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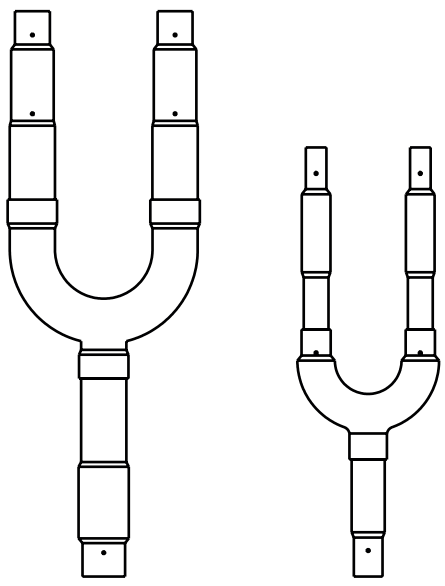
RVF SERIES

DISTRIBUTORS



REFRIGERANT DISTRIBUTORS

MODELS FOR:

2-pipes systems: Outdoor RVF & Indoor units
3-pipes systems: Outdoor RVF HR & Indoor units

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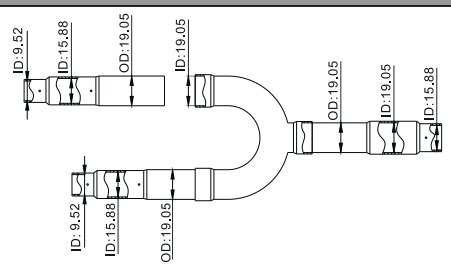
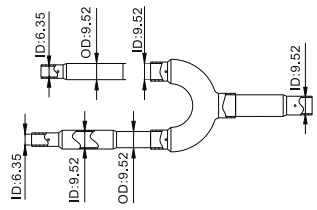
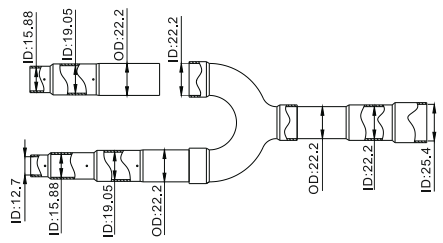
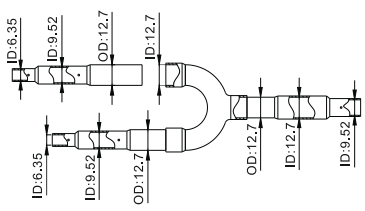
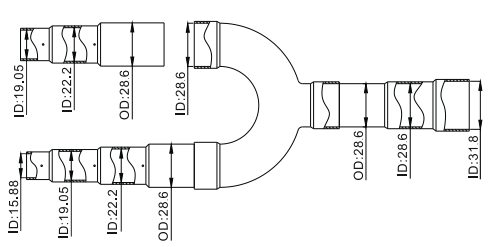
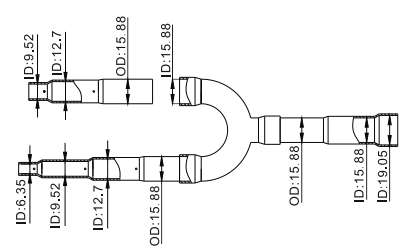
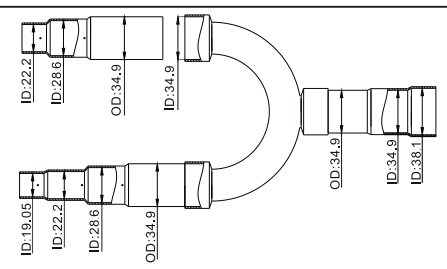
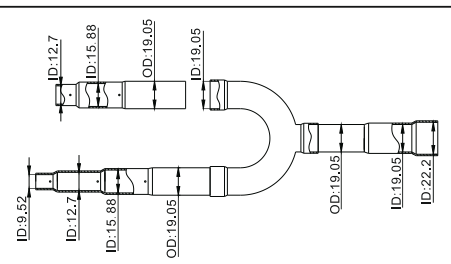
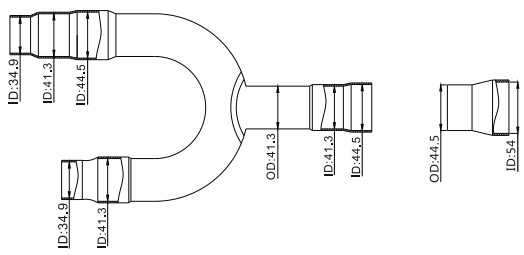
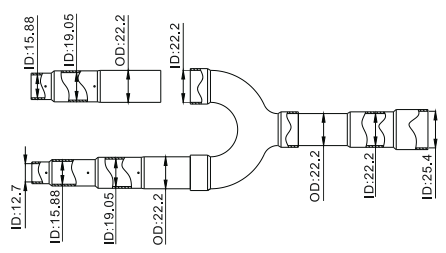
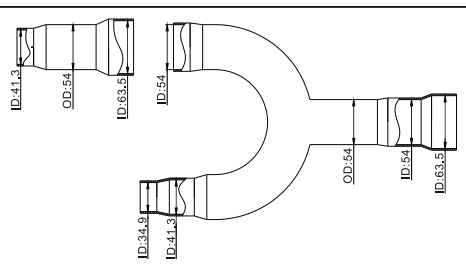
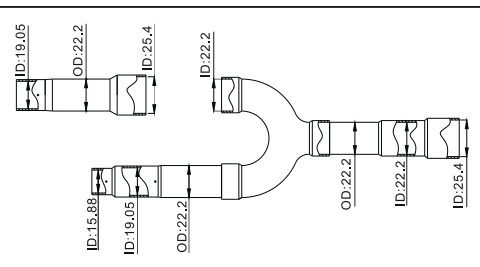
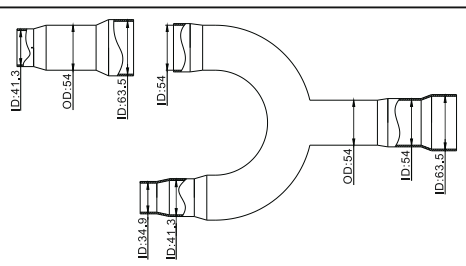
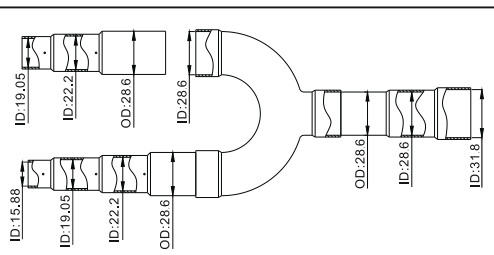
REFRIGERANT DISTRIBUTORS

Indoor units 2-pipes RVF Systems

Installation Instruction of Indoor Manifold
2-pipes RVF Systems

Please read this manual carefully before installation and install according to the instruction.

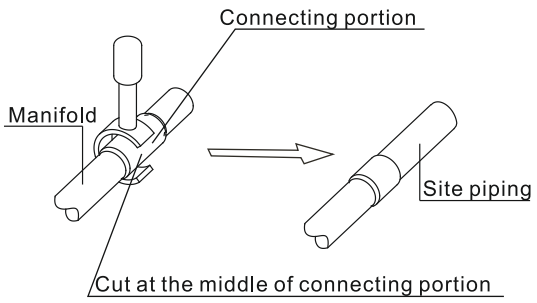
Component List

Accessory box name	Manifold assembly for gas side	Manifold assembly for liquid side
RVF-RDIX17		
RVF-RDIX33.5		
RVF-RDIX68		
RVF-RDIX130		
RVF-RDIX135		
RVF-RDIX250		
RVF-RDIX300		

Selection for R410A Type

The capacity of downstream indoor units counted by nominal cooling capacity (kW)	Gas side specification (mm)	Liquid side specification (mm)	Accessory box number
W＜16.8	Φ15.88	Φ9.52	RVF-RDIX17
16.8≤W＜22.4	Φ19.05	Φ9.52	
22.4≤W＜33	Φ22.2	Φ9.52	RVF-RDIX33.5
33≤W＜47	Φ28.6	Φ12.7	RVF-RDIX68
47≤W＜71	Φ28.6	Φ15.88	
71≤W＜104	Φ31.8	Φ19.05	
104≤W＜154	Φ38.1	Φ19.05	RVF-RDIX130
154≤W＜180	Φ41.2	Φ19.05	RVF-RDIX135
180≤W＜245	Φ44.5	Φ22.2	
245≤W＜269	Φ54	Φ25.4	RVF-RDIX250
269≤W	Φ54	Φ28.6	RVF-RDIX300

Essentials for Cutting



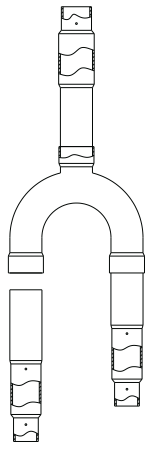


Figure 1

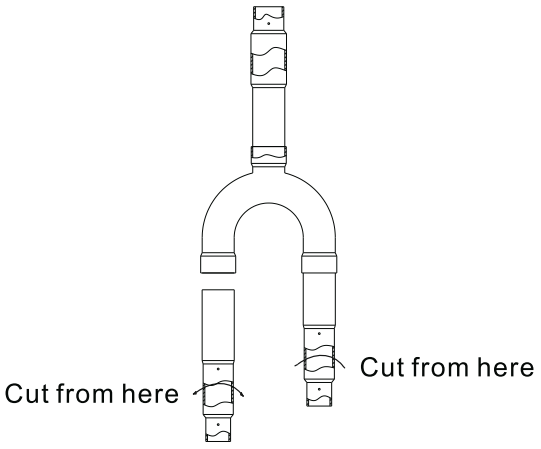


Figure 2

Instruction for Installation

1) The manifold type shall be selected according to the designed model selection guide based on the capacity of downstream indoor unit.

2) The undesired part shall be cut off by dedicated tools (such as cutters) in accordance with the actual tube caliber size, taking RVF-RDIX17 manifold for gas side as example, the sequence of operation are as follows:

a. After the selection of RVF-RDIX17 type, the obtained actual object as shown in Figure 1, supposing the tubing we presently use is φ15.88, the welded pipe of the manifold assembly shall be cut according to the Figure 2.

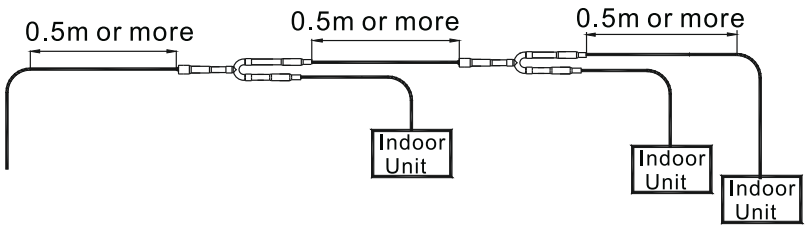
b. Then the independent tube shall be cut according to the Figure 2..

c. The independent tube shall be welded with U-shaped tee.

d. The manifold assembly shall be welded with the tube at site.

Notes

1) Pay attention to the distance of horizontal straight pipe.

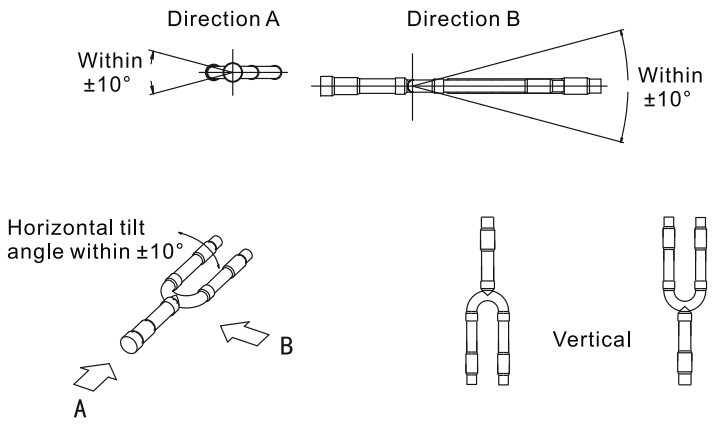


a. The distance of the horizontal straight pipe between the copper pipe turning place and the neighboring manifold shall be ⩾0.5m.

b. The distance of the horizontal straight pipe between the two neighboring manifolds shall be ⩾0.5m.

c. The distance of horizontal straight pipe connecting the indoor unit after the manifold shall be ⩾0.5m.

2) Pay attention to placement horizontally and vertically.



REFRIGERANT DISTRIBUTORS

Outdoor units 2-pipes RVF Systems (3 modules)

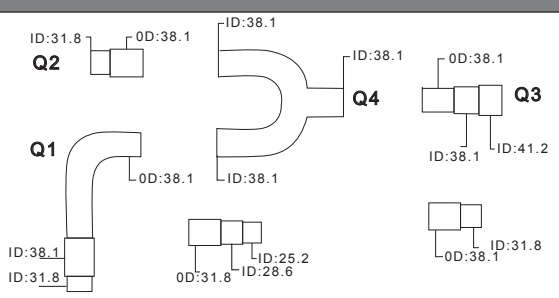
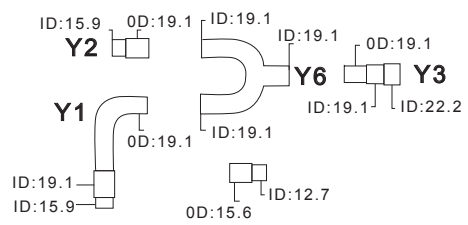
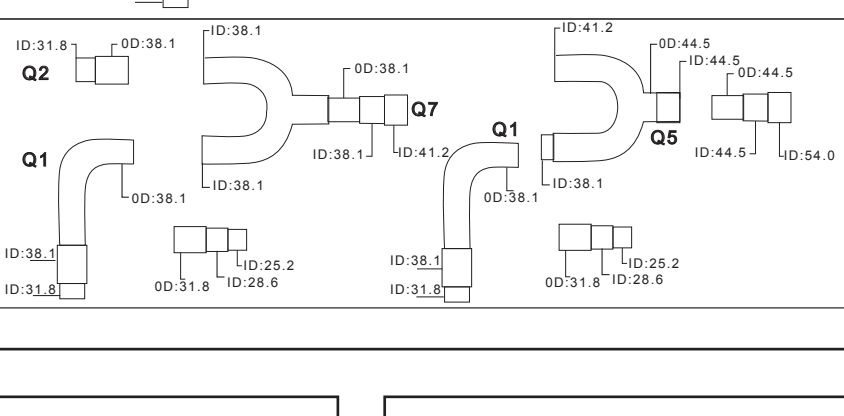
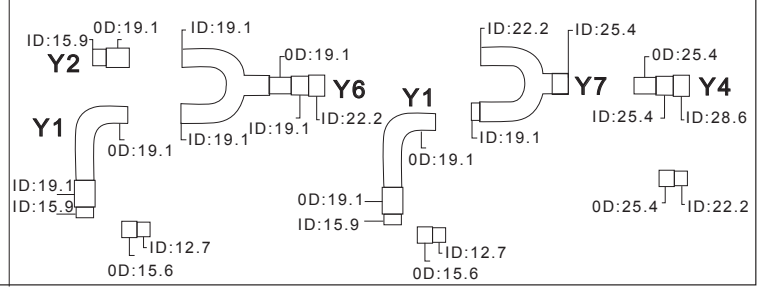
Installation Instruction of Outdoor Manifold (A)

Available for the manifold of 2-pipes RVF Systems (3 outdoor units combination)

Please read this manual carefully before installation and install according to the instruction.

Component List

Table1

Accessory box name	Manifold assembly for gas side	Manifold assembly for liquid side
RVF-RDOUX5		
RVF-RDOUX6		

Essentials for Selection

How to select the connection tube assembly for outdoor units .

Table2

Number of outdoor units	Pipe box name
Two	RVF-RDOUX5
Three	RVF-RDOUX6

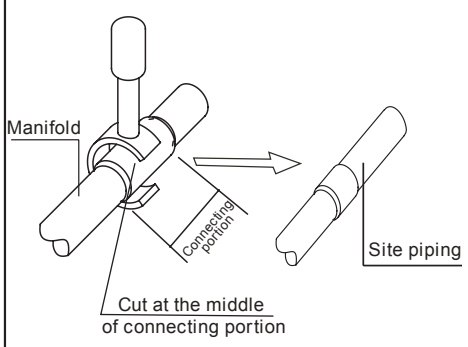
Tube Assembly Comparison Table

Tube assemblies for R410A outdoor unit

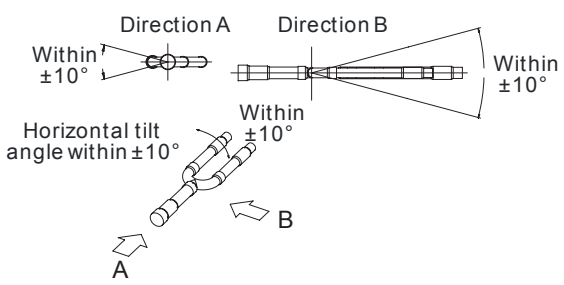
Table3

Capacity of outdoor unit	Equivalent length of all pipes ＜90ml		Equivalent length of all pipes ≥90m	
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
8HP	Φ19.1	Φ9.5	Φ22.2	Φ12.7
10HP	Φ22.2	Φ9.5	Φ25.4	Φ12.7
12、14HP	Φ25.4	Φ12.7	Φ28.6	Φ15.9
16HP	Φ28.6	Φ12.7	Φ31.8	Φ15.9
18~24HP	Φ28.6	Φ15.9	Φ31.8	Φ19.1
26~34HP	Φ31.8	Φ19.1	Φ38.1	Φ22.2
36~54HP	Φ38.1	Φ19.1	Φ41.2	Φ22.2
56~66HP	Φ41.2	Φ19.1	Φ44.5	Φ22.2
68~82HP	Φ44.5	Φ22.2	Φ54.0	Φ25.4
84~96HP	Φ50.8	Φ25.4	Φ54.0	Φ28.6

Essentials for Cutting

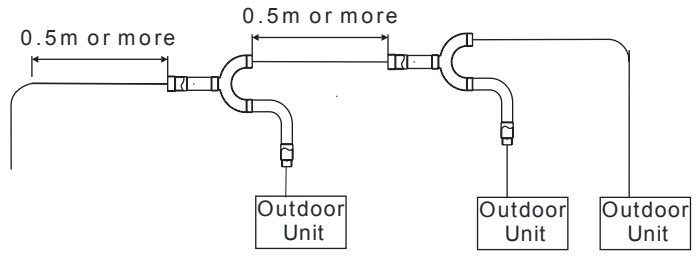


Note the Horizontal Location



Notes

1) Pay attention to the distance of straight horizontal pipe



A. The distance of the straight horizontal pipe between the two neighboring manifolds shall be greater than or equal to 0.5m.
B. The distance of the straight horizontal pipe connecting the indoor unit after the manifold shall be greater than or equal to 0.5m.

Instruction for Installation

1) Select manifolds in accordance with the guidelines for the designed model according to the number of the outdoor units connected in parallel.
2)Cut undesired portion by the dedicated tools (such as cutters) in accordance with the actual pipe diameter size.
Taking the RVF-RDOUX5 for gas side as an example, the operating steps are shown as follows:
a.After the model RVF-RDOUX5 is selected, the obtained actual material is shown in Figure 1.
Assume the current unit outlet pipe is Φ31.8 and the main pipe is Φ38.1, cut the independent pipe Q1 manifold assembly according to Figure 2.
b. The independent pipe Q1 and Q3 shall be welded with U-shaped tee Q4 according to Figure 2. And discard the independent pipe Q2 since the piping diameter can be directly matched with the U-shaped tee at the unwelded end.
c. The manifold assembly shall be welded with the pipe at site according to Figure 3.
3) Pay special attention to the treatment of the following special circumstances:
a. When the actual pipe diameter matches with the U-shaped tee at the un-welded end, weld the pipe with the U-shaped tee directly.
b. For the pipe Q3 and Q7, cut it at the root of the flared end in according to Figure 4 if it is necessary.
4) The installation diagram is for reference only, please be subject to the actual product. The product may be upgraded without notice.

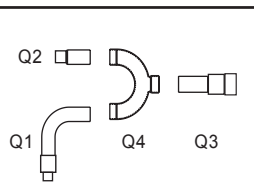


Figure 1

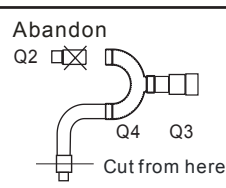


Figure 2

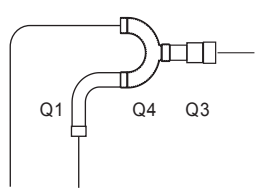


Figure 3

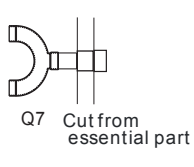
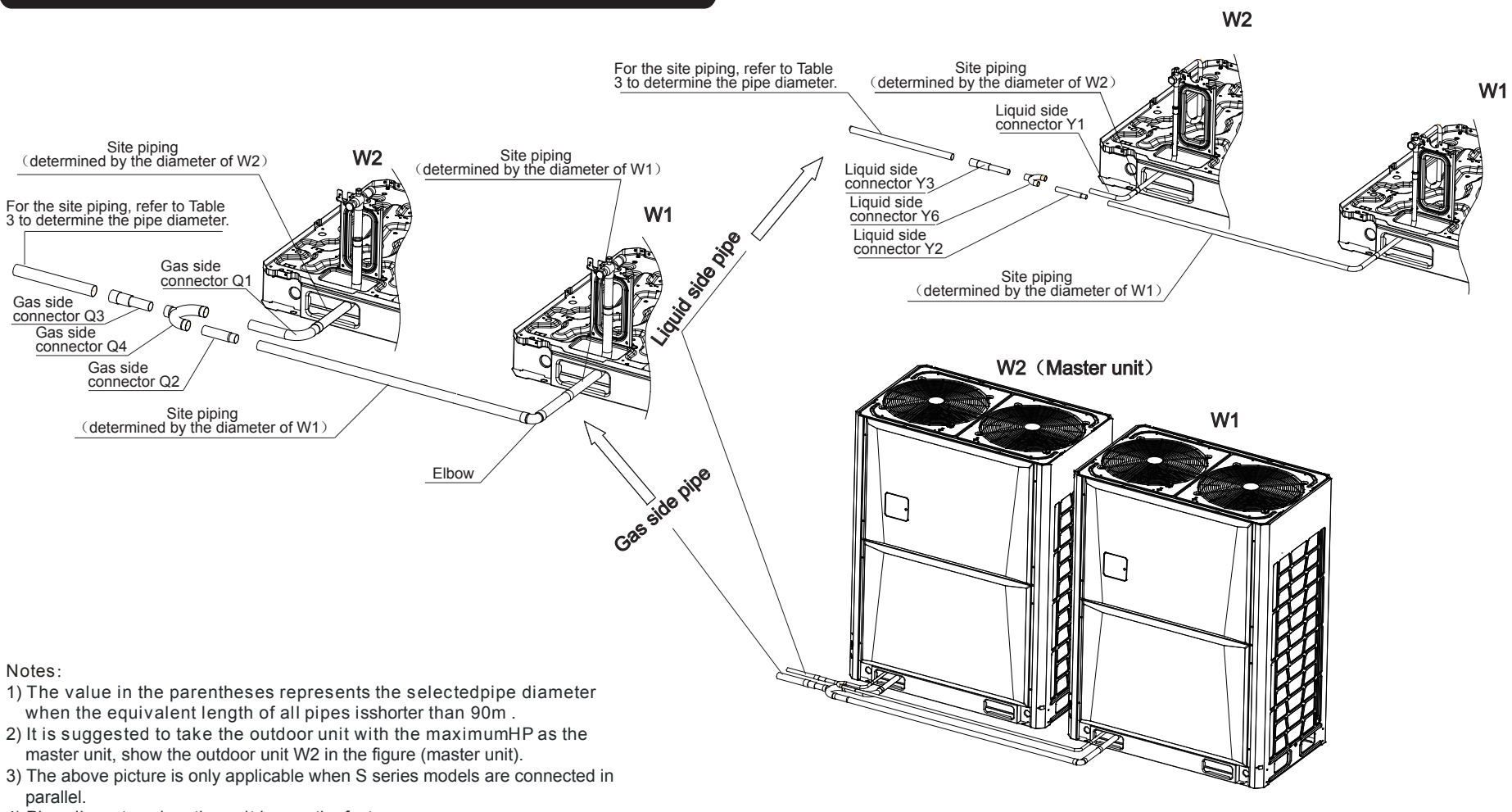


Figure 4

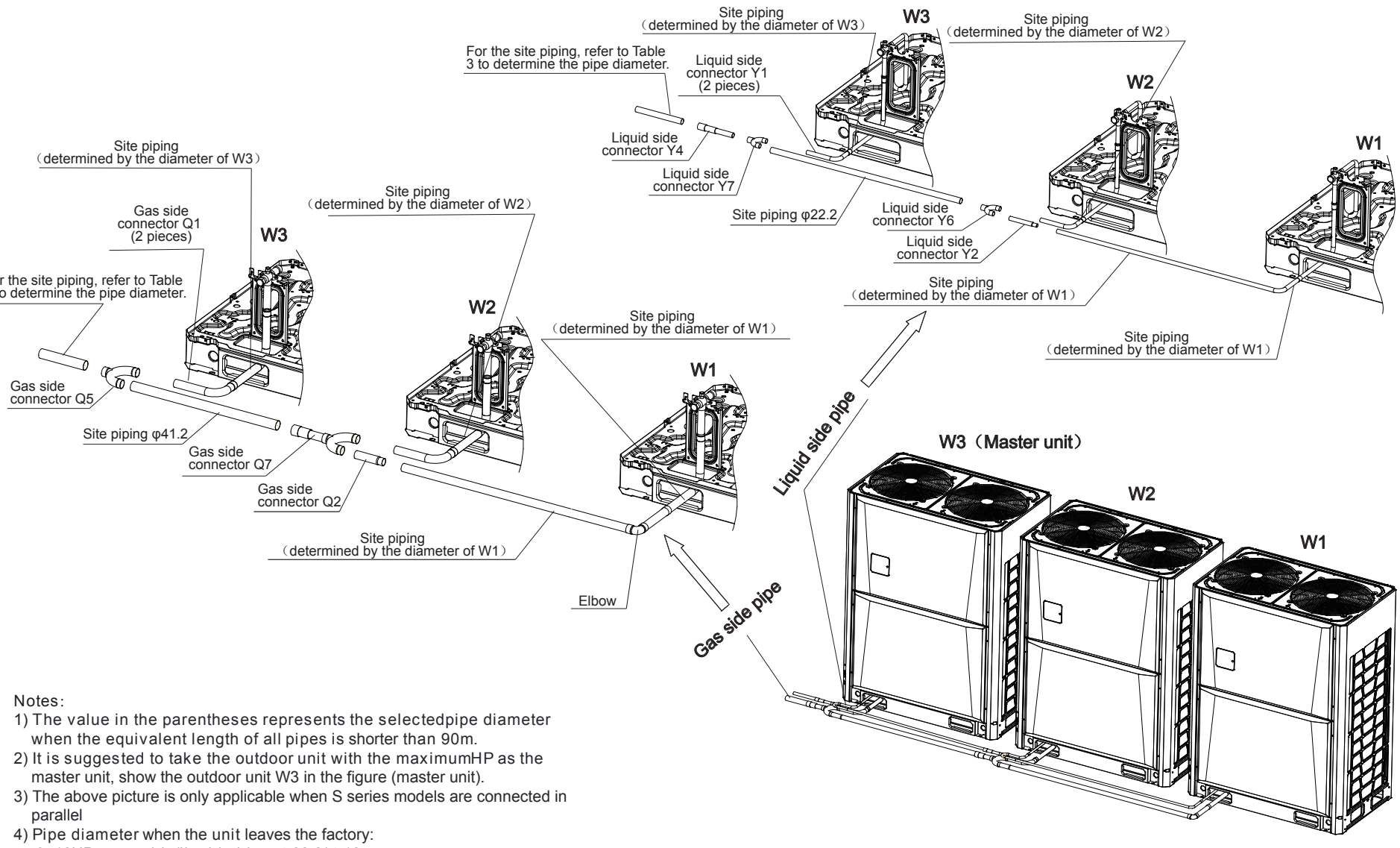
Outline Dimensions and Wiring Diagram of RVF-RDOUX5



Notes:

1) The value in the parentheses represents the selectedpipe diameter when the equivalent length of all pipes isshorter than 90m .
2) It is suggested to take the outdoor unit with the maximumHP as the master unit, show the outdoor unit W2 in the figure (master unit).
3) The above picture is only applicable when S series models are connected in parallel.
4) Pipe diameter when the unit leaves the factory:
   8~12HP，gas side/liquid side：φ22.2/φ12.7；
   14~24HP，gas side/liquid side：φ28.6/φ15.9；
   26~32HP，gas side/liquid side：φ35/φ22.2；

Outline Dimensions and Wiring Diagram of RVF-RDOUX6



Notes:

1) The value in the parentheses represents the selectedpipe diameter when the equivalent length of all pipes is shorter than 90m.
2) It is suggested to take the outdoor unit with the maximumHP as the master unit, show the outdoor unit W3 in the figure (master unit).
3) The above picture is only applicable when S series models are connected in parallel
4) Pipe diameter when the unit leaves the factory:
   8~12HP，gas side/liquid side：φ22.2/φ12.7；
   14~24HP，gas side/liquid side：φ28.6/φ15.9；
   26~32HP，gas side/liquid side：φ35/φ22.2；

REFRIGERANT DISTRIBUTORS

Outdoor units 2-pipes RVF Systems (4 modules)

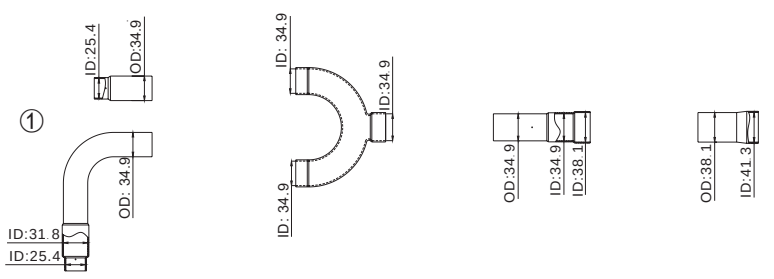
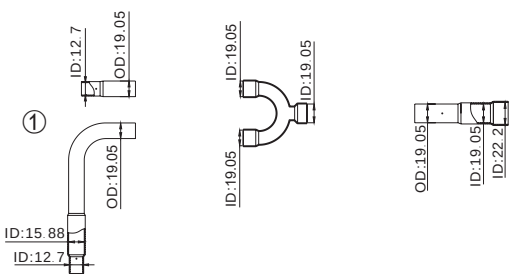
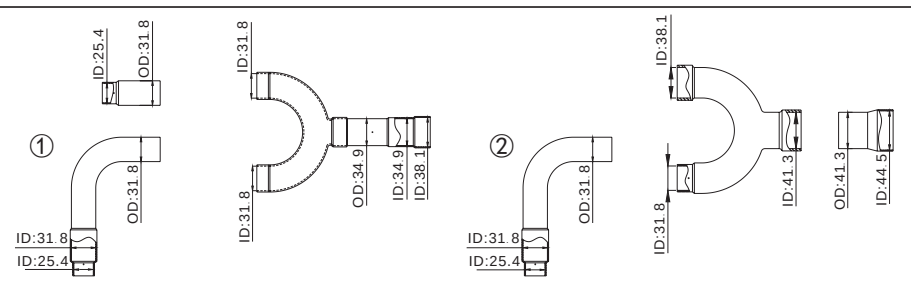
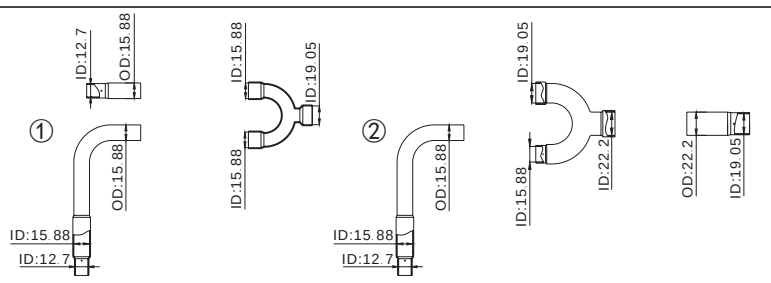
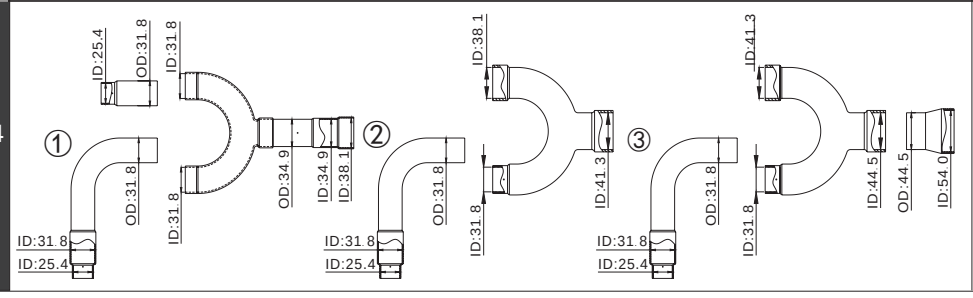
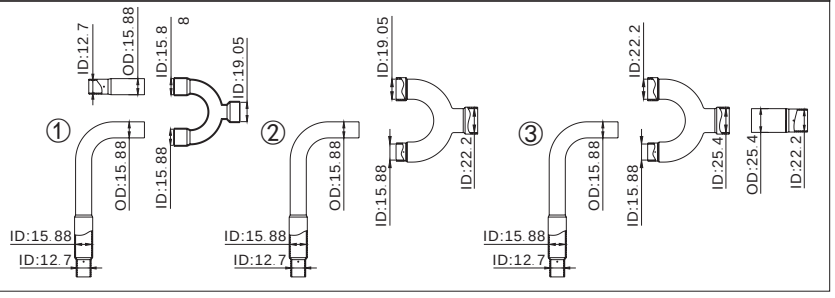
Installation Instruction of Outdoor RVF Manifold (B)

Available for the manifold of 2-pipes RVF Systems (4 outdoor units combination)

Please read this manual carefully before installation and install according to the instruction.

Component List

Table1

Accessory box name	Manifold assembly for gas side	Manifold assembly for liquid side
RVF-RDOUX2		
RVF-RDOUX3		
RVF-RDOUX4		

Essentials for Selection

How to select the connection tube assembly for outdoor units .

Table2

Number of outdoor units	Pipe box name
Two	RVF-RDOUX2
Three	RVF-RDOUX3
Four	RVF-RDOUX4

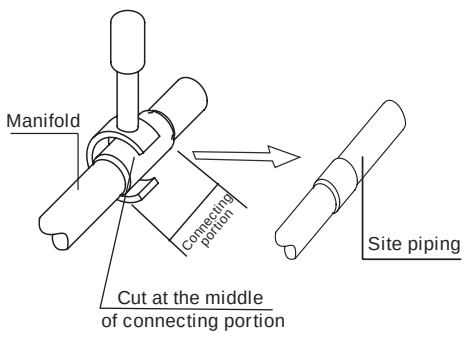
Tube Assembly Comparison Table

Tube assemblies for R410A outdoor unit

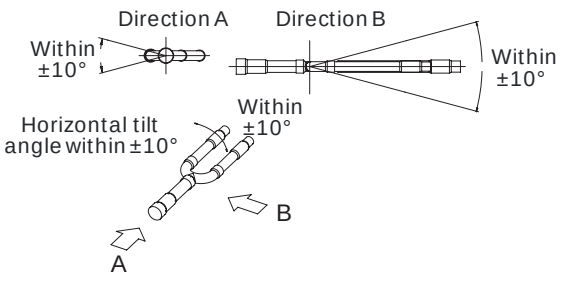
Table3

Capacity of outdoor unit	Equivalent length of all pipes ＜90ml		Equivalent length of all pipes ≥90m	
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
8HP	Φ19.1	Φ9.5	Φ22.2	Φ12.7
10HP	Φ22.2	Φ9.5	Φ25.4	Φ12.7
12、14HP	Φ25.4	Φ12.7	Φ28.6	Φ15.9
16HP	Φ28.6	Φ12.7	Φ31.8	Φ15.9
18~24HP	Φ28.6	Φ15.9	Φ31.8	Φ19.1
26~34HP	Φ31.8	Φ19.1	Φ38.1	Φ22.2
36~54HP	Φ38.1	Φ19.1	Φ41.2	Φ22.2
56~66HP	Φ41.2	Φ19.1	Φ44.5	Φ22.2
68~82HP	Φ44.5	Φ22.2	Φ54.0	Φ25.4
84~96HP	Φ50.8	Φ25.4	Φ54.0	Φ28.6

Essentials for Cutting

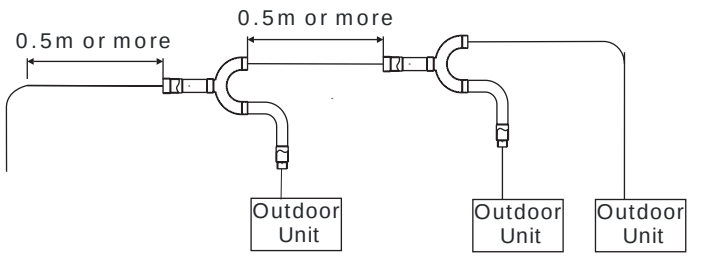


Note the Horizontal Location



Notes

1) Pay attention to the distance of straight horizontal pipe



A. The distance of the straight horizontal pipe between the two neighboring manifolds shall be greater than or equal to 0.5m.
B. The distance of the straight horizontal pipe connecting the indoor unit after the manifold shall be greater than or equal to 0.5m.

Instruction for Installation

1) Select manifolds in accordance with the guidelines for the designed model according to the number of the outdoor unitsconnected in parallel.
2) Cut undesired portion by the dedicated tools (such as cutters) in accordance with the actual pipe diameter size.
Taking the RVF-RDOUX2 for gas side as an example, the operating steps are shown as follows:
a. After the model RVF-RDOUX2 is selected, the obtained actual material is shown in Figure 1.
Assume the current unit outlet pipe is Φ 31.8 and the main pipe is Φ 38.1, cut the independent pipe Q1 manifold assembly according to Figure 2.
b. The independent pipe Q1 and Q3 shall be welded with U-shaped tee Q4 according to Figure 2. And discard the independent pipe Q2 since the piping diameter can be directly matched with the U-shaped tee at the unwelded end.
c. The manifold assembly shall be welded with the pipe at site according to Figure 3.
3) Pay special attention to the treatment of the following special circumstances:
a. When the actual pipe diameter matches with the U-shaped tee at the un-welded end, weld the pipe with the U-shaped tee directly.
b. For the pipe Q3 and Q7, cut it at the root of the flared end in according to Figure 4 if it is necessary.
4) The installation diagram is for reference only, please be subject to the actual product. The product may be upgraded without notice.

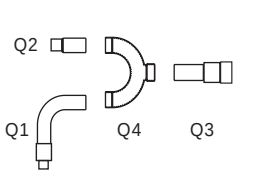


Figure 1

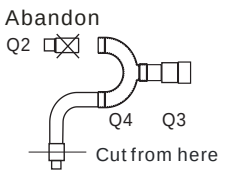


Figure 2

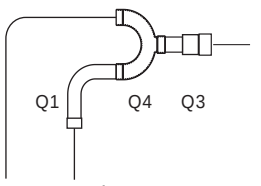


Figure 3

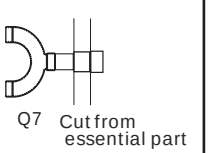
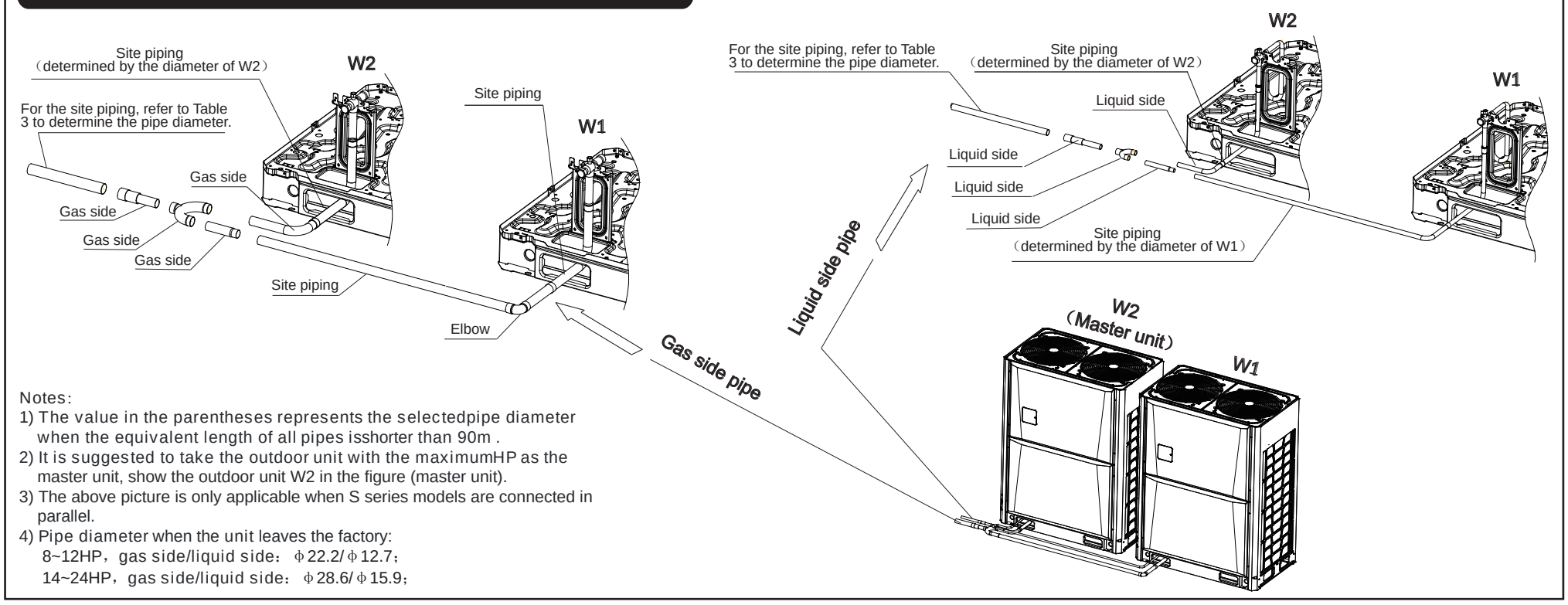


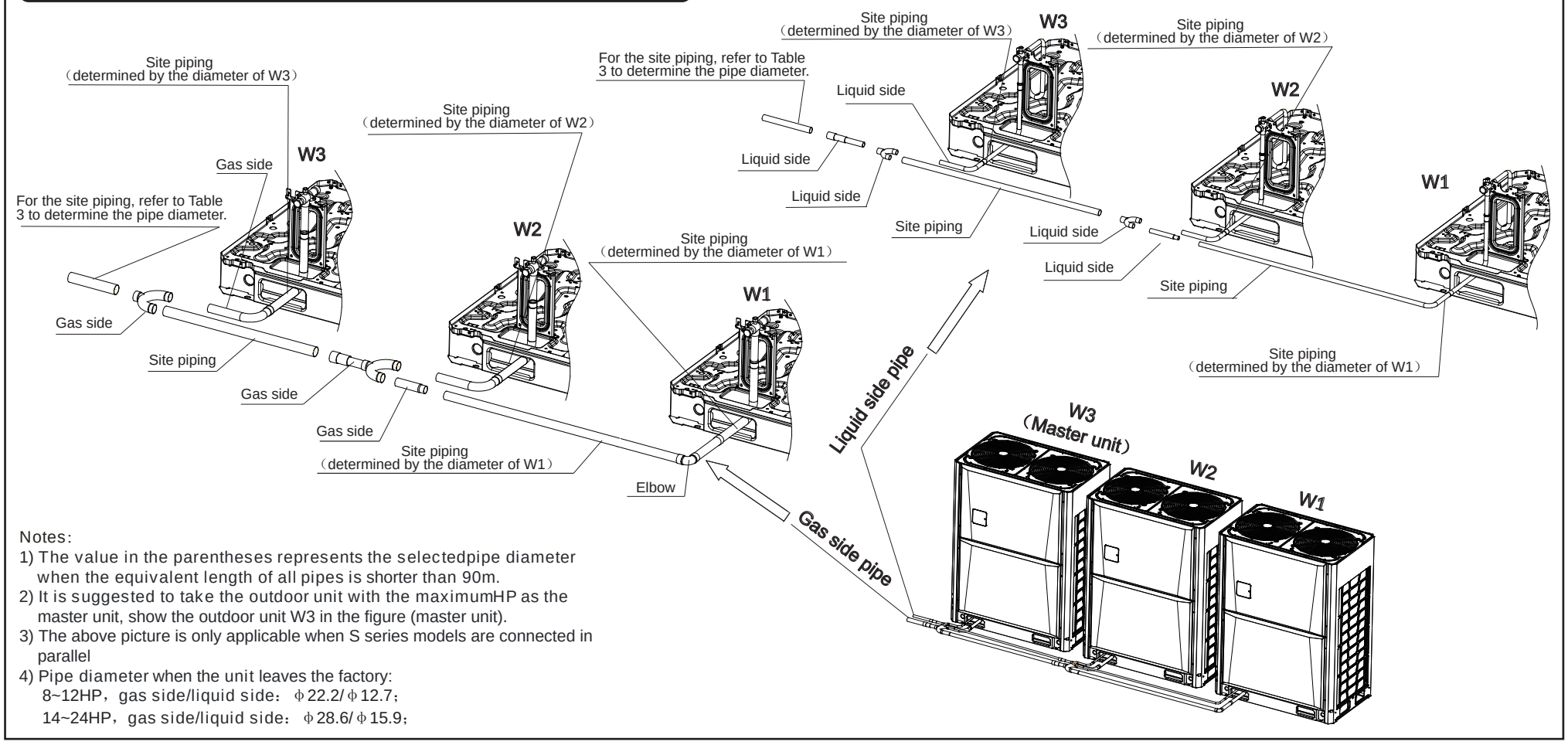
Figure 4

Outline Dimensions and Wiring Diagram of RVF-RDOUX2



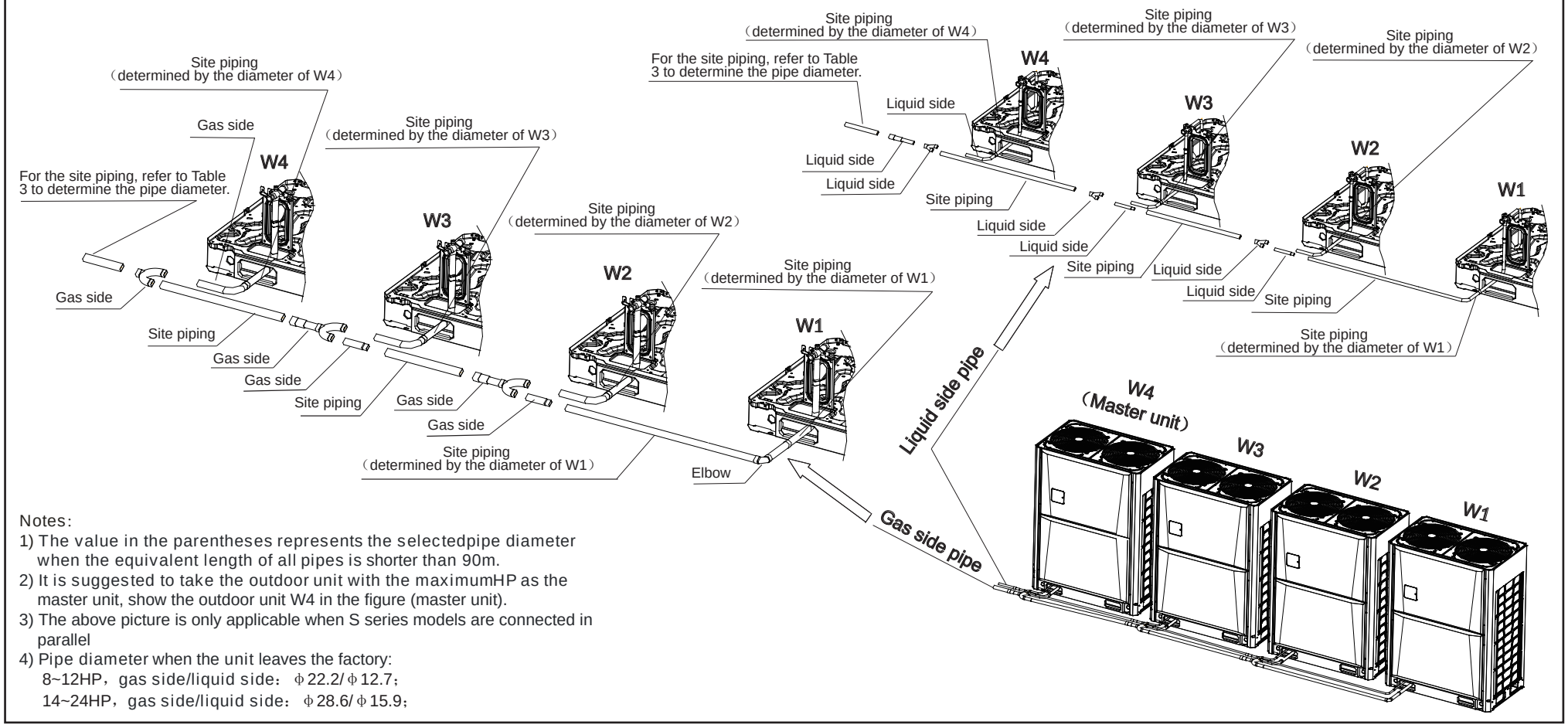
Notes:
1) The value in the parentheses represents the selectedpipe diameter when the equivalent length of all pipes isshorter than 90m .
2) It is suggested to take the outdoor unit with the maximumHP as the master unit, show the outdoor unit W2 in the figure (master unit).
3) The above picture is only applicable when S series models are connected in parallel.
4) Pipe diameter when the unit leaves the factory:
8~12HP，gas side/liquid side：φ22.2/φ12.7；
14~24HP，gas side/liquid side：φ28.6/φ15.9；

Outline Dimensions and Wiring Diagram of RVF-RDOUX3



Notes:
1) The value in the parentheses represents the selectedpipe diameter when the equivalent length of all pipes is shorter than 90m.
2) It is suggested to take the outdoor unit with the maximumHP as the master unit, show the outdoor unit W3 in the figure (master unit).
3) The above picture is only applicable when S series models are connected in parallel
4) Pipe diameter when the unit leaves the factory:
8~12HP，gas side/liquid side：φ22.2/φ12.7；
14~24HP，gas side/liquid side：φ28.6/φ15.9；

Outline Dimensions and Wiring Diagram of RVF-RDOUX4



Notes:
1) The value in the parentheses represents the selectedpipe diameter when the equivalent length of all pipes is shorter than 90m.
2) It is suggested to take the outdoor unit with the maximumHP as the master unit, show the outdoor unit W4 in the figure (master unit).
3) The above picture is only applicable when S series models are connected in parallel
4) Pipe diameter when the unit leaves the factory:
8~12HP，gas side/liquid side：φ22.2/φ12.7；
14~24HP，gas side/liquid side：φ28.6/φ15.9；

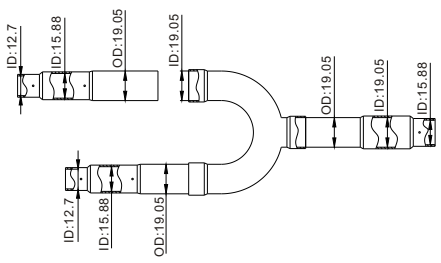
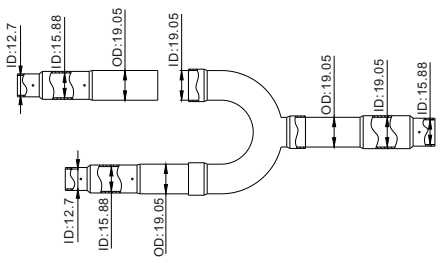
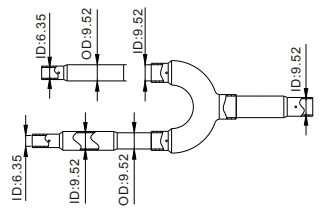
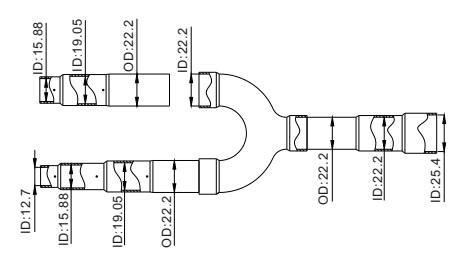
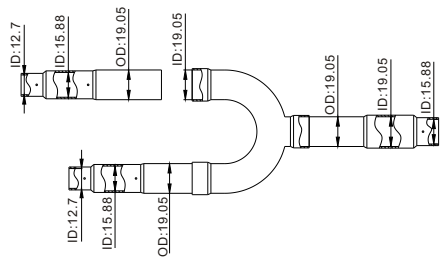
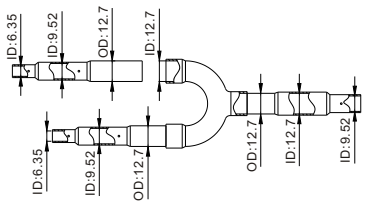
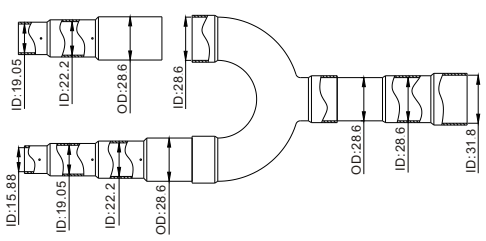
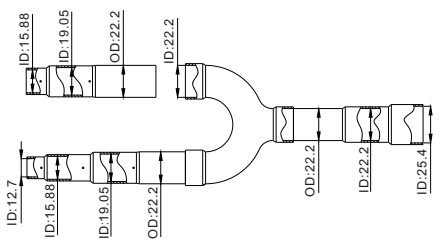
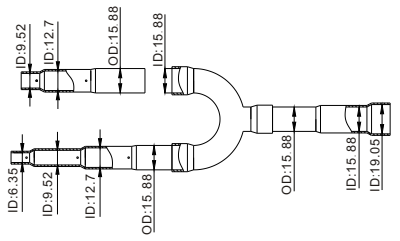
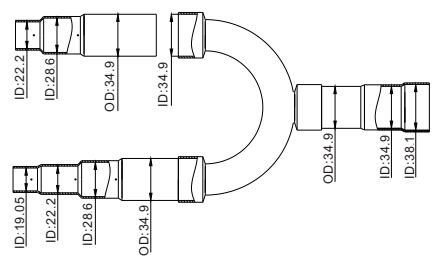
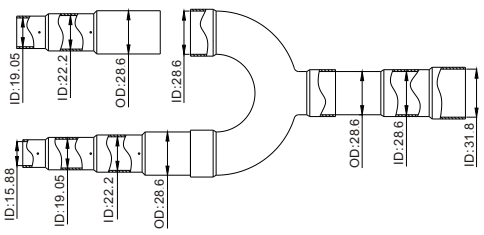
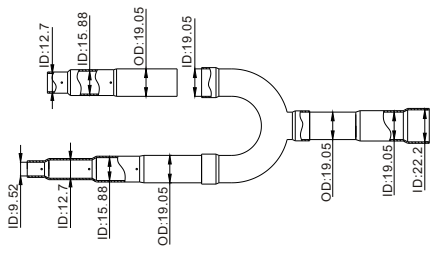
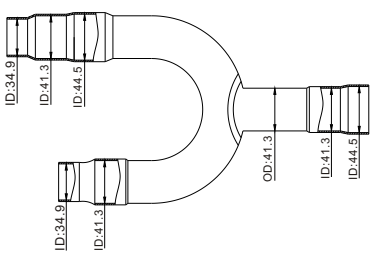
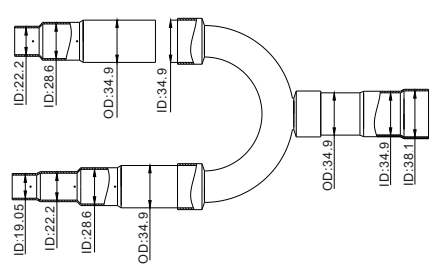
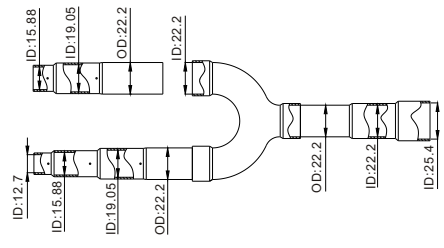
REFRIGERANT DISTRIBUTORS

Indoor units 3-pipes RVF HR Systems

Installation Instruction of Indoor Manifold
3-pipes RVF-HR Systems

Please read this manual carefully before installation and install according to the instruction.

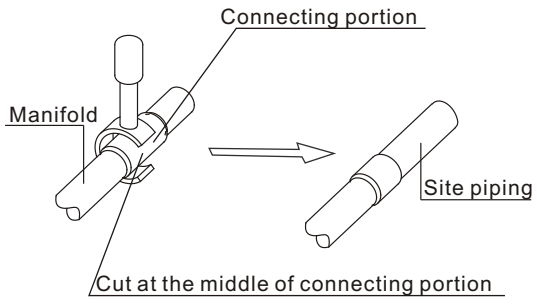
Component List

Accessory box name	Manifold assembly for Low-gas side	Manifold assembly for High-gas side	Manifold assembly for liquid side
RVF-RDIXHR1			
RVF-RDIXHR2			
RVF-RDIXHR3			
RVF-RDIXHR4			
RVF-RDIXHR5			

Selection for R410A Type

The capacity of downstream indoor units counted by nominal cooling capacity (kW)	Low-gas side specification (mm)	High-gas side specification (mm)	Liquid side specification (mm)	Accessory box number
W＜5.6	Φ12.7	Φ9.52	Φ6.35	RVF-RDIXHR1
5.6≤W＜16.6	Φ19.05	Φ15.88	Φ9.52	RVF-RDIXHR1
16.6≤W＜23	Φ22.2	Φ19.05	Φ9.52	RVF-RDIXHR2
23≤W＜33	Φ22.2	Φ19.05	Φ12.7	RVF-RDIXHR2
33≤W＜46	Φ28.6	Φ22.2	Φ12.7	RVF-RDIXHR3
46≤W＜66	Φ28.6	Φ22.2	Φ15.88	RVF-RDIXHR3
66≤W＜92	Φ34.9	Φ28.6	Φ19.05	RVF-RDIXHR4
92≤W＜135	Φ41.3	Φ34.9	Φ19.05	RVF-RDIXHR5
W≥135	Φ44.5	Φ38.1	Φ22.2	RVF-RDIXHR5

Essentials for Cutting



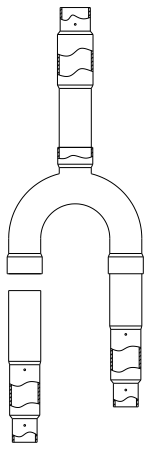


Figure 1

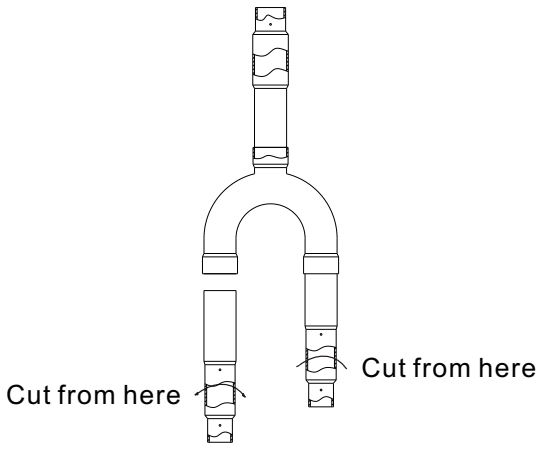


Figure 2

Instruction for Installation

RVF-RDIXHR1

1) The manifold type shall be selected according to the designed model selection guide based on the capacity of downstream indoor unit.

2) The undesired part shall be cut off by dedicated tools (such as cutters) in accordance with the actual tube caliber size, taking RVF-RDIXHR1 manifold for High-gas side as example, the sequence of operation are as follows

a. After the selection of RVF-RDIXHR1 type, the obtained actual object as shown in Figure 1,supposing the tubing we presently use isφ 15. 88,the welded pipe of the manifold assembly shall be cut according to the Figure 2.

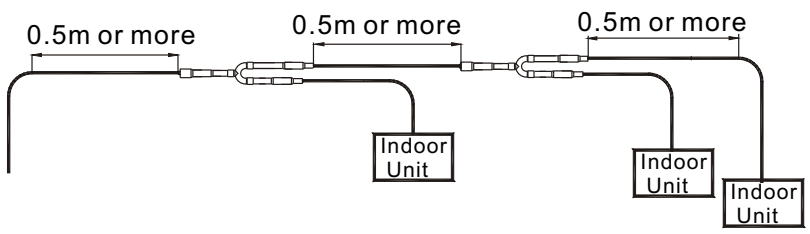
b. Then the independent tube shall be cut according to the Figure 2.

c. The independent tube shall be welded with U-shaped tee

d. The manifold assembly shall be welded with the tube at site

Notes

1) Pay attention to the distance of horizontal straight pipe.

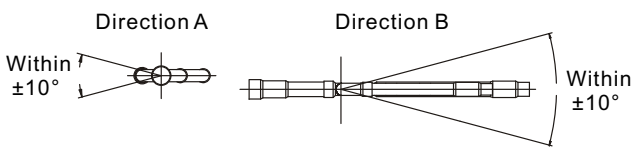


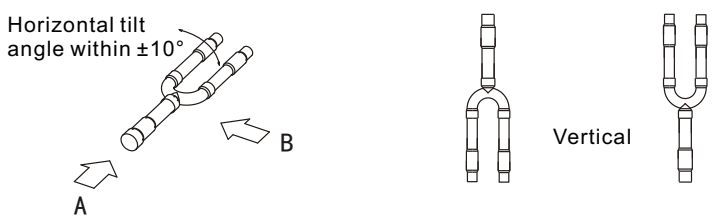
a. The distance of the horizontal straight pipe between the copper pipe turning place and the neighboring manifold shall be ⩾0.5m.

b. The distance of the horizontal straight pipe between the two neighboring manifolds shall be ⩾0.5m.

C. The distance of horizontal straight pipe connecting the indoor unit after the manifold shall be ⩾0.5m.

2) Pay attention to placement horizontally and vertically.





REFRIGERANT DISTRIBUTORS

Outdoor units 3-pipes RVF HR Systems

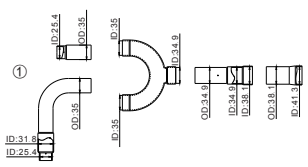
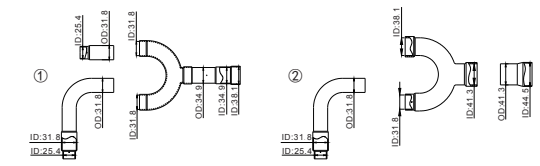
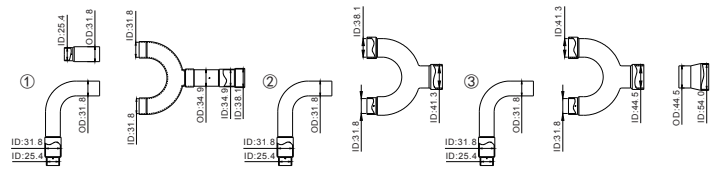
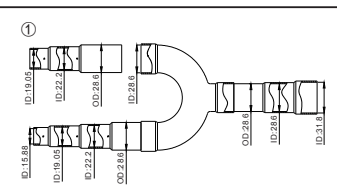
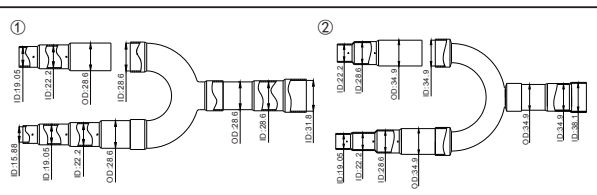
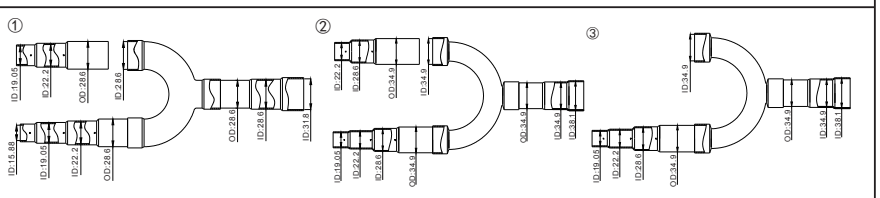
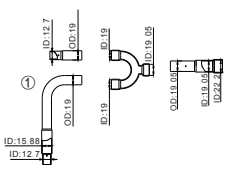
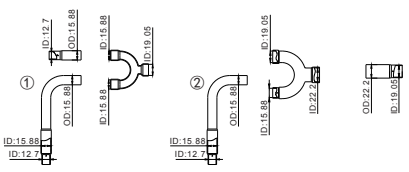
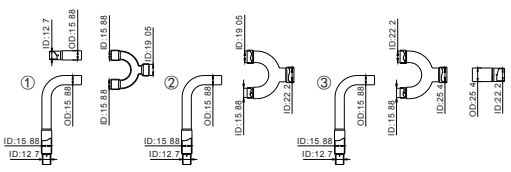
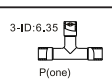
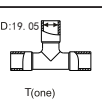
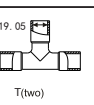
OUTDOOR RVF HR UNIT BRANCH PIPE INSTALLATION MANUAL

Available for the manifold of 3-pipes RVF-HR Systems

Please read this manual carefully before installation and install according to the instruction.

BRANCH LIST

Table1

Name	RVF-RDOUX2HR	RVF-RDOUX3HR	RVF-RDOUX4HR
Low-pressure gas side joints			
High-pressure gas side joints			
Liquid side joints			
Oil balance pipe		 P(one)	 P(two)
Gas balance pipe		 T(one)	 T(two)

CHOICE

How to select the parallel tube assembly for outdoor unit

Table 2

Outdoor parallel units	Pipe box name
Two	RVF-RDOUX2HR
Three	RVF-RDOUX3HR
Four	RVF-RDOUX4HR

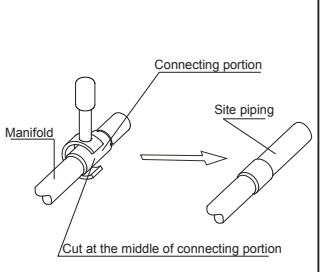
COMPARISON

Tube assemblies for R410A outdoor unit

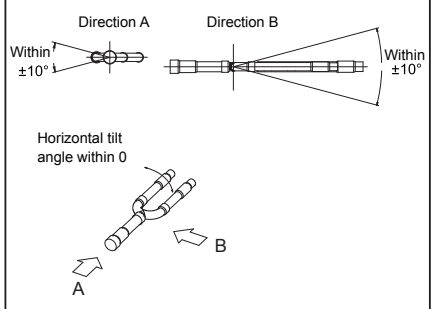
Table 3

Capacity of outdoor unit	Equivalent length of all pipes<90m			Equivalent length of all pipes≥90m		
	Liquid pipe	Low-pressure gas pipe	High-pressure gas pipe	Liquid pipe	Low-pressure gas pipe	High-pressure gas pipe
8HP	φ12.7	φ22.2	φ19.05	φ12.7	φ25.4	φ19.05
10HP	φ12.7	φ25.4	φ19.05	φ12.7	φ25.4	φ19.05
12HP	φ12.7	φ25.4	φ19.05	φ15.88	φ28.6	φ19.05
14HP-16HP	φ15.88	φ28.6	φ22.2	φ15.88	φ31.8	φ22.2
18HP-22HP	φ15.88	φ31.8	φ28.6	φ19.05	φ31.8	φ28.6
24HP	φ15.88	φ34.9	φ28.6	φ19.05	φ34.9	φ28.6
26HP-32HP	φ19.05	φ34.9	φ28.6	φ22.2	φ38.1	φ28.6
34HP-48HP	φ19.05	φ41.3	φ34.9	φ22.2	φ41.3	φ34.9
50HP-64HP	φ22.2	φ44.5	φ38.1	φ25.4	φ44.5	φ38.1

INCISION



LAYING



NOTICE FOR INSTALLATION

1)Select manifolds in accordance with the guidelines for the designed model according to the capacity of the downstream indoor units.

2)Cut undesired portion by the dedicated tools (such as cutters) in accordance with the actual pipe diameter size. Taking the RVF-RDOUX2HR for Low-gas side as an example, the operating steps are shown as follows:

A.After the model RVF-RDOUX2HR is selected, the obtained actual material is shown in Figure 1. Assume the current unit outlet pipe is φ31.8 and the main pipe is φ38.1. Cut the independent pipe Q1 of the manifold assembly according to Figure 2.

B.The independent pipe Q1 and Q4 shall be welded with U-shaped tee Q3 according to Figure 2.And discard the independent pipe Q2 and Q5.

C.The manifold assembly shall be welded with the pipe at site according to Figure 3.

3)Pay special attention to the treatment of the following special circumstances:

A.When the actual pipe diameter matches with the U-shaped tee at the un-welded end, weld the pipe with the U-shaped tee directly.

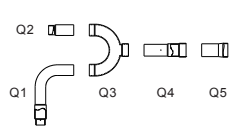


Figure 1

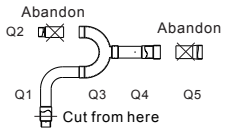


Figure 2

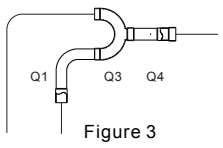


Figure 3

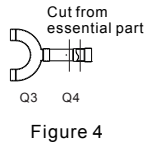


Figure 4

4)Pay attention to the distance of straight horizontal pipe.

A.The distance of the straight horizontal pipe between the two neighboring manifolds shall be greater than or equal to 0.5m.

B.The distance of the straight horizontal pipe connecting the indoor unit after the manifold shall be greater than or equal to 0.5m.

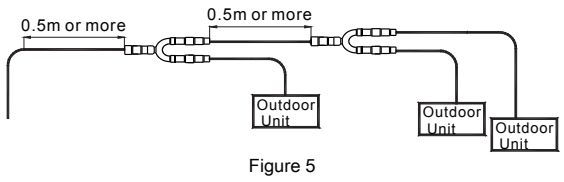
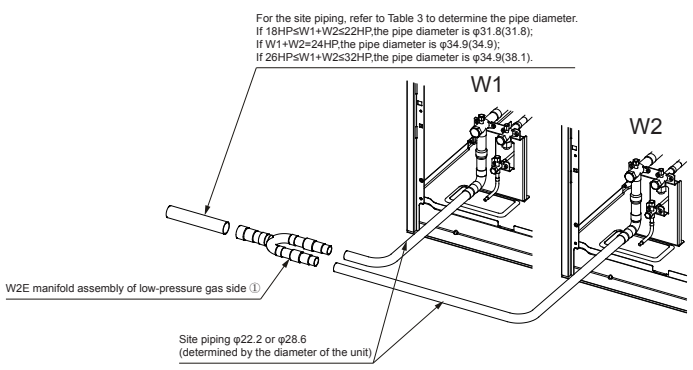
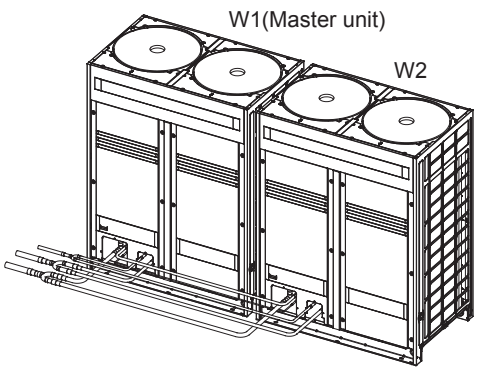


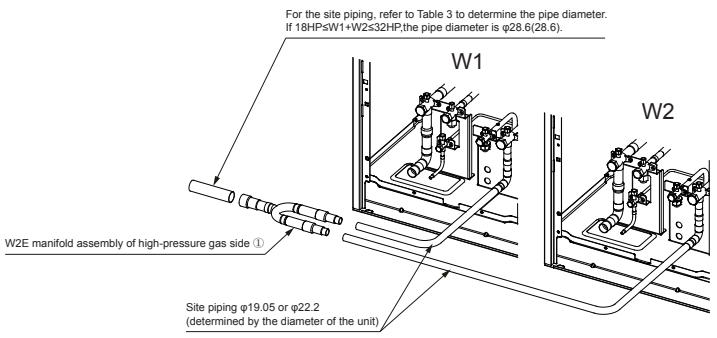
Figure 5

Outline Dimensions and Wiring Diagram of RVF-RDOUX2HR

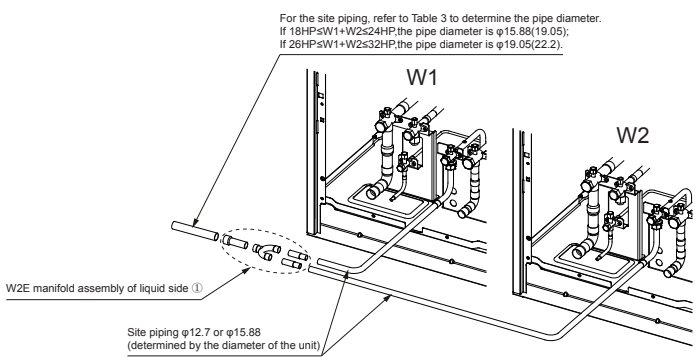


Low-pressure gas side pipe

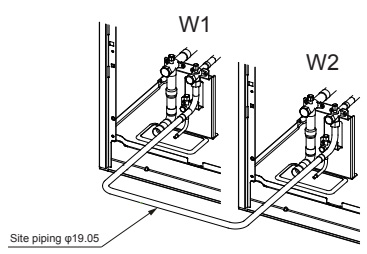




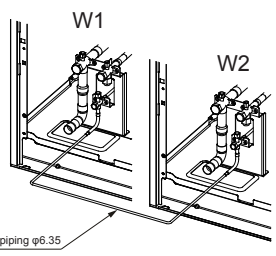
High-pressure gas side pipe



Liquid side pipe



Gas balance pipe



Oil balance pipe

Notes:

1)The value in the parentheses represents the selected pipe diameter when the equivalent length of all pipes is greater than 90m.

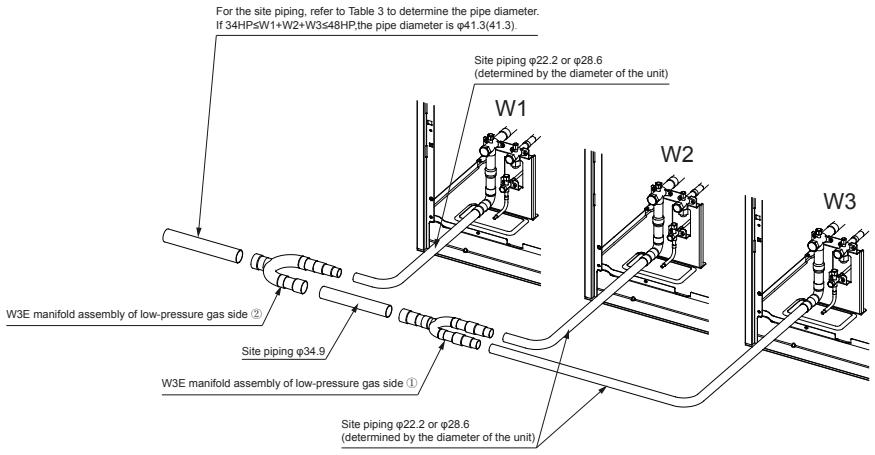
2) It is suggested to take the outdoor unit with the maximum HP as the master unit, show the outdoor unit W1 in the figure (master unit).

3)Factory pipe diameter of units:

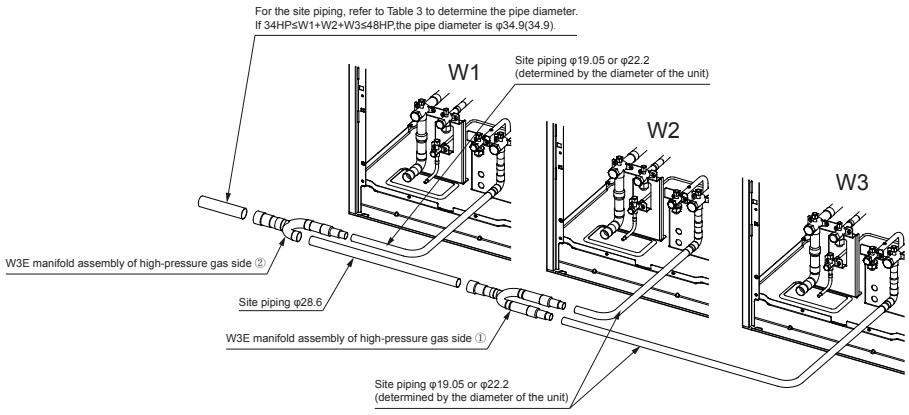
8~12HP low-pressure gas side/high-pressure gas side/lquid side:φ22.2/φ19.05/φ15.88.

14~16HP low-pressure gas side/high-pressure gas side/lquid side:φ28.6/φ22.2/φ15.88.

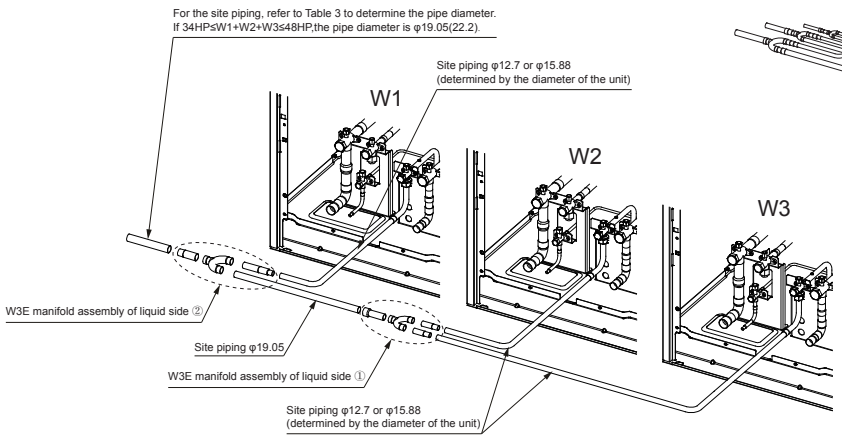
Outline Dimensions and Wiring Diagram of RVF-RDOUX3HR



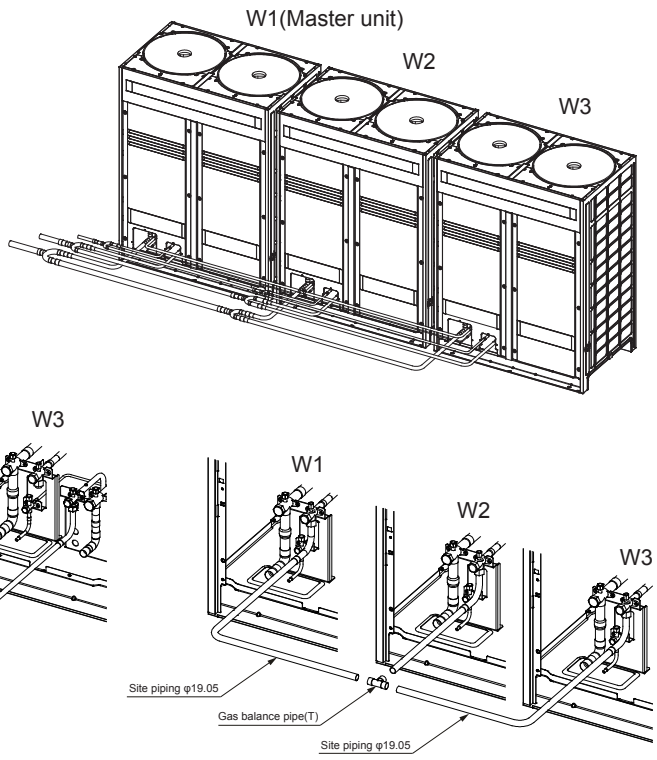
Low-pressure gas side pipe



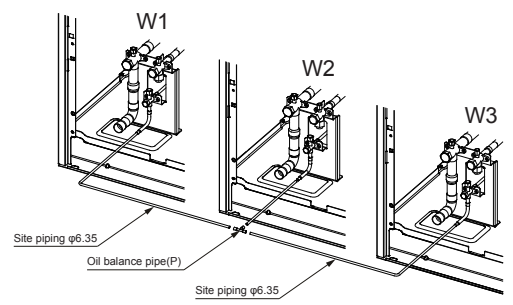
High-pressure gas side pipe



Liquid side pipe



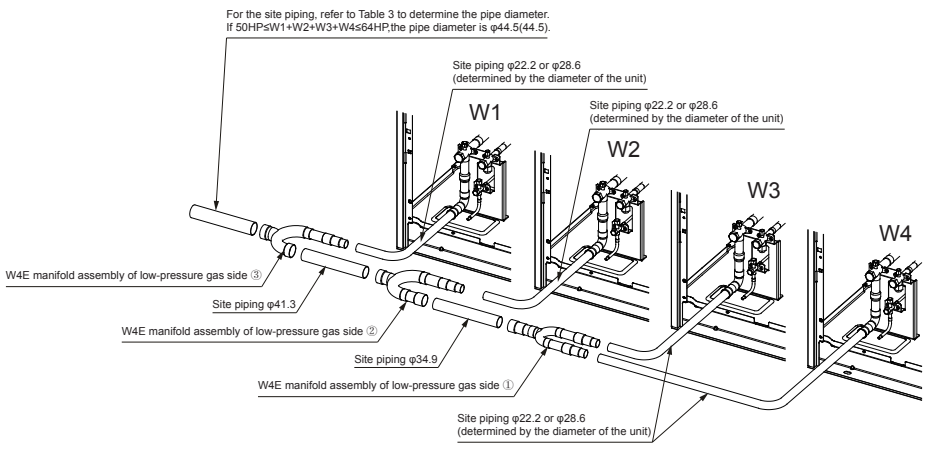
Gas balance pipe



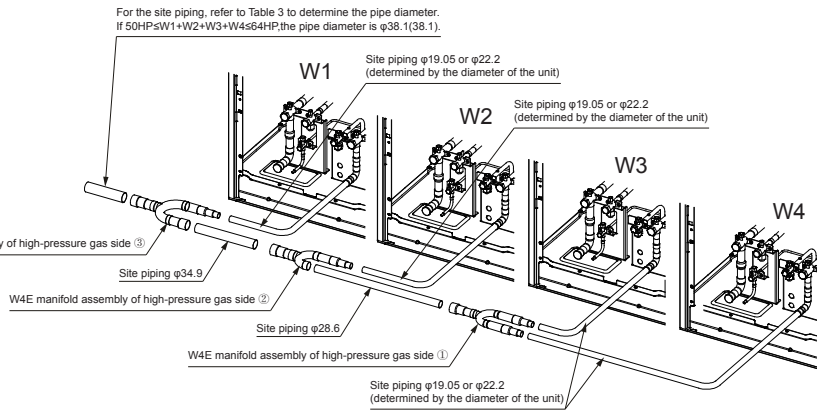
Oil balance pipe

Notes:
1)The value in the parentheses represents the selected pipe diameter when the equivalent length of all pipes is greater than 90m.
2) It is suggested to take the outdoor unit with the maximum HP as the master unit, show the outdoor unit W1 in the figure (master unit).Master unit,secondary unit 1 and secondary unit 2 arranges from large to small according to the HP,namely W1≥W2≥W3.
3)Factory pipe diameter of units:
8~12HP low-pressure gas side/high-pressure gas side/lquid side:φ22.2/φ19.05/φ15.88.
14~16HP low-pressure gas side/high-pressure gas side/lquid side:φ28.6/φ22.2/φ15.88.

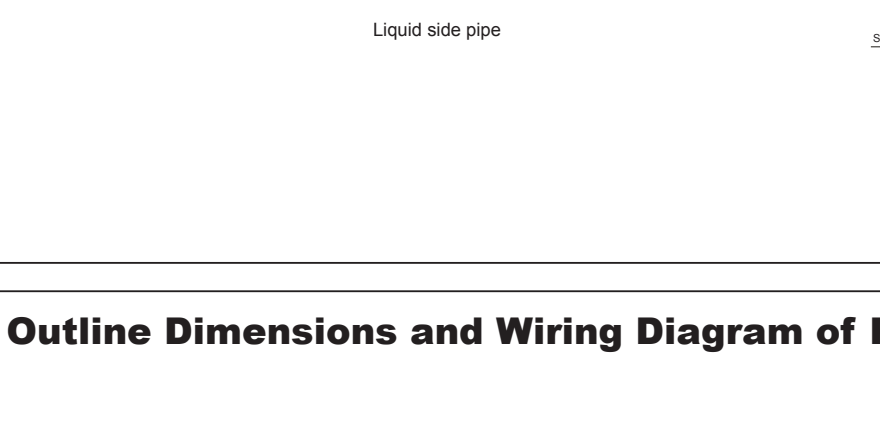
Outline Dimensions and Wiring Diagram of RVF-RDOUX4HR



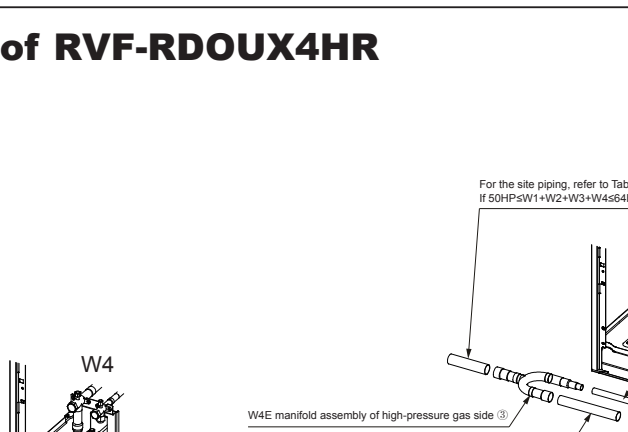
Low-pressure gas side pipe



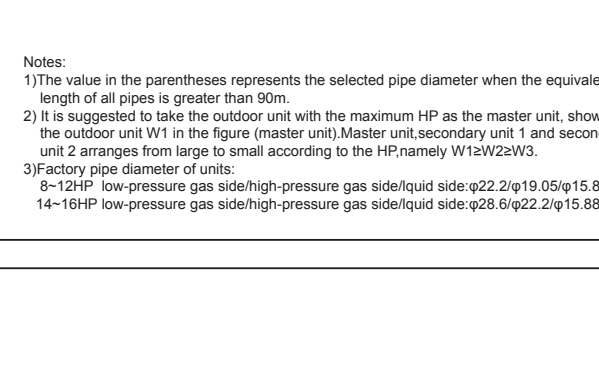
High-pressure gas side pipe



Liquid side pipe



Gas balance pipe



Oil balance pipe

Notes:
1)The value in the parentheses represents the selected pipe diameter when the equivalent length of all pipes is greater than 90m.
2) It is suggested to take the outdoor unit with the maximum HP as the master unit, show the outdoor unit W1 in the figure (master unit).Master unit,secondary unit 1,secondary unit 2 and secondary unit 3 arranges from large to small according to the HP,namely W1≥W2≥W3≥W4.
3)Factory pipe diameter of units:
8~12HP low-pressure gas side/high-pressure gas side/lquid side:φ22.2/φ19.05/φ15.88.
14~16HP low-pressure gas side/high-pressure gas side/lquid side:φ28.6/φ22.2/φ15.88.

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