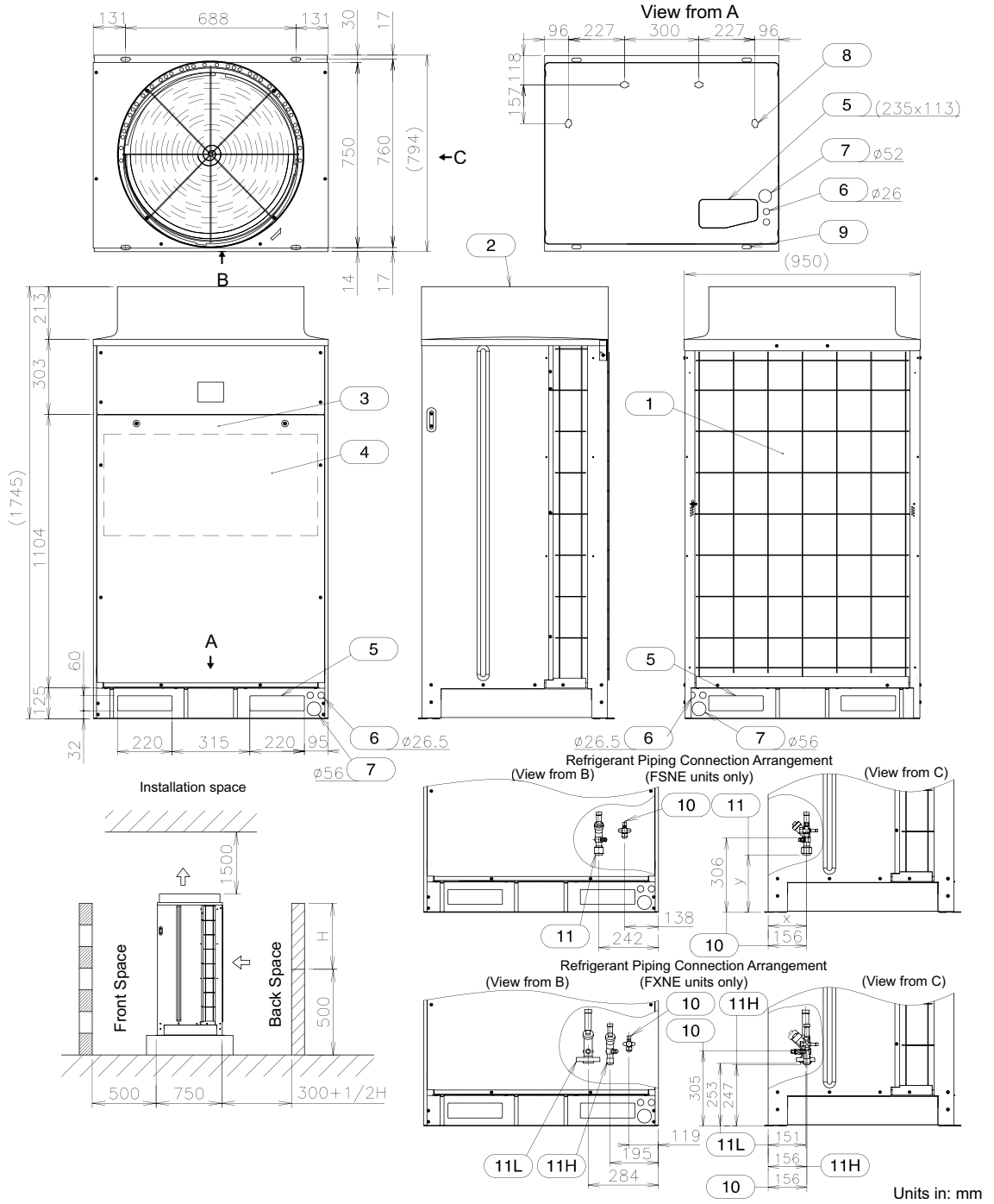


◆ RAS-8~12FSN(E) / RAS-8~12FXN(E)

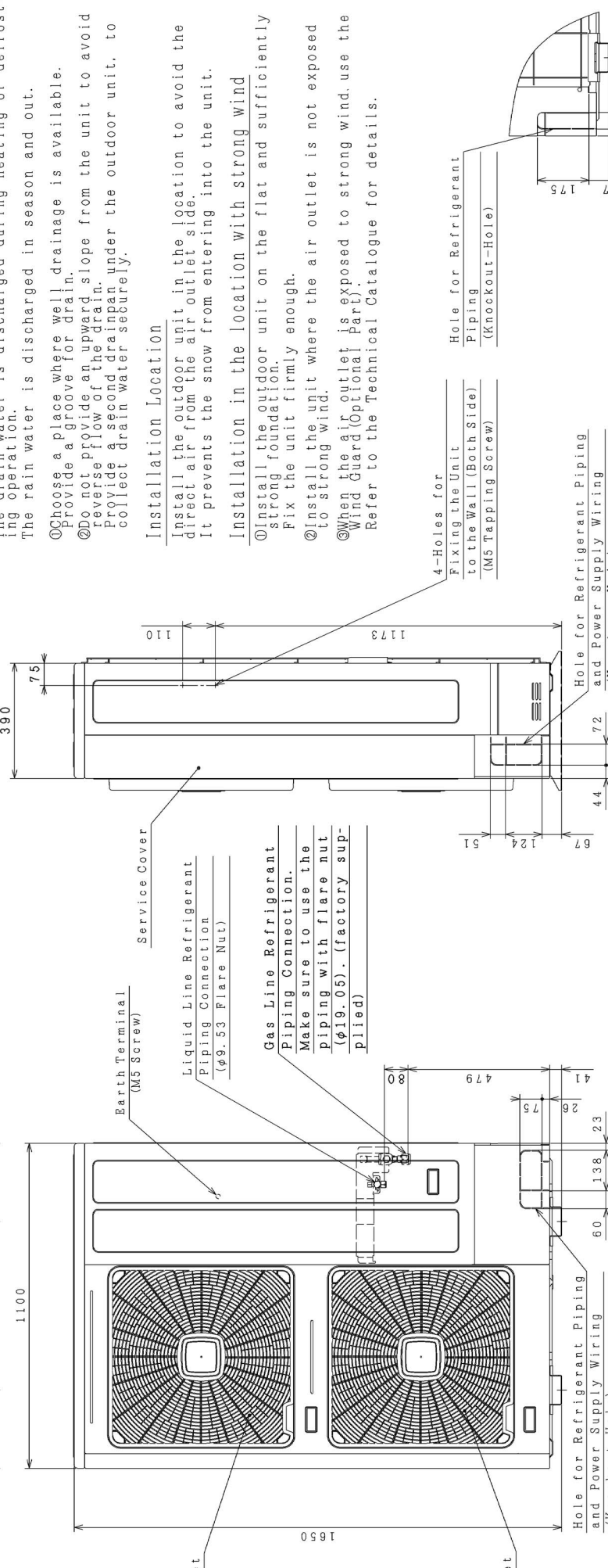
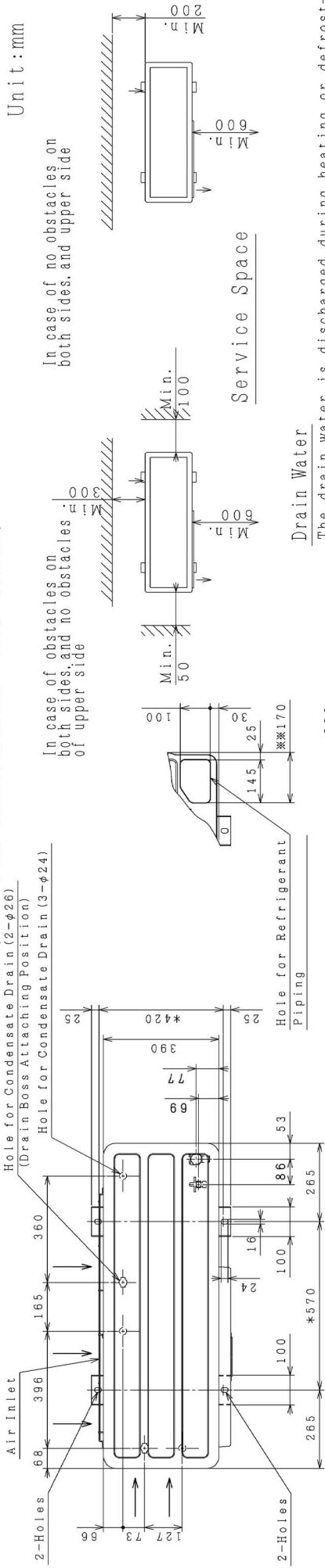


No.	Content	Remarks
1	Air Intake	
2	Air Outlet	
3	Service cover	
4	Electrical Switch Box	
5	Holes for Refrigerant piping	
6	Holes for Control Line Wiring	
7	Holes for Power Source Wiring	
8	Drain holes	4-Ø26
9	Holes for fixing machine to floor	4-(38x16)
10	Refrigerant Liquid Line	Flare nut: Øa
11	Refrigerant Gas Line	Flange: Øb
11H	High Refrigerant Gas Line	Flare nut: Øc
11L	Low Refrigerant Gas Line	Flange: Ød

Model	control	b	x	and
RAS-8FSNE	9.53	19.05	155	238
RAS-10FSNE	9.53	22.2	151	247
RAS-12FSNE	12.7	25.4	151	247

Model	control	c.	d
RAS-8FXNE	9.53	15.88	19.05
RAS-10FXNE	9.53	19.05	22.2
RAS-12FXNE	12.7	19.05	25.4

**DIMENSIONAL DRAWING OF HITACHI AIR-TO-AIR HEAT PUMP AIR CONDITIONER, SET-FREE (OUTDOOR UNIT, MODEL: RAS-8FSNM)**



**Unit: mm**

In case of obstacles on both sides, and upper side of upper side

In case of no obstacles on both sides, and upper side

**Service Space**

**Drain Water**  
The drain water is discharged during heating or defrosting operation.  
The rain water is discharged in season and out.

① Choose a place where well drainage is available.  
② Do not provide an upward slope from the unit to avoid reverse flow of the drain.  
③ Provide a second drainpan under the outdoor unit, to collect drain water securely.

**Installation Location**  
Install the outdoor unit in the location to avoid the direct air from the air outlet side.  
It prevents the snow from entering into the unit.

Installation in the location with strong wind

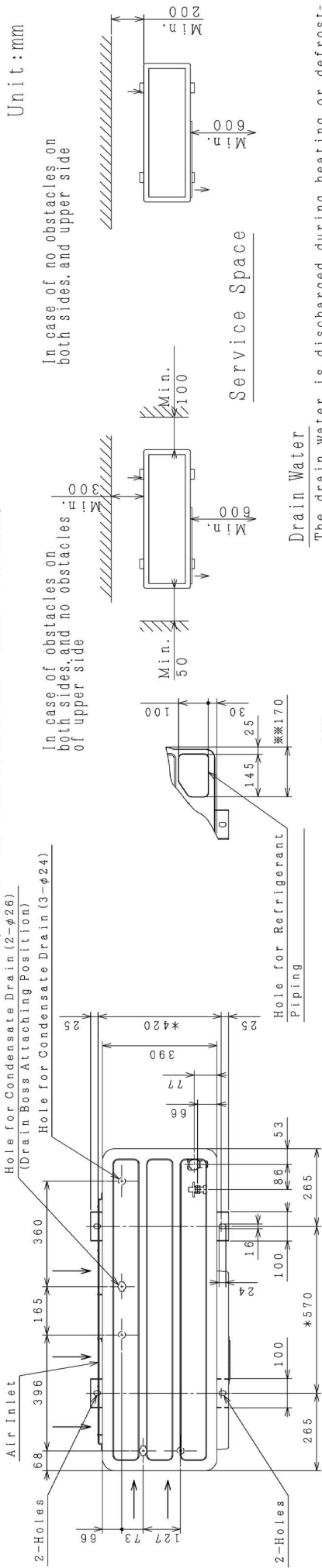
① Install the outdoor unit on the flat and sufficiently strong foundation.  
Fix the unit firmly enough.  
② Install the unit where the air outlet is not exposed to strong wind.  
③ When the air outlet is exposed to strong wind, use the Wind Guard (Optional Part).  
Refer to the Technical Catalogue for details.

**NOTES:**

- Although refrigerant has been charged into this unit, additional refrigerant charge is required according to piping length.
- There are stop valves in the cabinet.
- In the case that dimension of 170 marked with ※ is provided, it is possible to perform piping work from the bottom without interference such as foundation, etc.
- The dimension marked with \* indicates the mounting pitch dimension for anchor bolts.
- If the piping length is over 70m, liquid pipe diameter should be φ12.7 instead of φ9.53 (RAS-8FSNM only).

SYMBOL	DATE	REV'D.	CHK'D.	APP'D.
REVISIONS				
TITLE		PROJECTION SCALE		
DIMENSIONAL DRAWING		NTS		
REMARKS		SHIMIZU DWG. NO.		
DWG. N. Yamada 07-10-2008		Hitachi Appliances, Inc.		
CHKD. N. Yamada 07-10-2008		Tokyo Japan		
APPD. S. Saito 07-10-2008		317T133075		

**DIMENSIONAL DRAWING OF HITACHI AIR-TO-AIR HEAT PUMP AIR CONDITIONER, SET-FREE (OUTDOOR UNIT, MODEL: RAS-10FSNM)**



**Drain Water**  
 The drain water is discharged during heating or defrosting operation.  
 The rain water is discharged in season and out.

① Choose a place where well drainage is available.  
 ② Do not provide an upward slope from the unit to avoid reverse flow of the drain.  
 Provide a second drainpan under the outdoor unit, to collect drain water securely.

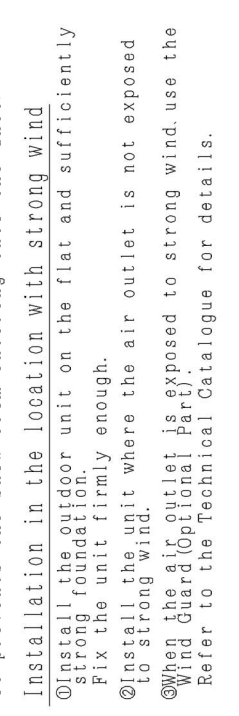
**Installation Location**  
 Install the outdoor unit in the location to avoid the direct air from the air outlet side.  
 It prevents the snow from entering into the unit.

Installation in the location with strong wind

① Install the outdoor unit on the flat and sufficiently strong foundation.  
 Fix the unit firmly enough.  
 ② Install the unit where the air outlet is not exposed to strong wind.  
 ③ When the air outlet is exposed to strong wind, use the Wind Guard (Optional part).  
 Refer to the Technical Catalogue for details.

**Service Space**  
 In case of obstacles on both sides, and upper side

**Service Space**  
 In case of obstacles on both sides, and no obstacles of upper side

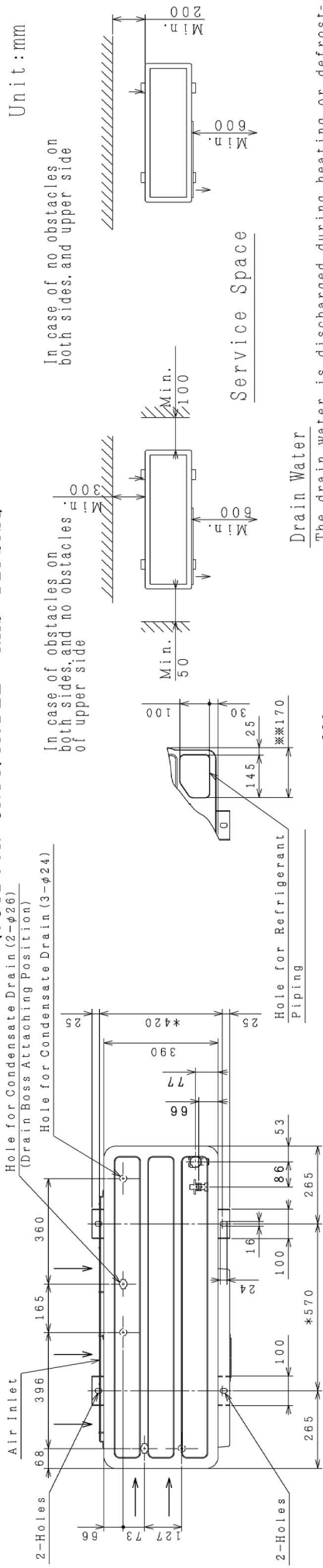


**NOTES:**

- Although refrigerant has been charged into this unit, additional refrigerant charge is required according to piping length.
- There are stop valves in the cabinet.
- In the case that dimension of 170 marked with ※ is provided, it is possible to perform piping work from the bottom without interference such as foundation, etc.
- The dimension marked with \* indicates the mounting pitch dimension for anchor bolts.

SYMBOL	DATE	REVISED	CHECKED	APPROVED
REVISIONS				
TITLE		PROJECTION SCALE		
DIMENSIONAL DRAWING		NTS		
REMARKS		SHIMIZU DWG. NO.		
DWG. N. Yamada 07-10-2008		Hitachi Appliances, Inc.		
CHKD. N. Yamada 07-10-2008		Tokyo Japan		
APP. S. Saito 07-10-2008		317T133076		

**DIMENSIONAL DRAWING OF HITACHI AIR-TO-AIR HEAT PUMP AIR CONDITIONER, SET-FREE (OUTDOOR UNIT, MODEL: RAS-12FSNM)**



**Unit: mm**

In case of obstacles on both sides, and upper side

In case of obstacles on both sides, and no obstacles of upper side

**Service Space**

**Drain Water**  
The drain water is discharged during heating or defrosting operation.  
The rain water is discharged in season and out.

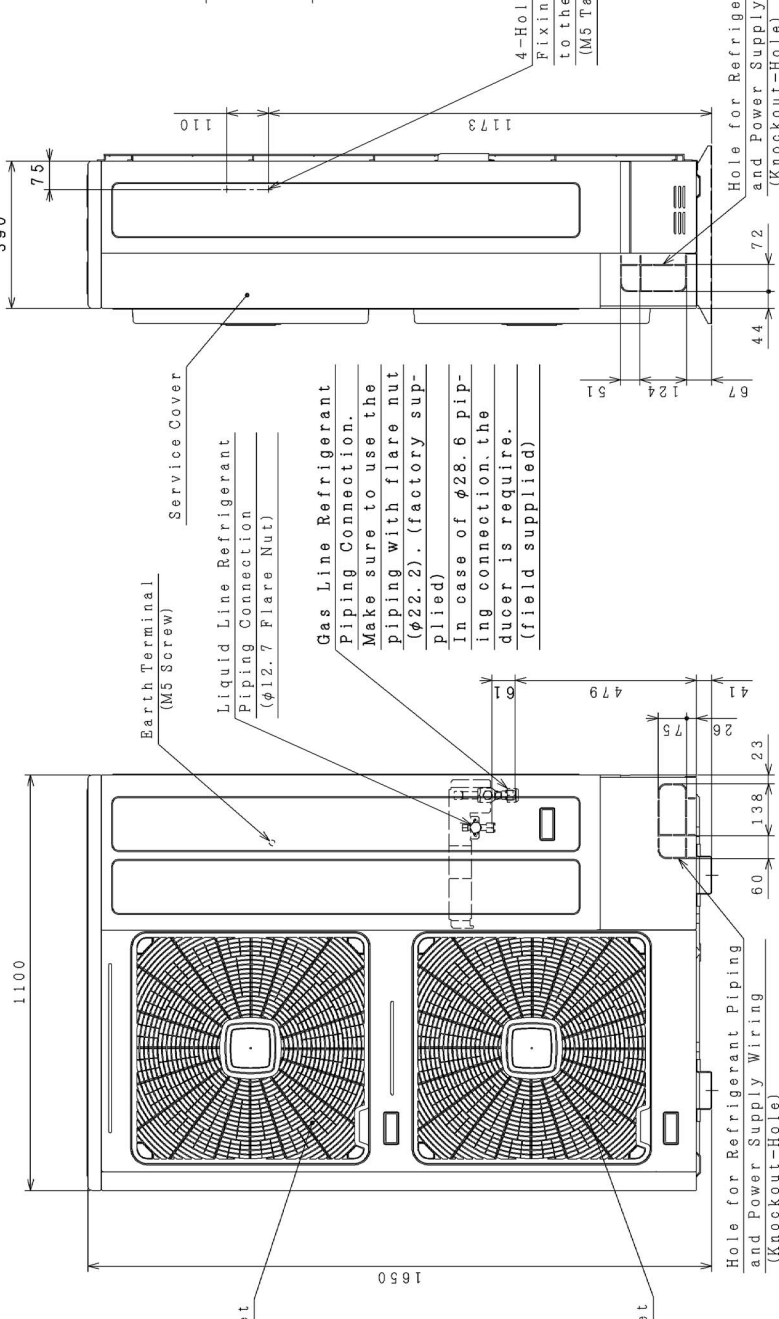
- Choose a place where well drainage is available.
- Do not provide an upward slope from the unit to avoid reverse flow of the drain.
- Provide a second drainpan under the outdoor unit, to collect drain water securely.

**Installation Location**  
Install the outdoor unit in the location to avoid the direct air from the air outlet side.  
It prevents the snow from entering into the unit.

**Installation in the location with strong wind**  
Install the outdoor unit on the flat and sufficiently strong foundation.  
Fix the unit firmly enough.

- Install the unit where the air outlet is not exposed to strong wind.
- When the air outlet is exposed to strong wind, use the Wind Guard (Optional part).

Refer to the Technical Catalogue for details.



**Installation Location**  
Install the outdoor unit in the location to avoid the direct air from the air outlet side.  
It prevents the snow from entering into the unit.

**Installation in the location with strong wind**  
Install the outdoor unit on the flat and sufficiently strong foundation.  
Fix the unit firmly enough.

- Install the unit where the air outlet is not exposed to strong wind.
- When the air outlet is exposed to strong wind, use the Wind Guard (Optional part).

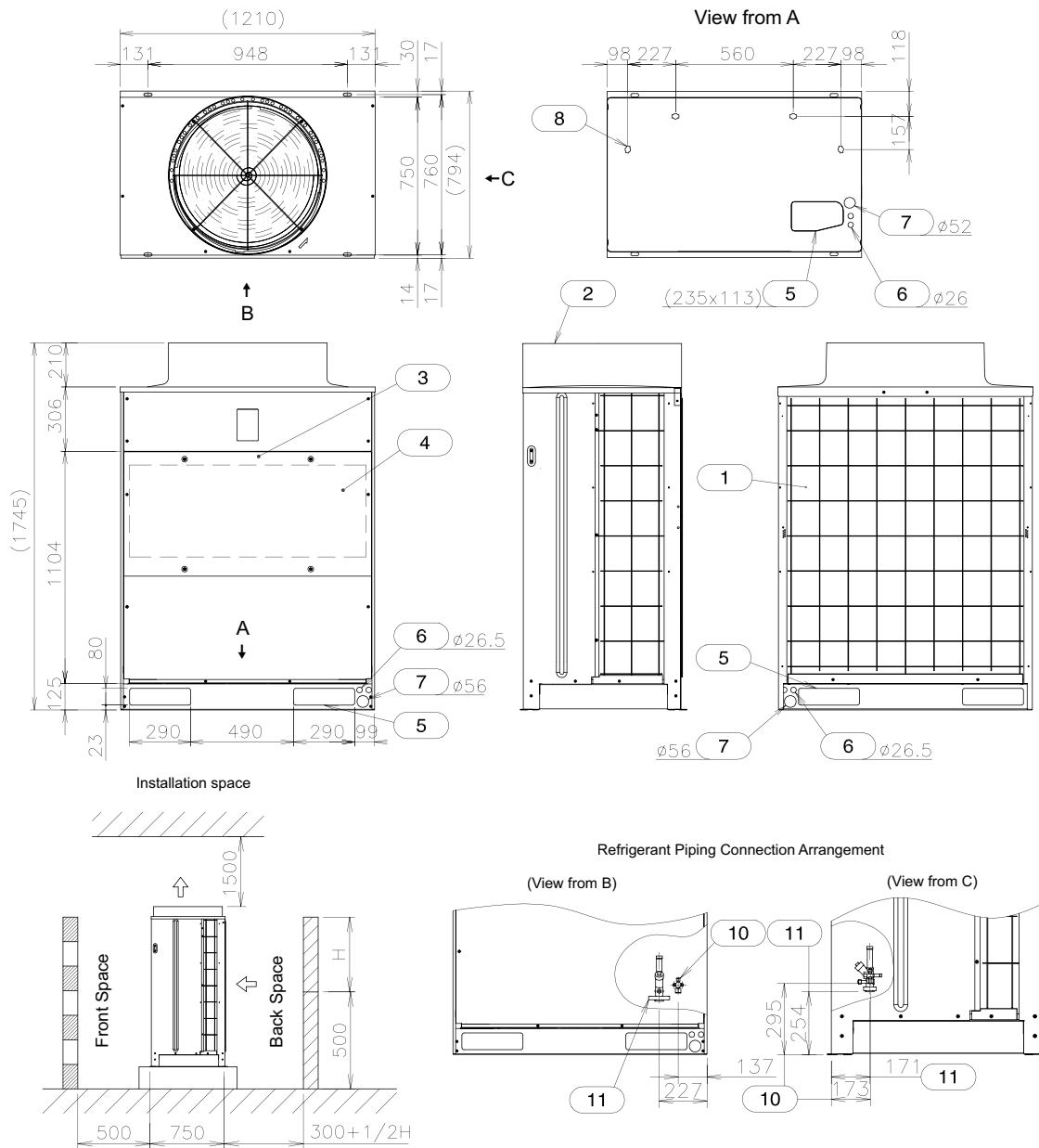
Refer to the Technical Catalogue for details.

**Notes:**

- Although refrigerant has been charged into this unit, additional refrigerant charge is required according to piping length.
- There are stop valves in the cabinet.
- In the case that dimension of 170 marked with ※ is provided, it is possible to perform piping work from the bottom without interference such as foundation, etc.
- The dimension marked with \* indicates the mounting pitch dimension for anchor bolts.

SYMBOL	DATE	REVISED	CHKD.	APPD.
REVISIONS				
TITLE		PROJECTION SCALE		
DIMENSIONAL DRAWING		N/T S		
REMARKS		SHIMIZU DWG. NO.		
DWG. N. Yamada 07-10-2008		Hitachi Appliances, Inc.		
CHKD. N. Yamada 07-10-2008		Tokyo Japan		
APPD. S. Saito 07-10-2008		317T133077		

◆ RAS-14/16FSN



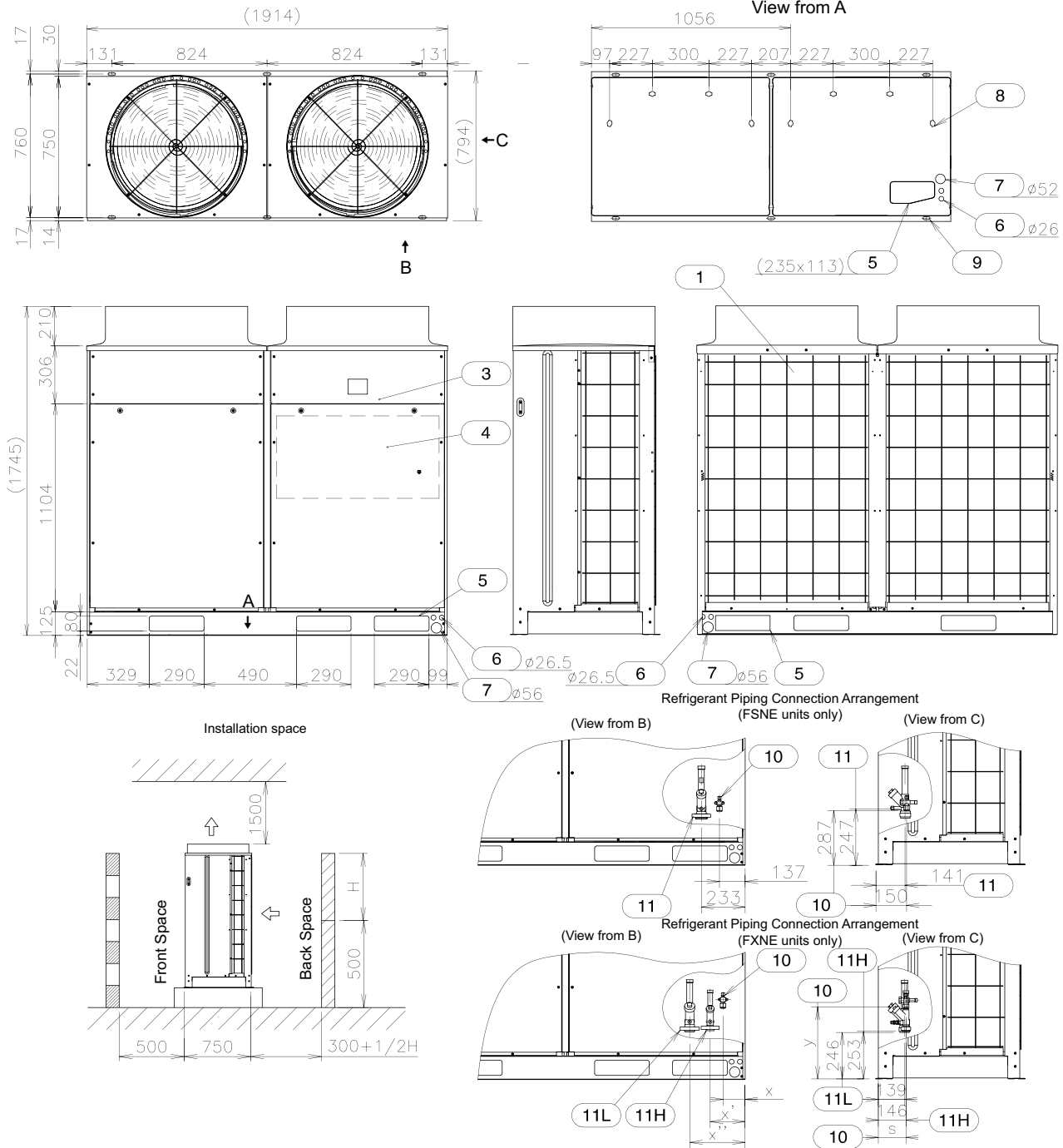
3

Units in: mm

No.	Content	Remarks
1	Air Intake	
2	Air Outlet	
3	Service cover	
4	Electrical Switch Box	
5	Holes for Refrigerant piping	
6	Holes for Control Line Wiring	
7	Holes for Power Source Wiring	
8	Drain holes	4-Ø26
9	Holes for fixing machine to floor	4-(38x16)
10	Refrigerant Liquid Line	Flare nut: Ø12.7
11	Refrigerant Gas Line	Flange: Øa

Model	control
RAS-14	25.4
RAS-16	28.6

◆ RAS-18~22FSN / RAS-16~22FXN



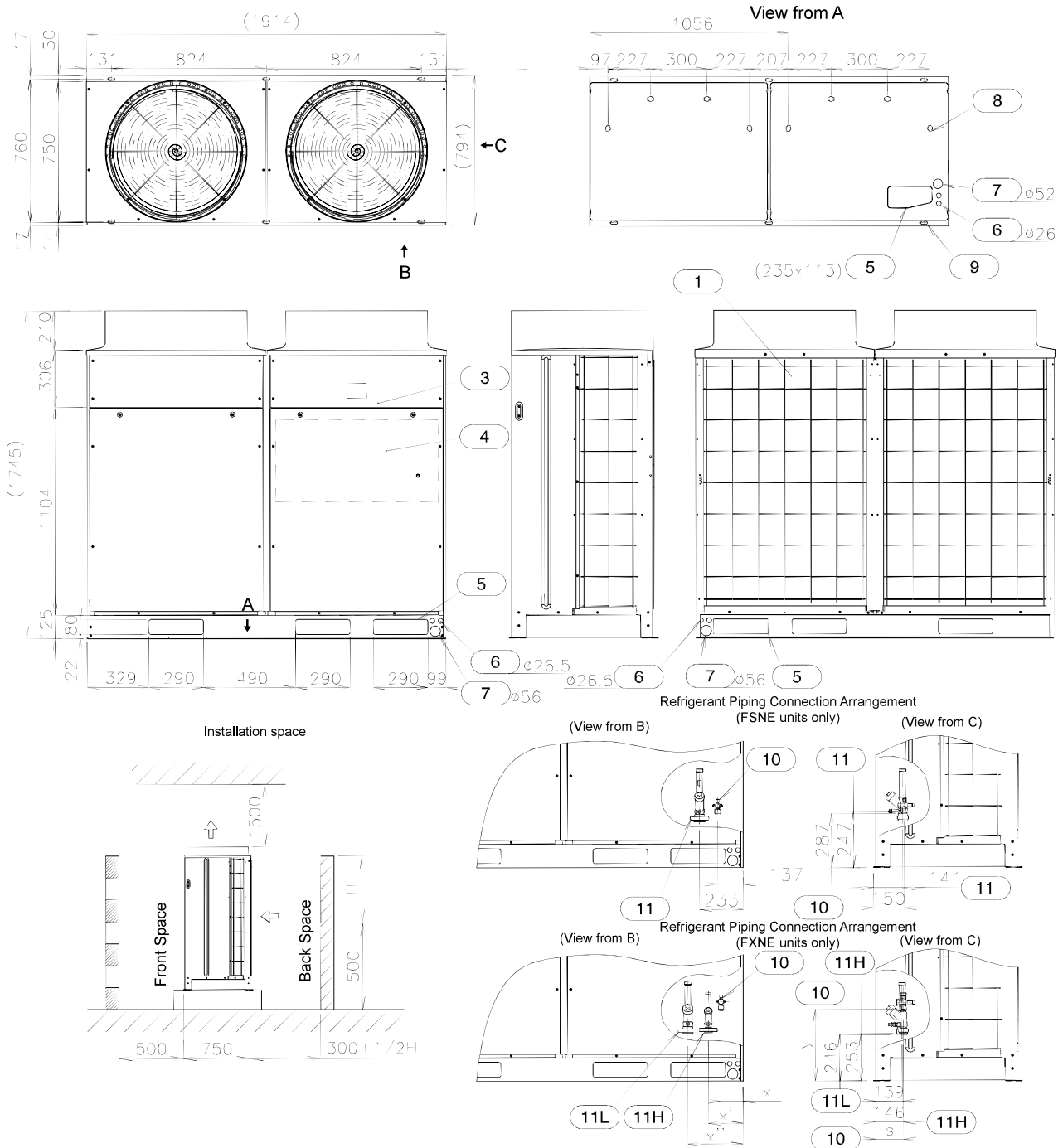
Units in: mm

No.	Content	Remarks
1	Air Intake	
2	Air Outlet	
3	Service cover	
4	Electrical Switch Box	
5	Holes for Refrigerant piping	
6	Holes for Control Line Wiring	
7	Holes for Power Source Wiring	
8	Drain holes	8-Ø26
9	Holes for fixing machine to floor	8-(38x16)
10	Refrigerant Liquid Line	Flare nut: Øa
11	Refrigerant Gas Line	Flange: Ø28.6
11H	High Refrigerant Gas Line	Flange: Ø22.2
11L	Low Refrigerant Gas Line	Flange: Ø28.6

Model	control
RAS-18FSN	15.88
RAS - 20FSN	15.88
RAS-22FSN	15.88

Model	control	s	x	x'	x''	and
RAS-16FXN	12.7	150	115	183	292	385
RAS-18FXN	15.88	150	115	183	292	385
RAS-20FXN	15.88	146	118	186	295	381
RAS-22FXN	15.88	146	118	186	295	381

◆ RAS-18~22FSN / RAS-16~22FXN



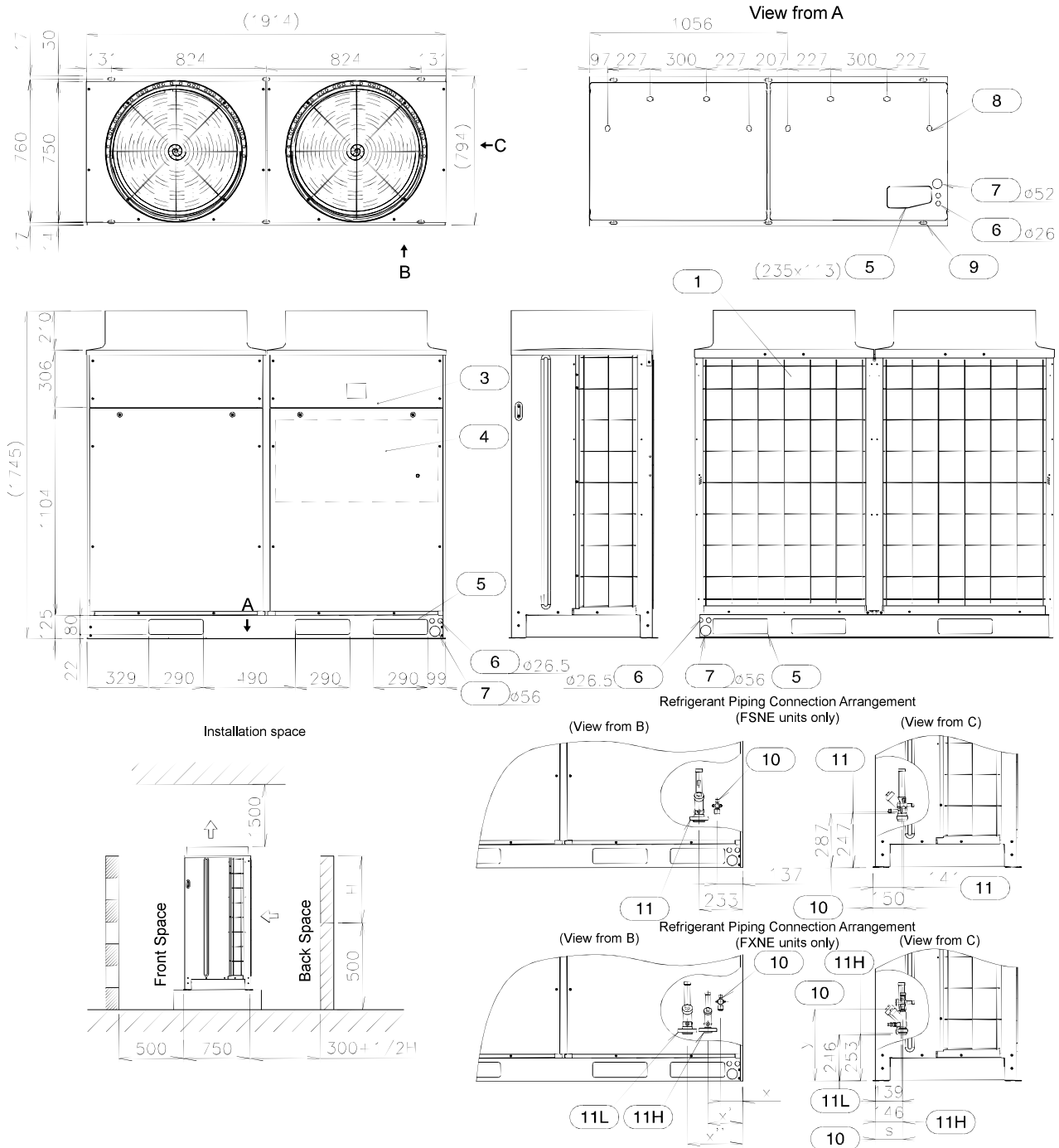
Units in: mm

No.	Content	Remarks
1	Air Intake	
2	Air Outlet	
3	Service cover	
4	Electrical Switch Box	
5	Holes for Refrigerant piping	
6	Holes for Control Line Wiring	
7	Holes for Power Source Wiring	
8	Drain holes	8-Ø26
9	Holes for fixing machine to floor	8-(38x16)
10	Refrigerant Liquid Line	Flare nut: Øa
11	Refrigerant Gas Line	Flange: Ø28.6
11H	High Refrigerant Gas Line	Flange: Ø22.2
11L	Low Refrigerant Gas Line	Flange: Ø28.6

Model	control
RAS-18FSN	15.88
RAS - 20FSN	15.88
RAS-22FSN	15.88

Model	control	s	x	x'	x''	and
RAS-16FXN	12.7	150	115	183	292	385
RAS-18FXN	15.88	150	115	183	292	385
RAS-20FXN	15.88	146	118	186	295	381
RAS-22FXN	15.88	146	118	186	295	381

◆ RAS-18~22FSN / RAS-16~22FXN



Units in: mm

No.	Content	Remarks
1	Air Intake	
2	Air Outlet	
3	Service cover	
4	Electrical Switch Box	
5	Holes for Refrigerant piping	
6	Holes for Control Line Wiring	
7	Holes for Power Source Wiring	
8	Drain holes	8-Ø26
9	Holes for fixing machine to floor	8-(38x16)
10	Refrigerant Liquid Line	Flare nut: Øa
11	Refrigerant Gas Line	Flange: Ø28.6
11H	High Refrigerant Gas Line	Flange: Ø22.2
11L	Low Refrigerant Gas Line	Flange: Ø28.6

Model	control
RAS-18FSN	15.88
RAS - 20FSN	15.88
RAS-22FSN	15.88

Model	control	s	x	x'	x''	and
RAS-16FXN	12.7	150	115	183	292	385
RAS-18FXN	15.88	150	115	183	292	385
RAS-20FXN	15.88	146	118	186	295	381
RAS-22FXN	15.88	146	118	186	295	381