

Straight Equivalent Length Of Joints; Additional Refrigerant Charge - Sanyo R410A Installation Instructions Manual

W-3way eco-i system air conditioner

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Table 1-6 Refrigerant Charge Amount at Shipment (for outdoor unit)

CHDZ07263

DC		
CHDZR07263		
(oz)		
416		

Table 1-7 Indoor Unit Tubing Connection Size (

l l

Indoor unit type

Total system horsepower							
Suction tubing							
Distribution					/	/	
joint-solenoid					/	/	
Discharge tubing					/	/	
valve kit tubing							
Liquid tubing			/	/			
Solenoid valve							

Gas tubing

kit-Indoor

unit tubing

Liquid tubing

connection

*1: For the solenoid valve kits, use type 160 with parallel specifications. Branch the tubing before and after the solenoid valve kits.



1-7. Straight Equivalent Length of Joints

Design the tubing system by referring to the following table for the straight equivalent length of joints.

Table 1-8 Straight Equivalent Length of Joints

Gas tubing size (in.(mm))

90 elbow

45 elbow

U-shape tube bent

(R2-23/64-3-15/16 in.)

T r ap bend

Y -br anch distr ib ution joint

Ball v alv e f or ser vice

Table 1-9 Refrigerant tubing (Existing tubing can be used.)

Material O

ø1/4" (ø6.35)

t1/32 (t0.8)

ø3/8" (ø9.52)

t1/32 (t0.8)

ø1/2" (ø12.7)

t1/32 (t0.8)

ø5/8" (ø15.88)

t5/128 (t1.0)

ø3/4" (ø19.05)

over t5/128 (t1.0)

ø7/8" (ø22.22)

t5/128 (t1.0)



1-8. Additional Refrigerant Charge

Additional refrigerant charge amount is calculated from the liquid tubing total length and a type of outdoor unit as follows.

Table 1-10-1 Amount of Refrigerant Charge Per ft.,

According to Liquid Tubing Size

Liquid tubing size	Amount of refrigerant charge (oz./ft.)
ø1/4" (ø6.35)	0.279
ø3/8" (ø9.52)	0.602

CHDZ09663
 CHDZR09663

416		
7		
9		

0.8

1

1/2"

l l

5/8"								
(12.7)								
(15.88)							/	/
1 ft.							/	/
1.1 ft.							/	/
(0.30 m)							/	/
(0.35 m)								
0.8 ft.				/	/			
0.9 ft.								
(0.23 m)				/	/			
(0.26 m)								
3 ft.								

3.4 ft.

(0.90 m)

(1.05 m)

7.5 ft.

9.2 ft.

(2.30 m)

(2.80 m)

Tubing size (in. (mm))

Material 1/2H • H

ø1-1/8" (ø28.58)								
ø1-1/4" (ø31.75)								
ø1-1/2" (ø38.10)								
ø1-5/8" (ø41.28)								
ø1/2"								
ø5/8"								
ø3/4"								
(ø12.7)								
(ø15.88)								
(ø19.05)								
(ø22.22)								

1.38

1.99

2.78

-			
)			
1			
40			
12			
15			
18			
1.3			
1.7			
2			
ø5/8" (ø15.88)			

01/2" (012.7)

03/8" (09.52)

01/2" (012.7)

01/4" (06.35)

3/4"

7/8"

1"

(19.05)

l l

(22.22)

(25.4)

1.4 ft.

1.6 ft.

1.7 ft.

(0.42 m)

(0.48 m)

(0.52 m)

1 ft.

1.2 ft.

1.3 ft.

(0.32 m)

(0.36 m)

(0.39 m)

4.1 ft.

4.7 ft.

5.1 ft.

(1.26 m)

(1.44 m)

(1.56 m)

10.5 ft.

12.5 ft.

14.1 ft. ◦

(3.20 m)

(3.80 m) ◦

(4.30 m)

Equivalent length conversion not needed.

Equivalent length conversion not needed.

t5/128 (t1.0)

t3/64 (t1.1)

over t3/64 (t1.15)

over t3/64 (t1.20)

Required amount of additional refrigerant charge =

[(Amount of additional refrigerant charge per ft. of
ø7/8"

each size of liquid tube × its tube length) + (...) + (...)]

+ [(Necessary amount of additional refrigerant charge

3.93

per outdoor unit + (...) + (...)]

* Always charge accurately using a scale for weighing.

10

19

24

36

2.1

3



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o5/8" (o15.88)

o3/8" (o9.52)

1-1/8"

1-1/4"

1-1/2"

(28.58)

(31.8)

l l

(38.1)

1.9 ft.

2.3 ft.

2.6 ft.

(0.57 m)

(0.70m)

(0.79 m)

1.4 ft.

1.7 ft.

1.9 ft.

(0.43 m)

(0.53 m)

(0.59 m)

5.6 ft.

6.9 ft.

7.8 ft.

(1.71 m)

(2.10 m)

(2.37 m)

15.4 ft.

16.4 ft.

14.0 ft.

(4.70 m) ◦

(5.00 m)

(5.80 m) ◦

* When bending the tubes, use a bending radius that is at least 4 times the outer diameter of the tubes.

In addition, take sufficient care to avoid crushing or damaging the tubes when bending them.

Unit: in. (mm)

48

54

5

5.5



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