SANYS VRF

DC INVERTER
2016 CATALOGUE

CONTENTS

SANYS VRF 50HZ R410a

SANYS VRF III

FULL DC INVERTER VRF SYSTEM (50HZ-380~415V-3PH)

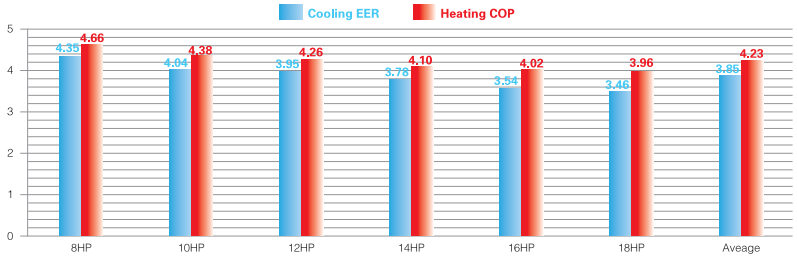
Basic Modules

8/10HP 12/14/16/18HP

- Full DC INVER technology
- Single Module: 8/10/12/14/16/18HP
- DC compressors and fan motors
- Max.1000m total pipe length

	8HP	10HP	12HP	14HP	16HP	18HP
Capacity	25.2kW	28kW	33.5kW	40kW	45kW	50kW
Compressor	DC	DC	DC	DC+DC	DC+DC	DC+DC
Fan motor	DC	DC	DC+DC	DC+DC	DC+DC	DC+DC

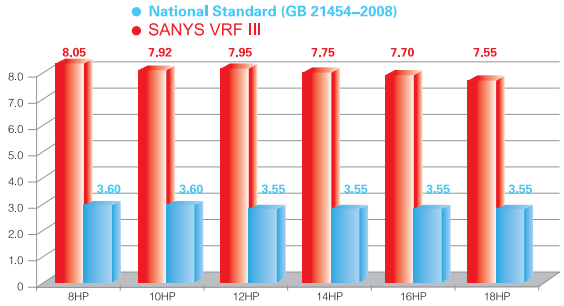
EER & COP



IPLV(C)

IPLV: Integrated Part Load Value (ARI 550/590)
(C): Cooling condition

The Integrated Part Load Value (IPLV) is a performance characteristic developed by the Air-Conditioning, Heating and Refrigeration Institute (AHRI). It is most commonly used to describe the performance of a AC system capable of capacity modulation. Unlike an EER (Energy Efficiency Ratio) or COP (coefficient of performance), which describes the efficiency at full load conditions, the IPLV is derived from the equipment efficiency while operating at various capacities. Since a VRF system does not always run at 100% capacity, the EER or COP is not an ideal representation of the typical equipment performance. The IPLV is a very important value to consider since it can affect energy usage and operating costs throughout the lifetime of the equipment.

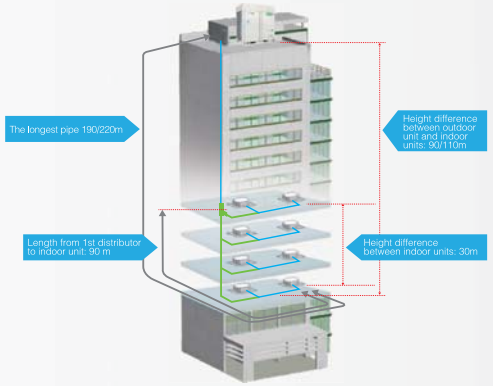


HP			Basic modules						2 modules combination									
			8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
Model Name	380~415V/3PH/50Hz		SVO252OUC3	SVO280OUC3	SVO335OUC3	SVO400OUC3	SVO450OUC3	SVO500OUC3	SVO560OUC3	SVO615OUC3	SVO680OUC3	SVO730OUC3	SVO785OUC3	SVO850OUC3	SVO900OUC3	SVO950OUC3	SVO1000OUC3	SVO1065OUC3
Max. Connected indoor units quantity			13	16	16	20	20	20	24	24	28	28	28	32	32	36	36	36
Performance data																		
Cooling	Capacity	KW	25.2	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0	78.5	85.0	90.0	95.0	100.0	106.5
		Btu/h	85000	95000	114000	136000	153000	170500	191000	209000	232000	249000	267000	290000	307000	324000	341000	363000
		RT	7.1	7.9	9.5	11.3	12.7	14.3	15.9	17.4	19.3	20.7	22.3	24.1	25.5	27.2	28.7	30.2
	Power imput	KW	5.79	6.93	8.48	10.58	12.71	14.45	13.86	15.41	17.51	19.64	21.19	23.29	25.42	27.16	28.90	28.12
	EER	W/W	4.35	4.04	3.95	3.78	3.54	3.46	4.04	3.99	3.88	3.72	3.70	3.65	3.54	3.53	3.49	3.79
Heating	Capacity	KW	27.4	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5	87.5	95.0	100.0	108.0	113.0	119.0
		Btu/h	93000	107000	127000	153000	170000	190960	214000	235000	261000	278000	298000	324000	341000	368000	385000	406000
	Power imput	KW	5.88	7.19	8.80	10.98	12.44	14.14	14.38	15.99	18.17	19.63	21.24	23.41	24.88	26.58	28.28	28.43
	COP	W/W	4.66	4.38	4.26	4.10	4.02	3.96	4.38	4.31	4.21	4.15	4.12	4.06	4.02	4.06	4.00	4.19
Physical data																		
Compressor	Quantity		1			2			1+1	1+1	1+2			2+2		2+2		1+1+2
	Type		Hermatic scroll						Hermatic scroll									
Refrigerant	Type		R410A						R410A									
	Throttle type		EXV						EXV									
	Volume	Kg	10		12	16		16	10+10	10+12	10+16		12+16	16+16		16+16	16+16	10+12+16
Motor	Type		DC motor						DC motor									
	Quantity		1		2				1+1	1+2			2+2					1+2+2
	ESP	Pa	85						85									
Dimension (W×H×D)	Net	mm	970×1620×765		1260×1620×765				/									
	Packing	mm	1030×1750×825		1315×1750×825				/									
Net weight		Kg	208		242	286		314	/									
Sound pressure level		dB(A)	58			60			61	62			63					64
Piping data																		
Total equivalent pipeline length < 90m	Liquid	mm	Φ12.7			Φ15.9			Φ15.9	Φ15.9			Φ19.1					
	Gas	mm	Ø22.2	Φ25.4	Φ28.6		Φ31.8	Φ31.8	Φ31.8	Φ31.8			Φ34.9			Φ41.3		
Total equivalent pipeline length ≥ 90m	Liquid	mm	Φ12.7		Φ15.9		Ø19.1		Φ19.1		Φ19.1			Φ22.2				
	Gas	mm	Φ25.4		Φ28.6	Φ31.8			Φ31.8				Φ38.1			Φ41.3		
Oil balance pipe		mm	/						Φ6.35									

Notes: 1. Cooling operating temperature range is from -5°C to 50°C. Heating operating temperature range is from -20°C to 30°C
2. The cooling conditions: indoor side 27°C(80.6°F) DB, 19°C(60°F)WB outdoor side 35°C(95°F) DB
3. The heating conditions: indoor side 20°C(68°F) DB, 15°C(44.6°F)WB outdoor side 7°C(42.8°F)DB
4. Sound level: measured at a point 1 m in front of the unit at a height of 1.3 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
5. The above data may be changed without notice for future improvement on quality and performance.

Long Piping & Height Difference

- The total pipe length: 1000m
- The longest pipe :
  - Actual length 190m
  - Equivalent length 220m
- Equivalent length from first indoor distributor to last indoor unit: 90m
- Height deference between indoor and outdoor unit:
  - Outdoor unit above <90m
  - Outdoor unit below <110m
- Height difference between indoor units: 30m



Combination Table

Cooling Capacity(KW)							
Cooling Capacity		Cooling Capacity						Max. Connected Indoor Unit Quantity
HP	KW	8HP	10HP	12HP	14HP	16HP	18HP	
8	25.2	●						13
10	28		●					16
12	33.5			●				16
14	40				●			20
16	45					●		20
18	50						●	20
20	56		●●					24
22	61.5		●	●				24
24	68		●		●			28
26	73		●			●		28
28	78.5			●		●		28
30	85				●	●		32
32	90					●●		32
34	95					●	●	36
36	100						●●	36
38	106.5		●	●		●		36
40	113		●		●	●		42
42	118		●			●●		42
44	123.5			●		●●		42
46	130				●	●●		48
48	135					●●●		48
50	140					●●	●	54
52	145					●	●●	54
54	150						●●●	54
56	156		●●				●●	58
58	163		●			●●●		58
60	168.5			●		●●●		58
62	175				●	●●●		64
64	180					●●●●		64
66	185					●●●	●	64
68	190					●●	●●	64
70	195					●	●●●	64
72	200						●●●●	64

HP			40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72
Model Name	380~415V/3PH/50Hz		SVO1130OUC3	SVO1180OUC3	SVO1235OUC3	SVO1300OUC3	SVO1350OUC3	SVO1400OUC3	SVO1450OUC3	SVO1500OUC3	SVO1560OUC3	SVO1630OUC3	SVO1685OUC3	SVO1750OUC3	SVO1800OUC3	SVO1850OUC3	SVO1900OUC3	SVO1950OUC3	SVO2000OUC3
Max. Connected indoor units quantity			42	42	42	48	48	54	54	54	58	58	58	64	64	64	64	64	64
Performance data																			
Cooling	Capacity	KW	113.0	118.0	123.5	130.0	135.0	140.0	145.0	150.0	156.0	163.0	168.5	175.0	180.0	185.0	190.0	195.0	200.0
		Btu/h	385000	402000	421000	443000	460000	478000	495000	512000	532000	556000	574000	597000	614000	631000	648000	665000	682000
		RT	32.1	33.5	35.1	36.9	38.3	40.7	41.5	43.0	44.9	46.3	47.9	49.7	51.1	52.1	54.0	55.4	56.8
	Power imput	KW	30.22	32.35	33.90	36.01	38.14	39.87	41.61	43.35	42.76	45.07	46.62	48.72	50.85	52.59	54.33	56.06	57.80
	EER	W/W	3.74	3.65	3.64	3.61	3.54	3.59	3.51	3.49	3.69	3.62	3.61	3.59	3.54	3.49	3.50	3.48	3.46
Heating	Capacity	KW	126.5	131.5	137.5	145.0	150.0	158.9	163.0	169.0	176.5	181.5	187.5	195.0	200.0	206.0	212.0	218.0	224.0
		Btu/h	431000	448000	469000	494000	511000	542000	556000	576000	602000	619000	639000	665000	682000	702000	723000	743000	764000
	Power imput	KW	30.61	32.07	33.68	35.85	37.31	39.02	40.72	42.42	42.67	44.51	46.12	48.29	49.75	51.45	53.16	54.86	56.57
	COP	W/W	4.13	4.10	4.08	4.04	4.02	4.07	4.00	3.98	4.14	4.08	4.07	4.04	4.02	4.00	3.99	3.97	3.96
Physical data																			
Compressor	Quantity		1+2+2			2+2+2		2+2+2		2+2+2	1+1+2+2	1+2+2+2		2+2+2+2		2+2+2+2			
	Type		Hermatic scroll							Hermatic scroll									
Refrigerant	Type		R410A							R410A									
	Throttle type		EXV							EXV									
	Volume	Kg	10+16+16		12+16+16	16+16+16		16+16+16	16+16+16	16+16+16	10+10+16+16	10+16+16+16	12+16+16+16	16+16+16+16		16+16+16+16	16+16+16+16	16+16+16+16	16+16+16+16
Motor	Type		DC motor							DC motor									
	Quantity		1+2+2		2+2+2					2+2+2	1+1+2+2	1+2+2+2	2+2+2+2			2+2+2+2			
	ESP	Pa	85							85									
Dimension (W×H×D)	Net	mm	/							/									
	Packing	mm	/							/									
Net weight		Kg	/							/									
Sound pressure level		dB(A)	64							64			64						
Piping data																			
Total equivalent pipeline length < 90m	Liquid	mm	Ø19.1					Ø22.2		Ø22.2						Ø25.4			
	Gas	mm	Ø41.3					Ø44.5		Ø44.5						Ø44.5			
Total equivalent pipeline length ≥ 90m	Liquid	mm	Ø22.2					Ø25.4		Ø25.4						Ø25.4			
	Gas	mm	Ø41.3					Ø44.5		Ø44.5						Ø54.0			
Oil balance pipe		mm	Ø6.35					Ø6.35		Ø6.35									

Notes:1. Cooling operating temperature range is from -5°C to 50°C, Heating operating temperature range is from -20°C to 30°C
2. The cooling conditions: indoor side 27°C(80.6°F) DB, 19°C(60°F)WB outdoor side 35°C(95°F) DB
3. The heating conditions: indoor side 20°C(68°F) DB, 15°C(44.6°F)WB outdoor side 7°C(42.8°F)DB
4. Sound level: measured at a point 1 m in front of the unit at a height of 1.3 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
5. The above data may be changed without notice for future improvement on quality and performance.

SANYS VRF II

DC INVERTER VRF SYSTEM (50HZ-380~415V-3PH)

Basic Modules

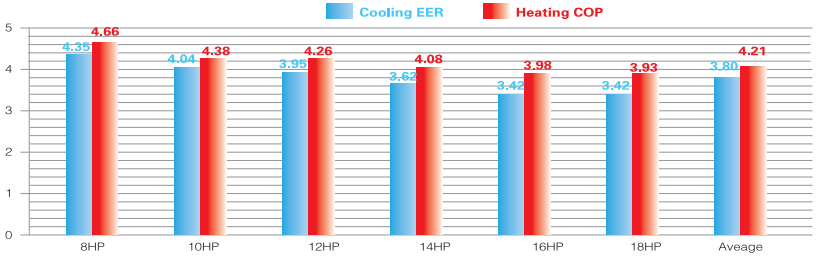
8/10HP

12/14/16/18HP

- DC inverter technology
- High energy saving efficiency
- Single Module: 8/10/12/14/16/18HP
- Max.1000m total pipe length

Capacity	8HP	10HP	12HP	14HP	16HP	18HP
	25.2kW	28kW	33.5kW	40kW	45kW	50kW
Compressor	DC	DC	DC	DC+FIX	DC+FIX	DC+FIX
Fan motor	DC	DC	DC+DC	DC+DC	DC+DC	DC+DC

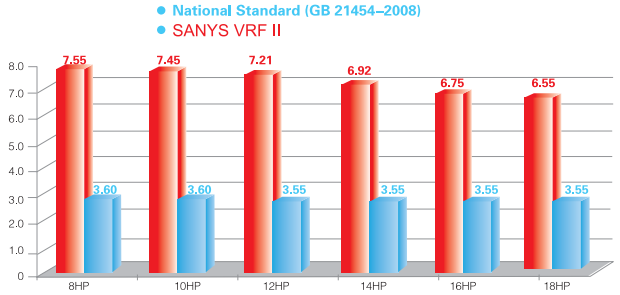
EER & COP



IPLV(C)

IPLV: Integrated Part Load Value (ARI 550/590)
(C): Cooling condition

The Integrated Part Load Value (IPLV) is a performance characteristic developed by the Air-Conditioning, Heating and Refrigeration Institute (AHRI). It is most commonly used to describe the performance of a AC system capable of capacity modulation. Unlike an EER (Energy Efficiency Ratio) or COP (coefficient of performance), which describes the efficiency at full load conditions, the IPLV is derived from the equipment efficiency while operating at various capacities. Since a VRF system does not always run at 100% capacity, the EER or COP is not an ideal representation of the typical equipment performance. The IPLV is a very important value to consider since it can affect energy usage and operating costs throughout the lifetime of the equipment.

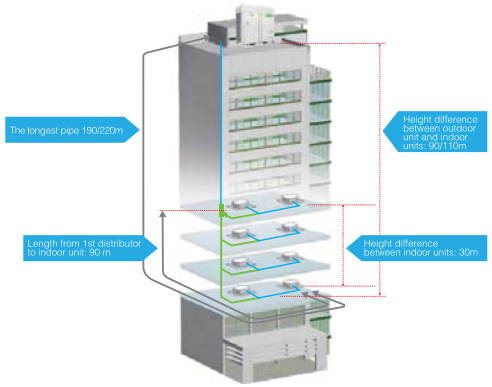


HP			Basic modules						2 modules combination									
			8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
Model Name	380~415V/3PH/50Hz		SVC252OUC3	SVC280OUC3	SVC335OUC3	SVC400OUC3	SVC450OUC3	SVC500OUC3	SVC560OUC3	SVC615OUC3	SVC680OUC3	SVC730OUC3	SVC785OUC3	SVC835OUC3	SVC900OUC3	SVC950OUC3	SVC1000OUC3	SVC1065OUC3
Max. Connected indoor units quantity			13	16	16	20	20	20	24	24	28	28	28	32	32	36	36	36
Performance data																		
Cooling	Capacity	KW	25.2	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0	78.5	83.5	90.0	95,0	100,0	106,5
		Btu/h	85000	95000	114000	136000	153000	170500	191000	209000	232000	249000	267000	284000	307000	324000	341000	363000
		RT	7.1	7.9	9.5	11.3	12.7	14.3	15.9	17.4	19.3	20.7	22.3	23.7	25.5	27.0	28.4	30.2
	Power imput	KW	5.79	6.95	8.48	11.05	13.16	14.62	13.90	15.43	18.00	20.11	21.64	23.10	26.32	27.78	29,24	28.59
	EER	W/W	4.35	4.03	3.95	3.62	3.42	3,42	4,03	3,99	3.78	3,63	3,63	3,61	3,42	3,42	3.42	3,73
Heating	Capacity	KW	27.4	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5	87.5	93,5	100,0	106,0	112,0	119,0
		Btu/h	93000	107000	127000	153000	170000	190960	214000	235000	261000	278000	298000	319000	341000	361000	382000	406000
	Power imput	KW	5.88	7.21	8.80	11.03	12.56	14.25	14.42	16.01	18.24	19.77	21.37	23.05	25.13	26.81	28.50	28.57
	COP	W/W	4.66	4.37	4.26	4.08	3.98	3.93	4.37	4.31	4.19	4.12	4.10	4.06	3.98	3.95	3.93	4.16
Physical data																		
Compressor	Quantity		1			1+1			1+1	1+1		1+2		2+2		2+2		1+1+2
	Type		Hermetic scroll										Hermetic scroll					
Refrigerant	Type		R410A										R410A					
	Throttle type		EXV										EXV					
	Volume	Kg	10		12	14		16	10+10	10+12	10+14		12+14	14+14		14+16	16+16	10+12+14
Motor	Type		DC motor										DC motor					
	Quantity		1		2				1+1	1+2			2+2					1+2+2
	ESP	Pa	85										85					
Dimension (W×H×D)	Net	mm	970×1620×765		1260×1620×765								/					
	Packing	mm	1030×1750×825		1315×1750×825								/					
Net weight		Kg	206		242	298		314					/					
Sound pressure level		dB(A)	58			60			61	62			63					64
Piping data																		
Total equivalent pipeline length < 90m	Liquid	mm	Φ12.7			Φ15.9			Φ15.9	Φ15.9			Φ19.1					
	Gas	mm	Ø22.2	Φ25.4	Φ28.6			Φ31.8	Φ31.8	Φ31.8			Φ34.9			Φ41.3		
Total equivalent pipeline length ≥ 90m	Liquid	mm	Φ12.7		Φ15.9			Φ19.1	Φ19.1	Φ19.1			Φ22.2					
	Gas	mm	Φ25.4		Φ28.6	Φ31.8			Φ31.8				Φ38.1			Φ41.3		
Oil balance pipe		mm	/						Φ6.35									

Notes: 1. Cooling operating temperature range is from -5°C to 50°C. Heating operating temperature range is from -20°C to 30°C
2. The cooling conditions: indoor side 27°C(80.6°F) DB, 19°C(60°F)WB outdoor side 35°C(95°F) DB
3. The heating conditions: indoor side 20°C(68°F) DB, 15°C(44.6°F)WB outdoor side 7°C(42.8°F)DB
4. Sound level: measured at a point 1 m in front of the unit at a height of 1.3 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
5. The above data may be changed without notice for future improvement on quality and performance.

Long Piping & Height Difference

- The total pipe length: 1000m
- The longest pipe :
  - Actual length 190m
  - Equivalent length 220m
- Equivalent length from first indoor distributor to last indoor unit: 90m
- Height deference between indoor and outdoor unit:
  - Outdoor unit above <90m
  - Outdoor unit below <110m
- Height difference between indoor units: 30m



Combination Table

Cooling Capacity(KW)								
Cooling Capacity		Cooling Capacity						Max. Connected Indoor Unit Quantity
HP	KW	8HP	10HP	12HP	14HP	16HP	18HP	
8	25.2	●						13
10	28		●					16
12	33.5			●				16
14	40				●			20
16	45					●		20
18	50						●	20
20	56		●●					24
22	61.5		●	●				24
24	68		●		●			28
26	73		●			●		28
28	78.5			●		●		28
30	85				●	●		32
32	90					●●		32
34	95					●	●	36
36	100						●●	36
38	106.5		●	●		●		36
40	113		●		●	●		42
42	118		●			●●		42
44	123.5			●		●●		42
46	130				●	●●		48
48	135					●●●		48
50	140					●●	●	54
52	145					●	●●	54
54	150						●●●	54
56	156		●●				●●	58
58	163		●			●●●		58
60	168.5			●		●●●		58
62	175				●	●●●		64
64	180					●●●●		64
66	185					●●●	●	64
68	190					●●	●●	64
70	195					●	●●●	64
72	200						●●●●	64

HP			40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72
Model Name	380~415V/3PH/50Hz		SVC1115OUC3	SVC1180OUC3	SVC1235OUC3	SVC1285OUC3	SVC1350OUC3	SVC1400OUC3	SVC1450OUC3	SVC1500OUC3	SVC1580OUC3	SVC1630OUC3	SVC1685OUC3	SVC1735OUC3	SVC1800OUC3	SVC1850OUC3	SVC1900OUC3	SVC1950OUC3	SVC2000OUC3
Max. Connected indoor units quantity			42	42	42	48	48	54	54	54	58	58	58	64	64	64	64	64	64
Performance data																			
Cooling	Capacity	KW	111.5	118.0	123.5	128.5	135.0	140.0	145.0	150.0	158.0	163.0	168.5	173.5	180.0	185.0	190.0	195.0	200.0
		Btu/h	380000	402000	421000	438000	460000	477000	494000	511000	539000	556000	574000	591000	614000	631000	648000	665000	682000
		RT	31.7	33.5	35.1	36.5	38.3	39.8	41.2	42.6	44.9	46.3	47.9	49.3	51.1	52.6	54.0	55.4	56.8
	Power imput	KW	30.05	33.26	34.80	36.26	39.47	40.94	42.40	43.86	44.31	46.42	47.95	49.42	52.63	54.09	55.56	57.02	58.48
	EER	W/W	3.71	3.55	3.55	3.54	3.42	3.42	3.42	3.42	3.57	3.51	3.51	3.51	3.42	3.42	3.42	3.42	3.42
Heating	Capacity	KW	125.0	131.5	137.5	145.5	150.0	156.0	162.0	168.0	176.5	181.5	187.5	193.5	200.0	206.0	212.0	218.0	224.0
		Btu/h	426000	448000	469000	489000	511000	532000	552000	573000	602000	619000	639000	660000	682000	702000	723000	743000	764000
	Power imput	KW	30.26	32.33	33.93	35.61	37.69	39.37	41.06	42.75	43.36	44.90	46.49	48.18	50.25	51.94	53.62	55.31	57.00
	COP	W/W	4.13	4.07	4.05	4.03	3.98	3.96	3.95	3.93	4.07	4.04	4.03	4.02	3.98	3.97	3.95	3.94	3.93
Physical data																			
Compressor	Quantity		1+1+2	1+2+2			2+2+2	2+2+2		2+2+2	1+2+2+2				2+2+2+2				
	Type		Hermetic scroll								Hermetic scroll								
Refrigerant	Type		R410A								R410A								
	Throttle type		EXV								EXV								
	Volume	Kg	10+14+14		12+14+14	14+14+14		14+14+16	14+16+16	16+16+16	10+14+14+14	10+14+14+14	12+14+14+14	14+14+14+14		14+14+14+16	14+14+16+16	14+16+16+16	16+16+16+16
Motor	Type		DC motor								DC motor								
	Quantity		1+2+2		2+2+2					2+2+2	1+2+2+2		2+2+2+2			2+2+2+2			
	ESP	Pa	85								85								
Dimension (W×H×D)	Net	mm	/								/								
	Packing	mm	/								/								
Net weight		Kg	/								/								
Sound pressure level		dB(A)	64							64	64								
Piping data																			
Total equivalent pipeline length < 90m	Liquid	mm	Ø19.1					Ø22.2			Ø22.2					Ø25.4			
	Gas	mm	Ø41.3					Ø44.5			Ø44.5					Ø44.5			
Total equivalent pipeline length ≥ 90m	Liquid	mm	Ø22.2					Ø25.4			Ø25.4					Ø25.4			
	Gas	mm	Ø41.3					Ø44.5			Ø44.5					Ø54.0			
Oil balance pipe		mm	Ø6.35					Ø6.35			Ø6.35								

Notes:1. Cooling operating temperature range is from -5°C to 50°C. Heating operating temperature range is from -20°C to 30°C
2. The cooling conditions: indoor side 27°C(80.6°F) DB, 19°C(60°F)WB outdoor side 35°C(95°F) DB
3. The heating conditions: indoor side 20°C(68°F) DB, 15°C(44.6°F)WB outdoor side 7°C(42.8°F)DB
4. Sound level: measured at a point 1 m in front of the unit at a height of 1.3 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
5. The above data may be changed without notice for future improvement on quality and performance.

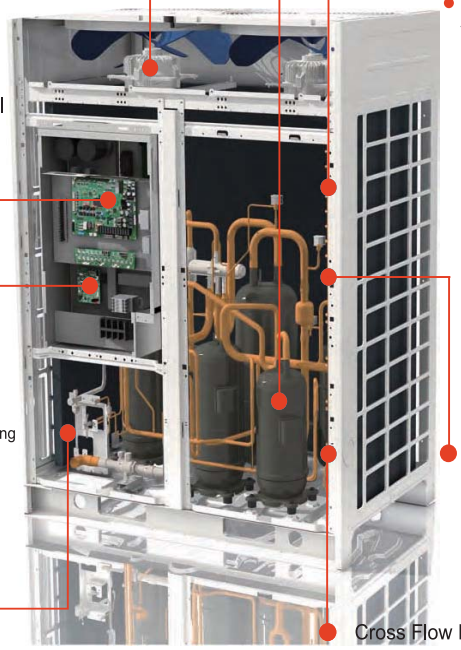
Core Technologies Make High Efficienc

Brushless DC Motor
- High efficiency
- Low noise

DC Inverter Compressors
- High pressure type
- Asymmetric scroll design
- Neodymium permanent
- Magnet rotor

2-in-1 Refrigerant Flow Path
- Increase the liquid refrigerant volume proportion

180°Sine Wave Control
- High precision rotor speed control



Stepless Control
- On-demand output, high efficiency and energy saving

Supercooling Design
- Enhance the supercool of refrigerant to increase system's efficiency

Cross Flow Fins
- Reduce air resistance
- Frosting improved

CCT Inner-grooved Tube
- Excellent heat-exchanging efficiency

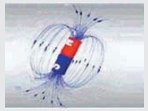
SANYS VRF Catalogue

High Efficiency DC Inverter Compressor

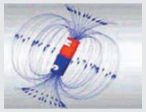
- From Hitachi, famous inverter compressor manufacture.
- R410a ECO friendly refrigerant.
- Small torque fluctuation, low vibration and quiet operation.
- High efficiency due to its patent internal structure design.
- Internal oil circulation structure.
- High Reliability.
- Wide rotation speed range.

Neodymium permanent magnet rotor

Powerful magnetic force, large force moment and high efficiency.

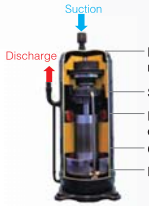


Ferrite magnet



Neodymium permanent magnet

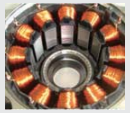
- High pressure chamber
  - Has small suction superheat and high refrigerant volume efficiency
  - Has large refrigerant discharge buffer volume, Low vibration and noise



- Differential pressure oil film control technology, reducing noise and improving gas tightness
- Special scroll design for R410a
- High precision processing, improving compression efficiency by 15%
- Concentrated winding, improving low frequency
- High strength bearing, high rigidity

Concentrated winding

Magnetic efficiency is 12% higher than distributed winding



Concentrated winding

Distributed winding

- Neodymium permanent magnet rotor,has powerful magnetic force,large torque and high efficiency.
- Concentrated winding,improving low frequency effciency.

High Efficiency DC Motor

DC fan motor

- High efficiency DC fan motor is from well-known brand.
- Low noise and high efficiency because of high-density wire winding engineering.
- Brushless with built-in sensor.

SANYS VRF III MINI SMALL CAPACITY FULL DC INVERTER VRF UNIT

5 Models

8/10kW

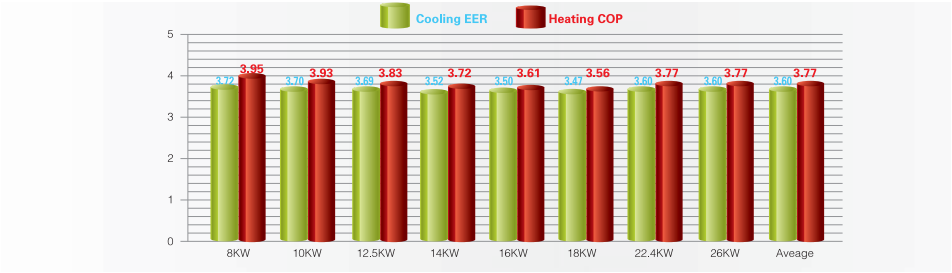
12.5/14/16/18kW

22.4/26kW

Capacity	8kW	10kW	12.5kW	14kW	16kW	18kW	22.4kW	26kW
Compressor	DC	DC	DC	DC	DC	DC	DC	DC
Fan motor	DC	DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

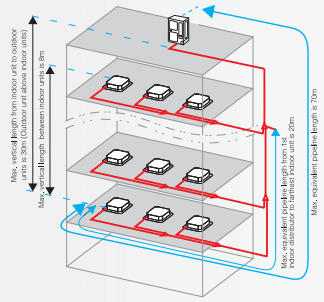
Power type		208-230V	380-415V
50HZ	1 phase	8/10/12.5/14/16kW	
	3 phase		12.5/14/16/18/22.4/26kW

EER & COP



Long Piping & Height Difference

- The total pipe length: 100m
- The longest pipe :
  - Actual length 60m
  - Equivalent length 70m
- Equivalent length from first indoor distributor to last indoor unit: 20m
- Height deference between indoor and outdoor unit:
  - Outdoor unit above <30m
  - Outdoor unit below <20m
- Height difference between indoor units: 8m



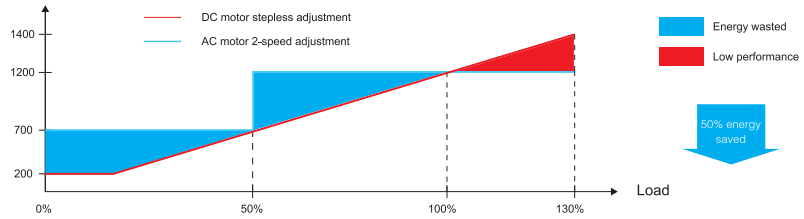
V R F S Y S T E M

SANYS VRF II VRF III

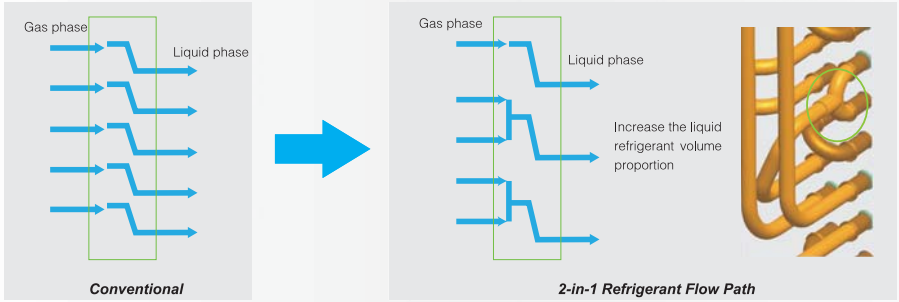
Stepless Control

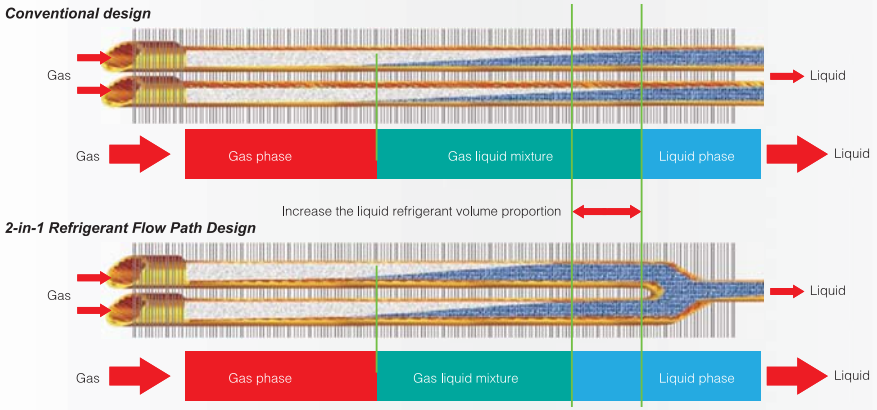
DC fan motor can be stepless controlled by outdoor PCB according to system's operating pressure. And it is able to reduce the energy consumption and maintain the system in the best performance.

Load–Revolution curve

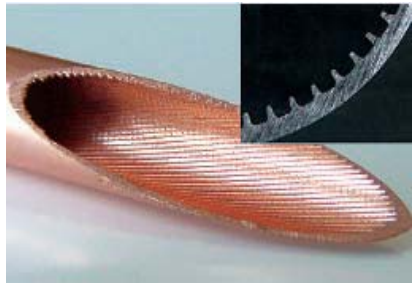


2–in–1 Refrigerant Flow Path Design

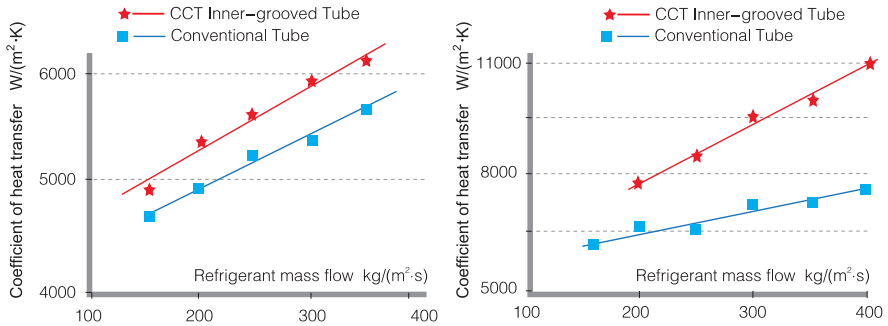




CCT Inner–grooved Tube

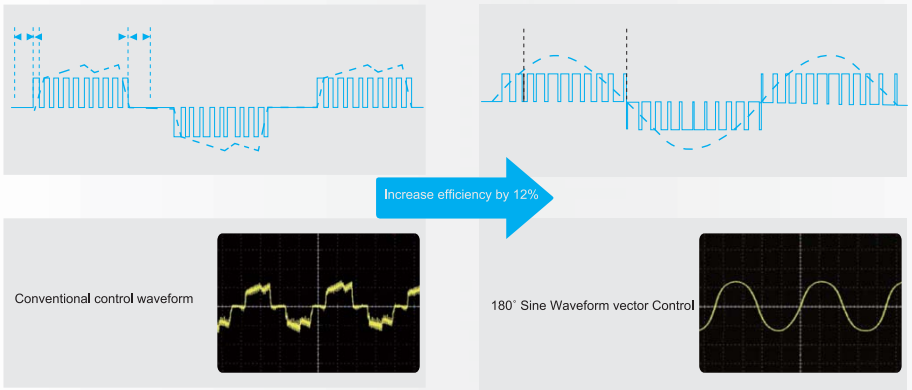


CCT(Continuous Cooling Transformation) inner-grooved copper tube has high thermometic conductivity.This inner-grooved fins break the refrigerant flow boundary layer to enhance refrigerant disturbance to increase heat-exchanging efficiency.

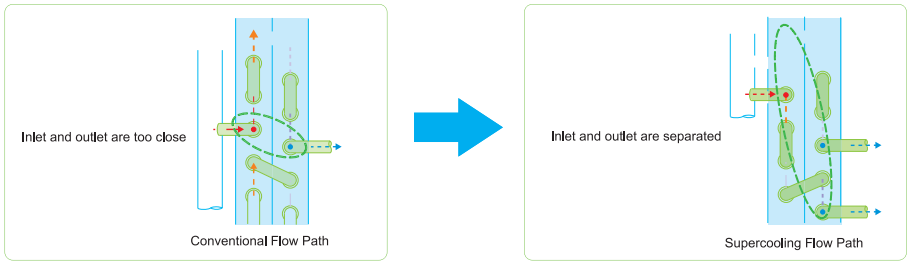


180° Sine Waveform Control

The perfect combination of 180°Sine waveform rotor frequency drive control technology and excellent IPM inverters,reduces the reactive loss of motor-driven,increases motor efficicency by 12%.

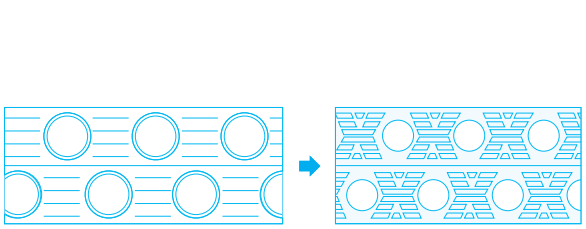


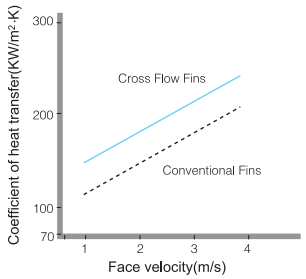
Supercooling Flow Path Design



Supercooling flow path design,separates the refigerant inlet and outlet,increase the supercooling degree,reduce the effect of high temperature inlet gas refrigerant to low temperature outlet liquid refigerant,therefore,the system efficiency will be greatly increased.

Cross Flow Fins

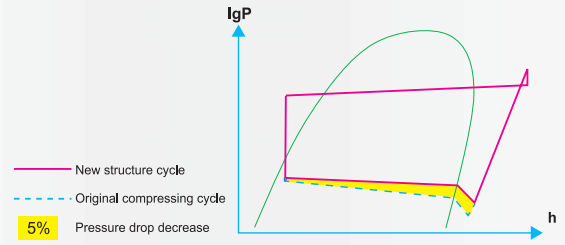




- Has low air resistance and great heat transfer coefficient.
- Frosting improved,frost on the heat-exchanger will be well-distributed,easy for defrosting.

Low Resistance Internal piping

- Thanks to the optimization pipeline design, 5% pressure drop are reduced.
- EER and COP increase, because of evaporating temperature increase and compressor work decrease.

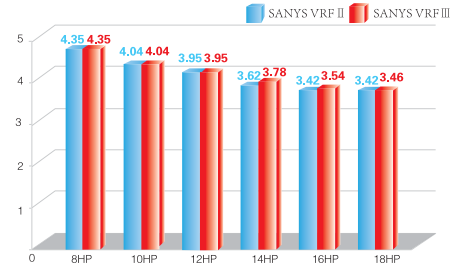


Benefits For Users

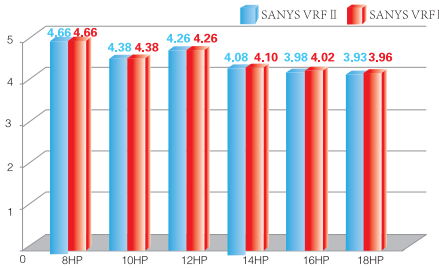
Livable environment creator

SANYS focuses on starting point of AC system: create a friendly, comfortable and pleasant living environment as always. New DC VRF system's comfort technologies include quick cooling and heating, precise temperature control, low noise, use environmental friendly refrigerant and so on, we strive to create livable environment for users……

Excellent in EER and COP



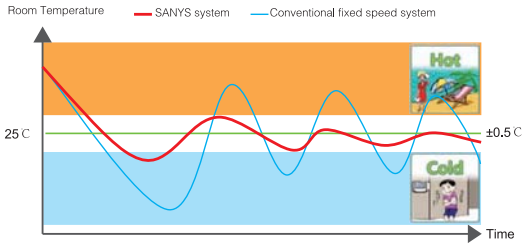
EER



COP

Thanks to DC devices(compressor and motor), piping optimization design and new refrigerant control logic, system's EER and COP are significantly increase.

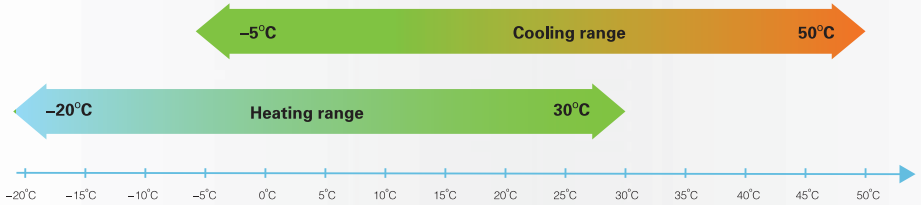
Outstanding Comfort Ability



- SANYS CMV system have excellent cooling & heating performance, thanks to the high efficiency DC fan motor, DC compressor and optimized refrigerant flow control logic.
- Precisely room temperature control by adopting 2000 pulse EXV. Indoor temperature fluctuation can be maintain within 0.5 ℃, offers outstanding comfort ability.

Wide Operation Range

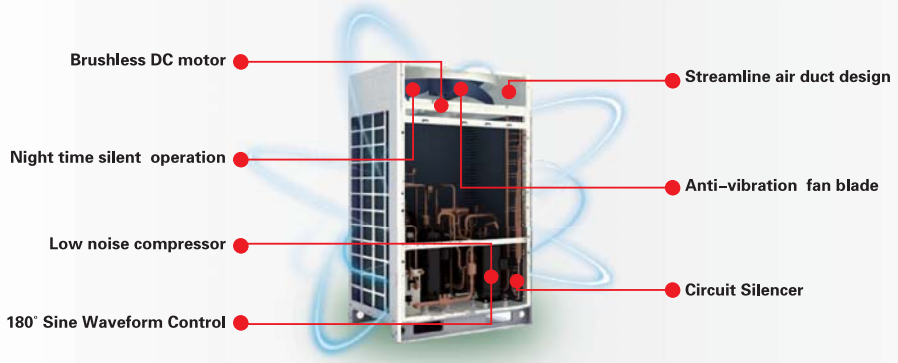
- Cooling operating temperature is up to 50°C, suitable for the hot region.
- Heating operating temperature is down to -20°C. In the cold winter, CMV system can stably produce heat.



- Outdoor unit running at temperature above 50°C need customized in factory, please consult to sales engineer.

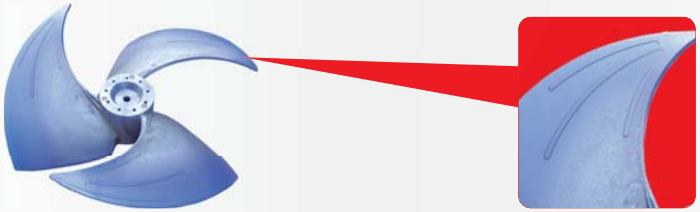
7 Improvements To Reduce Noise

Maximum 10dB(A) of operating sound decrease.



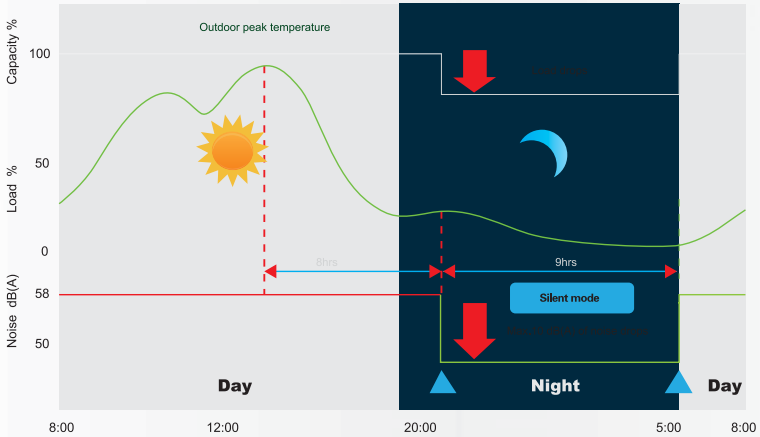
Low Noise Fan Blade

- Anti-vibration forward fan blade.
- Special design to reduce the air vibration and disturbance.



Silent Mode, Night Time Noise Control

- Compressor and fan motor rotating speed can be reduced to lower the noise at night.
- Maximum 10dB(A) decrease.



Snow–proof Function

- In the cold weather, outdoor fan will start to run for a while at intervals, for preventing the snow to accumulate on fan blade. Because accumulated snow will freeze and block fan blade rotating, even worse it will damage the motor.
- It only start when temperature is lower than 0℃.

The PHE Economizer

The PHE economizer need customization.

- PHE Economizer technology provide a additional sub cooling .
- Improved heat exchanger + PHE economizer + Optimized control logic
- Heating performance highly increased

3–stage Back Up Function

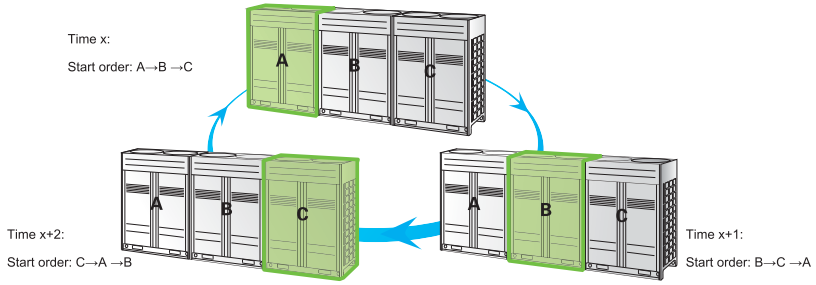
- Module back up function.
- When some modules are failure, the others can keep running by simply settings.

- Compressor back up function
- When one compressor is failure, the other one can keep running by simply settings.

- Fan motor back up function.
- When one fan motor is failure, the other onecan keep running by simply settings.

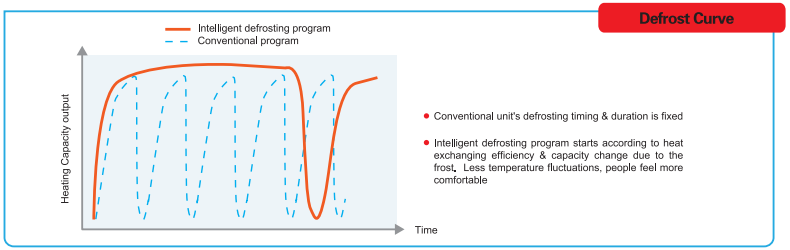
All Outdoor Units Cycle Operation

- In one combination system, any outdoor unit can run as master unit.
- Balance the lifespan among outdoor units in one system.



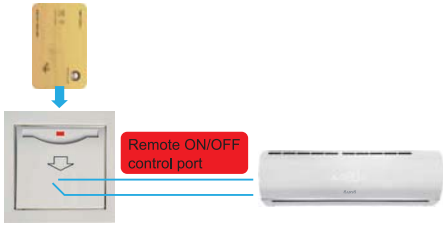
Intelligent Defrosting Program

Program starts only when unit needs to. Whereas conventional unit's defrosting timing & duration is fixed, causing fluctuations in temperature and personal comfort.



Remote ON/OFF Control Function

- Indoor units standard build in with ON/OFF control port.
- It can be used for hotel card control and also can be used for long distance remote ON/OFF control. And no need additional hotel VRF indoor unit control module.
- When contactor is open (card pulled out) , indoor unit will be off can not be controlled, current running parameters will be saved in indoor PCB.
- When contactor is close (card insert), indoor unit will recover pervious running state .

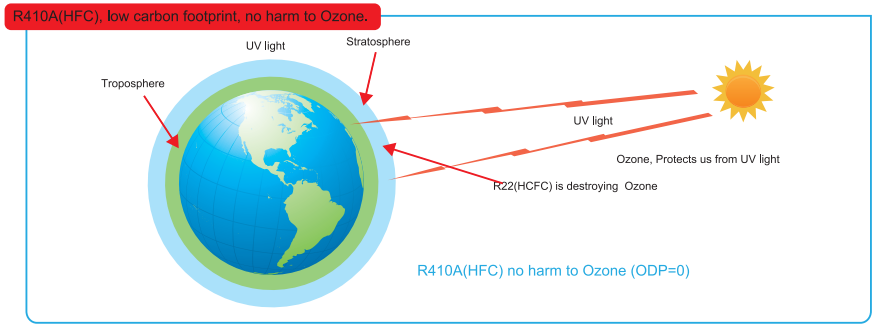


Emergency Stop Operation Function

Outdoor unit have a fire alarm linkage signal control function. When emergency situation can stop the whole AC system.

Environment Friendly

Refrigerant R410A(HFC), low carbon footprint, no harm to Ozone.



Benefits For Installers

Optimization for designer and installer

SANYS DC inverter VRF system is designed with flexible modular combination concept, we keep optimizing the module size, reduce equipment on space occupied to meet the demand of designer and installer. Some unique technologies are used for our installers to reduce their working load, installation is becoming easier and easier!

4 Units Combination, Capacity Up To 72HP

Max. outdoor units can be combined into a bigger system, capacity can be up to 72HP.

8HP ~ 18HP

20HP ~ 32HP

34HP ~ 48HP

50HP ~ 72HP

Individual Type, Saving Installation Work

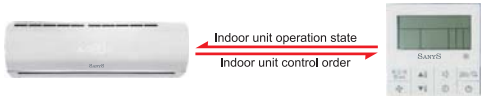
Individual type outdoor unit is already combined in chigo factory, installer can save outdoor unit combiination work.

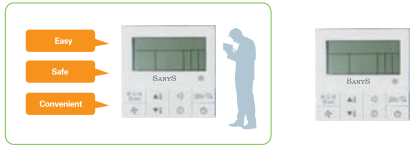
32HP = 16HP + 16HP

Adjustable Outdoor Fan Static Pressure

- Thanks to DC fan motor, the external static pressure of outdoor fan is adjustable.
- Autdoor units can be installed in the service floor or facility room.
- Maximum ESP 85Pa.

New Wired Controller

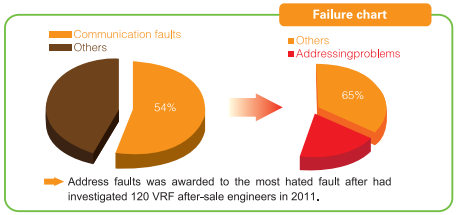




- Bidirectional communication. Indoor unit's operating parameters (error code, temperature, address) can be inquired and displayed on the controller.
- Compact design.
- Timer function.

User can check the error code and inquiry unit status very easy, safe and convenient.

Automatic Addressing

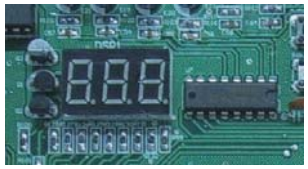


- Automatic addressing will reduce artificial faults by 35% and 5% manual works.
  - 54% system failure were caused by communication faults.
  - 65% communication faults were caused by address problems.
  - Most of the address problems were: address setting forgotten, wrong settings, address repeat.

Addressing Methods

- 2 addressing methods:
  - Automatically addressing: system will distribute address to indoor unit automatically.
  - Manually setting by wireless remote controller.
- Addressing method can be selected easily by adjusting the switch on outdoor PCB.

LED Display On The PCB



LED display on the PCB, it can show system's operation status and error codes.

Refrigerant Recycle Program

- Press the forced cooling button, after the unit running for a few minutes, close the high pressure stop valve.
- After the digital tube display “dh” and the low pressure value, close the low pressure stop valve and cut off the power.

Service Window

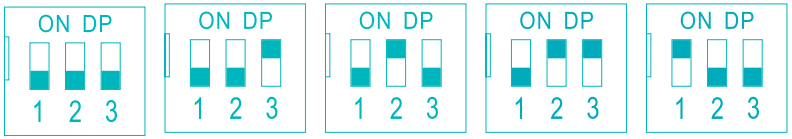
Thanks to the service window, checking outdoor unit’s status and setting is now easy, no need to remove the electric control box cover.

Humanized Internal Structure

- All key components are designed to close to outside, it is convenient for repair and replacement.
- Thanks to the new balance technology, gas balance pipe does no longer exist, brazing points and leaking risk are decreased.

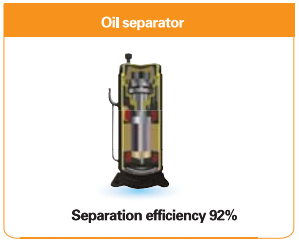
Mode Restriction

- 5 kinds of mode restriction
  - First start indoor units priority mode.
  - Cooling(or heating)priority mode.
  - Cooling only(or heating only)mode.
- Mode restriction function can be selected on the outdoor PCB.



6–Stage Oil Control

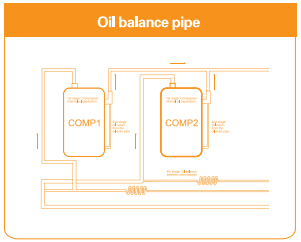
1st stage: Compressor internal oil separation



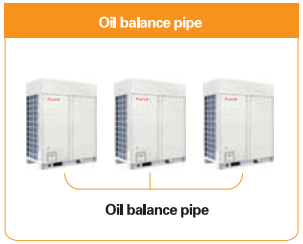
2nd stage: Oil return from the oil even pipe

3rd stage: Oil return from the system oil separator

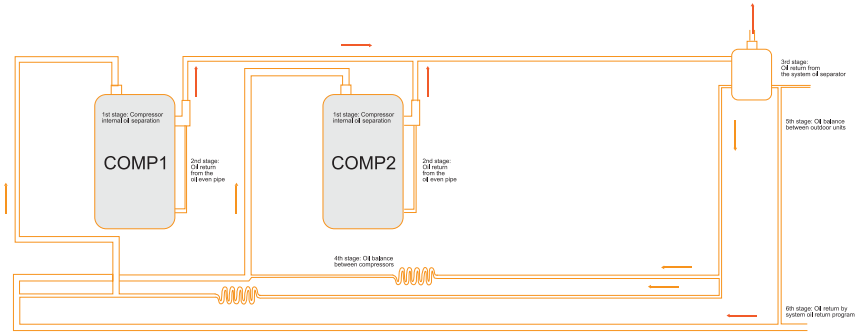
4th stage: Oil balance between compressors



5th stage: Oil balance between outdoor units



6th stage: Oil return by system oil return program

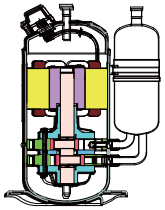


V R F S Y S T E M

SANYS VRF III-mini

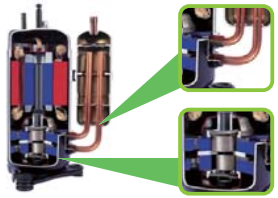
SANYS VRF III -mini

High Efficiency DC Inverter Compressor



High efficiency
High reliability
Low vibration
Low noise
Long life

- Twin-rotary DC inverter compressor
  - Use high efficency and reliability compressor
  - Rotating speed can be down to 20RPS
  - Has very good efficiency in part load condition
- High Efficiency, Low Noise:
  Optimized the efficiency and noise during operation with the latest technology.

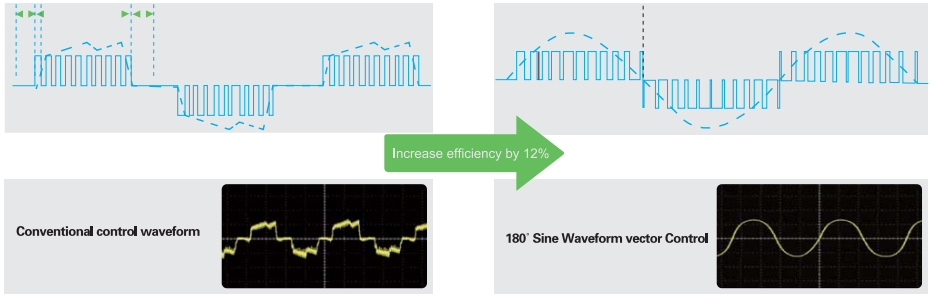


- Environmental Protection:
  Developed the compressor with alternative refrigerant which can protect environment.
- Low Vibration:
  Reduced the vibration during compressor start and operation by using 2CYL Structure, simplified the match of air-conditioning.

High Efficiency DC Motor

- High efficiency DC fan motor
- Low noise and high efficiency because of high-density wire winding engineering
- Brushless with built-in sensor

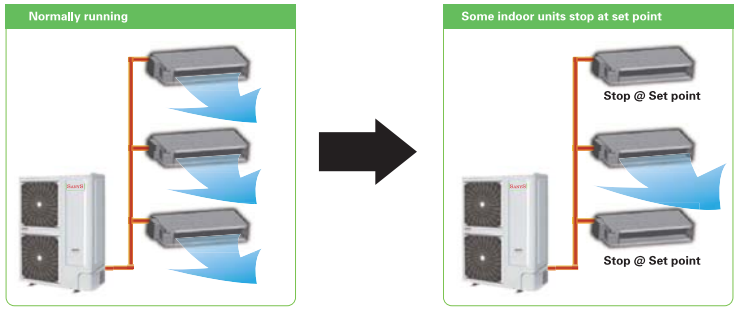
180° Sine Wave Control



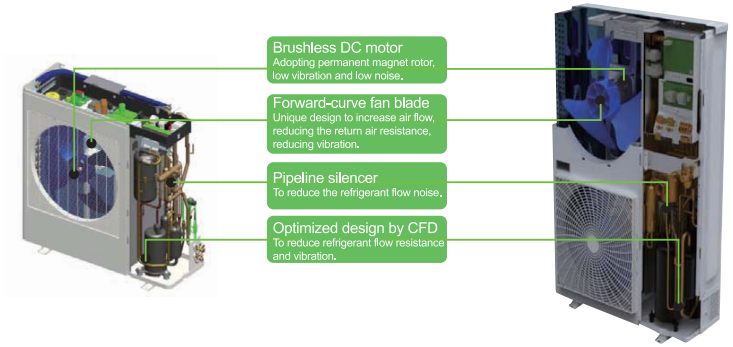
The perfect combination of 180˚ Sine wave rotor frequency drive control technology and excellent IPM inverters, reduces the reactive loss of motor-driven, increases motor efficiency by 12%.

Fast Cooling And Heating

Every rooms meet set point most quickly and comfortably by optimized refrigerant control.

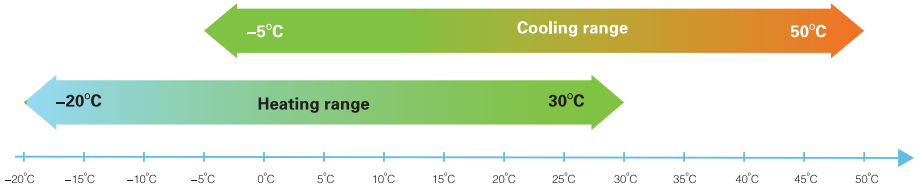


Silent Technology



Wide Outdoor Operation Range

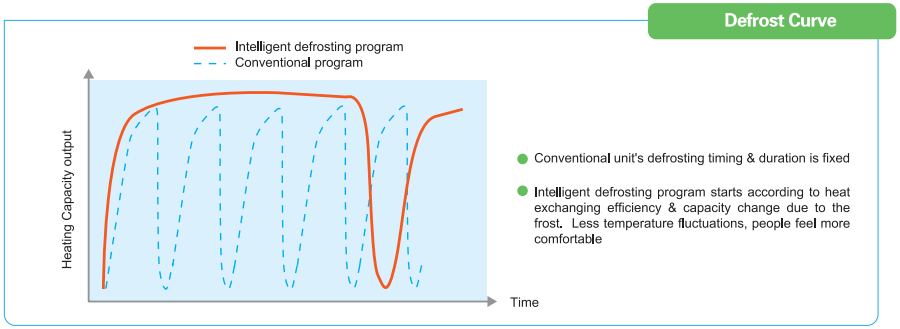
- Because global warming is getting worse, Max. cooling operating temperature is increased to 50˚C.
- Heating operating temperature is down to -20˚C. In the cold winter, system can heat the room continuously.



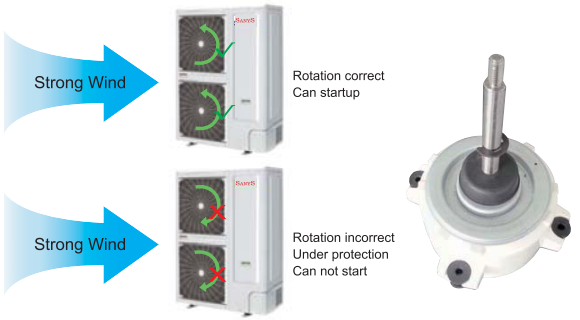
- Outdoor unit running at temperature above 50˚C need customized in factory, please consult to sales engineer.

Intelligent Defrosting Program

Program starts only when unit needs to. Whereas conventional unit's defrosting timing & duration is fixed, causing fluctuations in temperature and personal comfort.

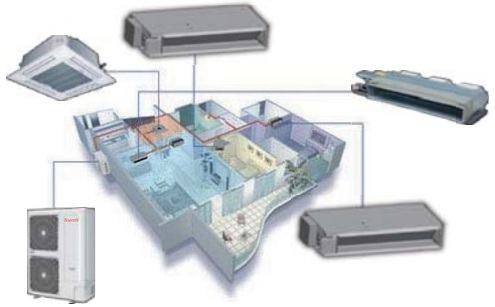


Fan Reversal Protection



In standby, if the outdoor fan motor is rotating in opposite direction at a high speed by the wind or other natural factors, the unit can't start so as to keep the fan motor from broken down. It will start when the fan motor speed slow down.

Space Saving Installation

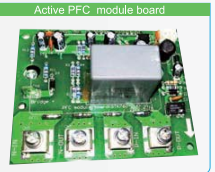


- Multiple indoor units can be connected to 1 outdoor unit, and long piping connection is also possible.
- Compare to one-drive-one type, the outdoor unit can be installed in various places to realize the space-saving installation.

Active PFC Module

- PFC: Power Factor Corrector
- There will be a power loss because of the different phases between the voltage and current.
- With the PFC module, the power utilization rate is higher, power factor can be up to 98%. System will be more efficiency.

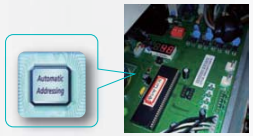
Active PFC module board



- **Power factor** refers to the relationship between effective power and total power consumption, power factor is effective power divided by total power consumption.
- **Power factor** can measure power utilization rate, the power factor bigger, the higher power utilization rate.

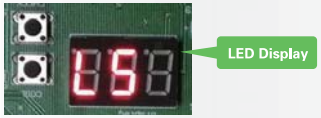
Automatically Addressing

- Automatically addressing: system will distribute address to indoor unit automatically
- Automatic addressing will reduce artificial faults and manual works.



LED Display On PCB

- LED display on the PCB, it can show system's operation status and error codes.



SANYS VRF III mini Specification

Model name	Power type	Cooling					Heating					Compressor		Motor		Refrigerant		Sound pressure Level	Sound power Level	Dimension (W×H×D)		Weight		Connecting		Max. Connected indoor units quantity
		Capacity		Power input	Current	EER	Capacity		Power input	Current	COP	Type	Quantity	Type	Quantity	Type	Volume			Packing	Body	Net	Gross	Gas	Liquid	
		kW	Btu/h	kW	A		kW	Btu/h	kW	A							kg	dB(A)	dB(A)	mm	mm	kg	kg	mm	mm	
SVO080OUC1	220-240V-1ph-50Hz	8	27300	2.15	5.70	3.72	9	30700	2.28	6.04	3.95	DC/Twin-rotary	1	DC/fan motor	2	R410a	3	45~56	52~63	1145x1120x475	1054x994x395	80	92	Φ15.9	Φ9.53	4
SVO100OUC1	220-240V-1ph-50Hz	10	34000	2.68	7.10	3.70	11.5	39000	2.90	7.69	3.93						3					80	92			5
SVO125OUC1	220-240V-1ph-50Hz	12.5	42000	3.38	8.96	3.69	14	47000	3.65	9.68	3.83						3.1					89	100			6
SVO125OUC3	380-415V-3ph-50Hz	12.5	42000	3.38	5.24	3.69	14	47000	3.66	5.67	3.83						3.1					93	104			6
SVO140OUC1	220-240V-1ph-50Hz	14	47000	3.96	10.50	3.52	16	54000	4.3	11.40	3.72						3.45					89	100			7
SVO140OUC3	380-415V-3ph-50Hz	14	47000	3.98	6.17	3.52	16	54000	4.3	6.67	3.72						3.45	45~58	52~65	964x1445x402	900x1328x345	93	104			7
SVO160OUC1	220-240V-1ph-50Hz	16	54000	4.57	12.11	3.50	18	61000	5.13	13.60	3.61						4.2					96	107			8
SVO160OUC3	380-415V-3ph-50Hz	16	54000	4.58	7.10	3.50	18	61000	5.13	7.95	3.61						4.2					100	111			8
SVO180OUC3	380-415V-3ph-50Hz	18	61000	5.19	8.05	3.47	20	63000	5.62	8.71	3.56						6.1					100	111			9
SVO224OUC3	380-415V-3ph-50Hz	22.4	76500	6.74	10.5	3.32	25	85300	5.85	9.9	4.27						6.1	45~58	52~65	1278x1696x560	1120x1549x400	145	165	Φ22.2	Φ9.53	10
SVO260OUC3	380-415V-3ph-50Hz	26	88700	7.54	12.1	3.45	28.5	97300	6.77	11.1	4.21						4.2	46~60	55~66			145	165			12

Notes:
1. The cooling conditions: indoor temp.: 27°C DB (80.6°F), 19°C WB (60°F) outdoor temp.: 35°C DB (95°F) equivalent pipe length: 5m drop length: 0m.
2. The heating conditions: indoor temp.: 20°C DB (68°F), 15°C WB (44.6°F) outdoor temp.: 7°C DB (42.8°F) equivalent pipe length: 5m drop length: 0m.
3. Sound level: Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.2 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

V R F S Y S T E M

INDOOR UNTS

Indoor Units Line Up

Capacity (KW)	1-way cassette	2-way cassette	4-way cassette	4-way cassette (compact type)	Wall-mounted	Floor Ceiling
2.2	●			●	●	
2.8	●		●	●	●	
3.6	●		●	●	●	
4.5	●	●	●	●	●	●
5.6	●	●	●		●	●
7.1	●	●	●		●	●
8.0		●	●			●
9.0		●	●			●
10.0		●	●			
11.2		●	●			●
12.0						
12.5		●	●			
14.0		●	●			●
15.0						
16.0			●			●

Capacity (KW)	Short ceiling concealed ducted unit	Low ESP ducted unit	Medium ESP ducted unit	High ESP ducted unit	Fresh air processor
2.2	●	●			
2.8	●	●			
3.2		●			
3.6	●	●			
4.5	●	●			
5.6	●	●			
7.1	●	●	●	●	
8.0			●	●	
9.0			●	●	
10.0			●	●	
12.0			●	●	
14.0					●
15.0			●		
20.0				●	
22.4					●
25.0				●	
28.0				●	●
45.0				●	●
56.0				●	●

1–way Cassette

Controller

Standard Wireless

Features

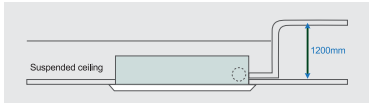
Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard (built-in)	Standard (built-in)	Standard	/

Slim body, easy to install

Has slim body with 250mm height，it is specially suitable for low suspended ceiling rooms.

Built–in with drainage pump



Built-in with low noise long life drainage pump,Pumping head is 1200mm, flexible for drainage pipe design.

Specification

Model name	Power type	Capacity Cooling kW	Capacity Cooling kBtu/h	Capacity Heating kW	Capacity Heating kBtu/h	Motor input kW	Air flow m³/h	Air flow CFM	Sound Level dB(A)	ESP Pa	Dimension (W×H×D) Packing mm	Dimension (W×H×D) Body mm	Dimension (W×H×D) Panel packing mm	Dimension (W×H×D) Panel mm	Body Weight Net kg	Body Weight Gross kg	Connecting pipe Gas mm	Connecting pipe Liquid mm	Connecting pipe Drain mm	Standard controller
SVD22BU1	50Hz	2.2	7.5	2.5	8.5	0.04	520	306	32～36		1170x280x640	870x250x460	1100x70x560	1070x50x520	24/3.6	26/5.0	Φ9.53	Φ6.35	OD Φ25	Remote controller
SVD28BU1	50Hz	2.8	9.5	3.2	10.9															
SVD36BU1	50Hz	3.6	12.2	4.0	13.6															
SVD45BU1	50Hz	4.5	15.3	5.0	17.0	0.05	610	360	36～41	/	1170x320x640	870x290x460	1100x70x560	1070x50x520			Φ12.7			

Notes:
1. Power supply: 220~240V/1PH for 50Hz
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

2-way Cassette

Controller

Standard Wireless

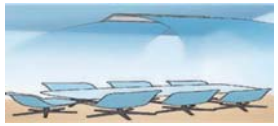
Features

Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard (built-in)	Standard (built-in)	Standard	/

2 way air direction

Two direction air flow, flexibly install in various rooms or hallway



Built-in with drainage pump

Built-in with low noise long life drainage pump,Pumping head is 1200mm, flexible for drainage pipe design.

Specification

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m³/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD45BU2	50Hz	4.5	15.3	5.0	17	0.07	800	470	36~42		1200x370x640	960x310x520	1240x70x660	1203x50x630	33/6.5	36/8.5	Φ12.7	Φ6.35	OD Φ25	Remote controller
SVD56BU2	50Hz	5.6	19.1	6.3	21.4															
SVD71BU2	50Hz	7.1	24.2	8.0	27.2	0.10	1120	650	40~46		1460x370x640	1200x310x520	1480x70x660	1443x50x630	40/7.5	43/10.0	Φ15.9	Φ9.53		

Notes:
1. Power supply: 220~240V/1PH for 50Hz
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

4-way Cassette

Controller

Standard Wireless

Features

Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard (built-in)	Standard (built-in)	Standard	Optional

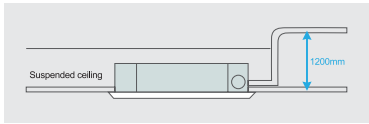
4 ways air delivering

Air flow is soft and smooth, air can be delivered to every corner without dead angle, it makes the room temperature distribution more balance.

Built-in with drainage pump

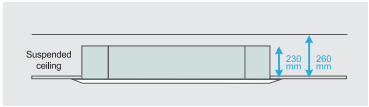
Built-in with low noise long life drainage pump,Pumping head is 1200mm, flexible for drainage pipe design.

Note: The pumping head of 4-way cassette unit (compact type) is 700mm.



Slim body, easy to install

Has slim body with 230mm height, it is specially suitable for low suspended ceiling rooms.



DC fan motor is optional

Specification

4–way Cassette Unit

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m³/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD56BU4	50Hz	5.6	19.1	6.3	21.4	0.054	810	470	35~39	/	920×265×960	833×232×900	1030×105×1030	950×50×950	24	30	Φ12.7	Φ6.35	OD Φ25	Remote controller
SVD71BU4	50Hz	7.1	24.2	8.0	27.2	0.093	1200	700	36~39						24	30	Φ15.9	Φ9.53		
SVD80BU4	50Hz	8	27.2	8.8	30										24	30				
SVD90BU4	50Hz	9	30.7	10.0	34.1	0.16	1600	940	37~41		920×310×960	833×286×900			28.5	35				
SVD100BU4	50Hz	10	34.1	11.0	37.5										28.5	35				
SVD112BU4	50Hz	11.2	38.2	12.5	42.6										28.5	35				
SVD125BU4	50Hz	12.5	42.6	14.0	47.7										28.5	35				
SVD140BU4	50Hz	14.0	47.7	15.0	51.1										28.5	35				
SVD160BU4	50Hz	16.0	54.5	17.0	58										28.5	35				

4–way Cassette Unit (Compact type)

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m³/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD22BU4	50Hz	2.2	7.5	2.5	8.5	0.065	500	290	35~38	/	745×375×675	633×275×580	750×95×750	650×30×650	23	25	Φ9.53	Φ6.35	OD Φ25	Remote controller
SVD28BU4	50Hz	2.8	9.5	3.2	10.9										23	25				
SVD36BU4	50Hz	3.6	12.2	4.0	13.6	0.070	600	350	35~38						26	28	Φ12.7			
SVD45BU4	50Hz	4.5	15.3	5.0	17	0.075	750	440	35~39						26	28				

Notes:1. Power supply: 220~240V/1PH/50Hz;
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB;
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions;
4. The above data may be changed without notice for future improvement on quality and performance.

Short Ceiling Concealed Ducted Unit

Controller
Standard Wired

Features

- **Accessories**

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Optional	Standard (built-in)	Optional	Standard	Optional

- **Short body, easy to install.**
  Has short body , minimum 700mm width , it is specially suitable for installation location in entrance ceiling of hotel room. Low noise and light Weight.
- **Built in with drain pump**
  Pumping head is 750mm.
- **DC fan motor is optional**

Specification

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m³/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD22BDC	50Hz	2.2	7.5	2.5	8.5	0.05	450	260	24~29	30	910×240×530	700×210×467	/	/	16	19	Φ9.53	Φ6.35	OD Φ25	Wired controller
SVD28BDC	50Hz	2.8	9.5	3.2	10.9										16	19				
SVD36BDC	50Hz	3.6	12.2	4	13.6	0.07	550	324	25~32						16	19	Φ12.7			
SVD45BDC	50Hz	4.5	15.3	5	17	0.08	620	360	33~38						16	19				
SVD56BDC	50Hz	5.6	19.1	6.3	21.4	0.09	900	520	27~38		1110×240×530	900×210×467			19	22.5				
SVD71BDC	50Hz	7.1	24.2	8	27.2	0.11	1100	640	29~39		1310×240×530	1100×210×467			22	26	Φ15.9	Φ9.53		

Notes:1. Power supply: 220~240V/1PH for 50Hz
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

Medium Static Pressure Ducted Unit

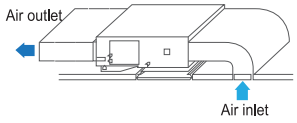
Controller
Standard Wired

Features

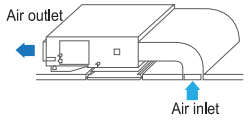
• Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Standard	Standard (built-in)	Optional	Standard	Optional

• Standard ESP is 70Pa, 30Pa can be customized.



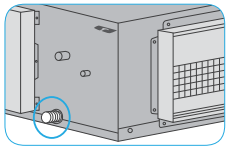
70Pa ESP, suitable for long distance air supply



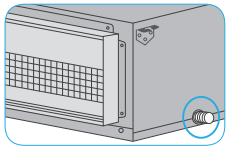
30Pa (can be set on site), suitable for low noise requirement rooms

• Convenient in drainage pipe installation

Reserved drainage pipe outlet holes on left side and right side, installer can choose the outlet holes on site as per actual conditions, flexible for drainage pipe installation.



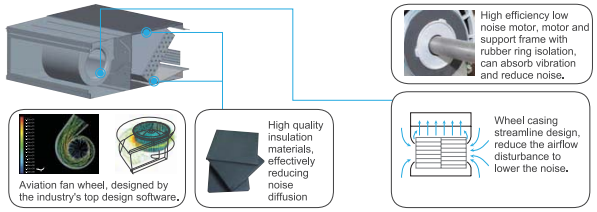
Left drainage hole



Right drainage hole

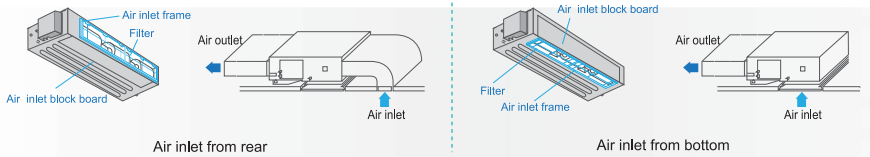
• Whole unit low noise design, silent operation

Using multiple noise reduction technology, including the design of high efficiency low noise motor, aviation fan wheel, low vibration wheel casing, unique design, the inner wall configuration with high quality insulation materials, and so on, to make the units running in a low noise condition.



• Two air return installation methods

Air return from rear or bottom is easy to change on site, convenient for installation.



• DC fan motor is optional

Specification

Model name	Power type	Capacity				Motor input	Airflow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m3/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD71BDM	50Hz	7.1	24.2	8.0	27.2	0.30	1220	710	36~41	70	1245×320×720	1209×260×680	/	/	33	37	Φ15.9	Φ9.53	OD Φ25	Wired controller
SVD80BDM	50Hz	8.0	27.2	9.0	30.7										33	37				
SVD90BDM	50Hz	9.0	30.7	10.0	34.1	0.34	1850	1080	38~43		1480×320×720	1445×260×680			46	50				
SVD100BDM	50Hz	10.0	34.1	11.0	37.5		2000	1170	40~44						46	50				
SVD120BDM	50Hz	12.0	40.9	13.0	44.3										46	50				
SVD150BDM	50Hz	15.0	51.1	17.0	58										46	50				

Notes: 1. Power supply: 220~240V/1PH for 50Hz
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

High Static Pressure Ducted Unit

Controller
Standard Wired

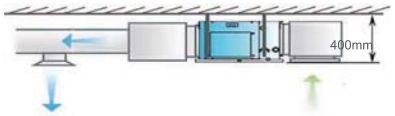
Features

• Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Standard	Standard (built-in)	Optional	Standard	/

• Slim body, saving suspended ceiling spaces

Slim body, saving suspended ceiling spaces.



• Can be used with various diffusers

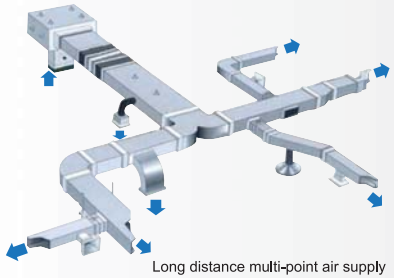
Used with various diffusers, meet for different kinds of decoration.

Round diffuser Spiral diffuser Square diffuser Linear diffuser Rectangular diffuser

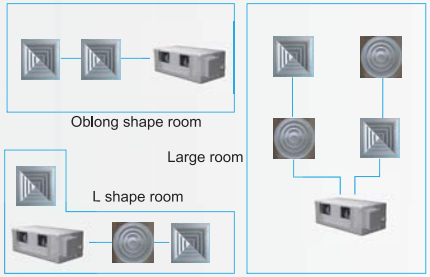
• High static pressure

Big air flow with high static pressure, easy for large rooms duct design.
Suitable for different shape of rooms.

High static pressure ducted unit



Long distance multi-point air supply



Specification

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	Packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m³/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD71BDH	50Hz	7.1	24.2	7.8	26.6										46	50				
SVD80BDH	50Hz	8.0	27.2	8.8	30	0.34	1500	880	40~42		1480×320×720	1445×260×680			46	50				
SVD90BDH	50Hz	9.0	30.7	10.0	34.1										46	50	Φ15.9	Φ9.53		
SVD100BDH	50Hz	10.0	34.1	11.0	37.5										47	51				
SVD120BDH	50Hz	12.0	40.9	13.0	44.3	0.45	2300	1350	44~52	150	1245×445×655	1190×370×620	/	/	47	51			OD Φ25	Wired controller
SVD150BDH	50Hz	15.0	51.1	17.0	58.0										47	51				
SVD200BDH	50Hz	20.0	68.2	22.0	75.0	1.2	4000	2350	45~53						102	106				
SVD250BDH	50Hz	25.0	85.3	27.5	93.8	1.2	4200	2470	45~54		1510×490×870	1465×448×811			102	106	Φ22.2	Φ12.7		
SVD280BDH	50Hz	28.0	95.5	30.8	105.0	1.2	4400	2580	45~55						102	106				
SVD450BDH	50Hz	45.0	153.5	50.0	170.6	1.8	6000	3520	60	200	2200×710×1018	2165×676×916			222	260	Φ28.6	Φ15.9	OD Φ32	
SVD560BDH	50Hz	56.0	191.0	63.0	214.9	2.5	8000	4700	64						222	260				

Notes: 1. 45kW & 56kW units' power supply are 380~415V/3PH for 50Hz , the others' power supply is 220~240V/1PH for 50Hz
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

Wall Mounted Unit

Controller

Standard Wireless

Features

- **Accessories**

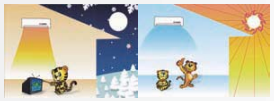
Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard (built-in)	/	Standard	/

- **Air supply smoothly**

  Cross flow fan, In Cooling mode, cold air is blown from horizontal. I heating mode, warm air is blown from vertical.

- **4 panels can be chosen, suitable for all kinds of decoration style**

  Simple, elegant, stylish, mirror design, suitable for all kinds of decoration style.

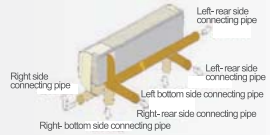


- **Flexible in installation**

  Refrigerant pipe can be connected from 3 directions.

- **Wide adjustable angle air supply**

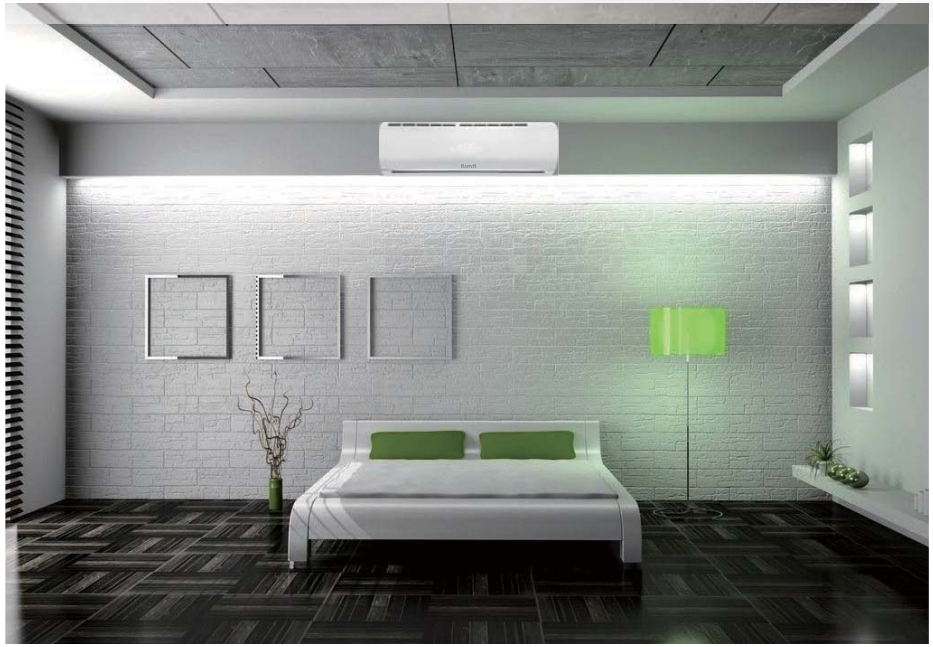
  65°Wide angle air supply, louver angle can be fixed or set to auto-swing by controller.



Specification

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m³/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD22BSC	50Hz	2.2	7.5	2.5	8.5	0.06	540	320	24~33	/	973×367×290	900×282×205	/	/	12	14	Φ9.53	Φ6.35	OD Φ20	Remote controller
SVD28BSC	50Hz	2.8	9.5	3.2	10.9	0.06	540	320	24~33		973×367×290	900×282×205			12	14				
SVD36BSC	50Hz	3.6	12.2	4.0	13.6	0.06	600	360	24~33		973×367×290	900×282×205			12	14	Φ12.7			
SVD45BSC	50Hz	4.5	15.3	5.0	17	0.06	600	360	33~40		973×367×290	900×282×205			12	14				
SVD51BSC	50Hz	5.6	19.1	6.2	21.1	0.06	920	540	35~43		1135×382×308	1080×304×221			16	18				
SVD70BSC	50Hz	7.1	24.2	7.8	26.6	0.06	920	540	35~43		1135×382×308	1080×304×221			16	18	Φ15.9	Φ9.53		

Notes: 1. Power supply: 220~240V/1PH for 50Hz
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.



Floor Ceiling Unit

Controller

Standard Wireless

Features

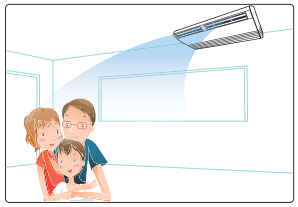
Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard (built-in)	Optional	Standard	/

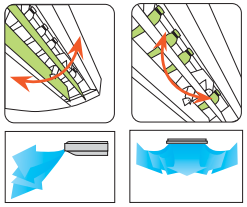
Suspended installation, saves valuable floor space

- The use of ark effect: need to take up valuable floor position.
- The use of a hanging type indoor machine effect:Due to the adoption of a suspended installation, without occupying the ground position, will be valuable floor space to save up to add a set of dining table.

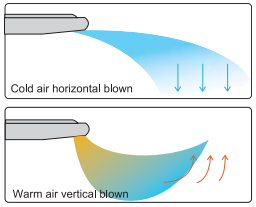
Wide angle air supply



- Configured with low noise high performance centrifugal fans, has big air flow and long distance air supply.

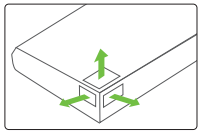


- 3 dimensional air supply, wide air supply angle, easily supply to every corners.

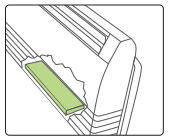


- In Cooling mode, cold air is blown from horizontal. In heating mode, warm air is blown from vertical.

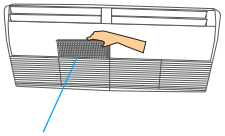
Easy for installation



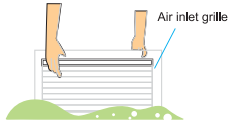
Refrigerant pipe can be connected from 3 directions.



Electrical control box is in the rear of fan wheel casing, easy to remove, convenient for maintenance.



long term filter can be remove from air inlet grille to clean



Water washable

Specification

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m³/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD45BBC	50Hz	4.5	15.3	5.0	17	0.06	950	550	37~46	/	1325×770×325	1270×635×225	/	/	36	42	Φ12.7	Φ6.35	OD Φ20	Remote controller
SVD56BBC	50Hz	5.6	19.1	6.3	21.4				37~46						36	42				
SVD71BBC	50Hz	7.1	24.2	8.0	27.2	0.15	1300	760	39~48						36	42	Φ15.9	Φ9.53	OD Φ25	
SVD80BBC	50Hz	8.0	27.2	8.8	30				39~48						36	42				
SVD90BBC	50Hz	9.0	30.7	10.0	34.1	0.40	1500	880	44~50						38	44				
SVD112BBC	50Hz	11.2	38.2	12.5	42.6	0.26	2300	1350	45~52		1750×770×325	1660×635×225			51	58				
SVD140BBC	50Hz	14.0	47.7	15	51.1				45~52						51	58				
SVD160BBC	50Hz	16.0	54.5	17	58	0.26	2300	1350	45~52						51	58				

Notes: 1. Power supply: 220~240V/1PH for 50Hz; 208~230V/1PH for 60Hz
2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

Fresh Air Processor

Controller

Standard Wireless

Features

- **Accessories**

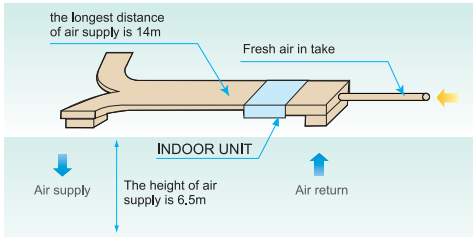
Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Standard	Standard (built-in)	Optional	Standard	/

- **Healthy and comfortable**

  Fresh air is imported, provides a healthy and comfortable living environment.

- **100% Fresh air processing unit**

  Both fresh air filtration and heating/cooling can be achieved in a single system.
  Indoor units and fresh air processing unit can be connected to the same refrigerant system, increase design flexibility and greatly reduce total system costs.

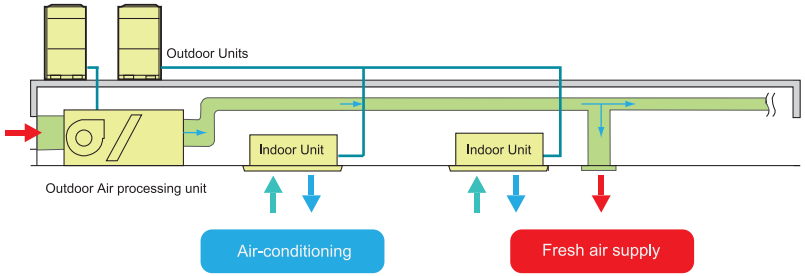


- **High external static pressure**

  External static pressure can be up to 220Pa for more flexible duct applications. The maximum distance of air supply is about 14m and the maximum height of air supply is about 6.5m.

- **Innovative air supply technology for excellent room temperature control**

  Layout Example:



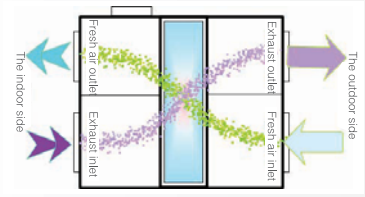
Specification

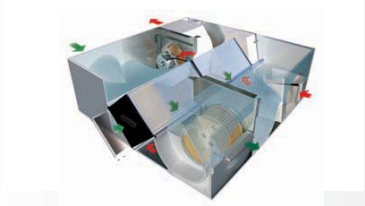
Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension (W×H×D)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating							Packing	Body	packing	Panel	Net	Gross	Gas	Liquid	Drain	
		kW	kBtu/h	kW	kBtu/h	kW	m^3/h	CFM	dB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
SVD14BHR	50Hz	14.0	47.7	9.0	30.7	0.45	1400	820	42~48	220	1245×445×655	1190×370×620			47	51	Φ15.9	Φ9.53		
SVD22BHR	50Hz	22.4	76.4	16.0	54.5	1.2	2000	1170	45~52	220	1510×490×870	1465×448×811			102	106	Φ22.2	Φ12.7	OD Φ25	
SVD28BHR	50Hz	28.0	95.5	20.0	68.2	1.2	2800	1640	45~52	220	1510×490×870	1465×448×811	/	/	102	106				Wired controller
SVD45BHR	50Hz	45.0	153.5	31.4	107.1	1.6	4000	3520	58	300	2200×710×1018	2165×676×916			222	260	Φ28.6	Φ15.9	OD Φ32	
SVD56BHR	50Hz	56.0	191.0	39.0	133.0	2.5	6000	4700	62	300	2200×710×1018	2165×676×916			222	260				

Notes: 1. 45kW & 56kW units' power supply are 380~415V/3PH for 50Hz , the others' power supply is 220~240V/1PH for 50Hz
2. Cooling test condition: Indoor and outdoor side 33°C DB, 28°C WB. Heating test condition: Indoor and outdoor side 0°C DB, -2.9°C WB
3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
4. The above data may be changed without notice for future improvement on quality and performance.

Heat Recovery Ventilator

Features





- **How it works**

When air flow formed by exhaust air and outdoor air through the heat exchanged core in cross way, because of temperature difference in the two sides of flat partition board, the heat transmission is occurred.

In summer, outdoor air acquire cooling from air exhaust to decrease environment temperature; In winter, outdoor air acquire heating from air exhaust to increase temperature, that is to say, it realizing the energy recovery during air exhaust process to exchange the heating in heat exchanged core to outdoor air.

Application for : business office buildings, hotels, restaurants, meeting rooms, exhibition centres, leisure centres, workshop and other places.

Specification

Suspended type specification

Model	Air flow	ESP	Power input	Power supply	Summer		Winter		Noise	Dimension (W×D×H)	Weight
					Temperature efficient	Enthalpy efficient	Temperature efficient	Enthalpy efficient			
	m^3/h	Pa	kW		%	%	%	%	dB(A)	mm	kg
SHRV2	200	75	0.065	220V/1PH/50Hz	77	64	78	69	30	848*654*264	25
SHRV3	300	75	0.120	220V/1PH/50Hz	78	65	78	70	45	926*722*270	27
SHRV4	400	80	0.200	220V/1PH/50Hz	78	65	79	70	48	926*927*270	30
SHRV5	500	80	0.220	220V/1PH/50Hz	79	66	79	71	50	1018*1027*270	41
SHRV6	600	90	0.220	220V/1PH/50Hz	79	65	79	70	50	1018*1027*270	42
SHRV8	800	100	0.410	220V/1PH/50Hz	79	65	79	70	52	1274*1007*388	68
SHRV10	1000	130	0.510	220V/1PH/50Hz	78	67	78	71	54	1274*1007*388	79
SHRV15	1500	160	1.00	380V/3PH/50Hz	78	67	78	72	58	1600*1265*540	200
SHRV20	2000	170	1.20	380V/3PH/50Hz	79	68	79	70	60	1650*1470*540	225
SHRV25	2500	180	2.00	380V/3PH/50Hz	78	67	78	71	62	1710*1480*600	240
SHRV30	3000	200	2.10	380V/3PH/50Hz	79	67	80	70	64	1800*1650*640	270
SHRV40	4000	220	2.40	380V/3PH/50Hz	78	67	79	71	66	1725*1450*1050	265
SHRV50	5000	240	3.00	380V/3PH/50Hz	79	66	80	70	68	1820*1780*1050	280
SHRV60	6000	320	3.60	380V/3PH/50Hz	78	67	79	72	66	1802*1660*1050	380
SHRV70	7000	310	3.80	380V/3PH/50Hz	78	67	79	72	67	2059*1780*1168	380
SHRV80	8000	320	4.00	380V/3PH/50Hz	84	67	84	76	68	2059*1780*1168	390
SHRV90	9000	340	5.00	380V/3PH/50Hz	80	67	80	74	70	2280*1900*1200	410
SHRV100	10000	350	6.00	380V/3PH/50Hz	82	67	82	78	78	2280*1900*1200	440

Notes:1. Cooling test condition: indoor side 27°C DB, 19.5°C WB ; outdoor fresh air 35°C DB, 28°C;
2. Heating test condition: indoor side 21°C DB, 13°C WB outdoor fresh air 5°C DB, 2°C;
3. The above data may be changed without notice for future improvement on quality and performance.

VRF SYSTEM
CONTROLLERS AND SOFTWARE

Wireless Remote Controllers

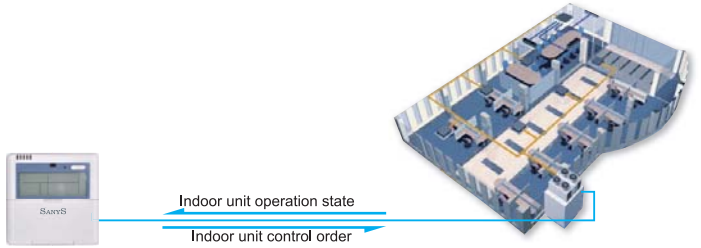
Wireless remote controllers

- Indoor unit address inquiry
- Indoor unit address setting
- Temperature setting
- Operation mode setting
- Fan speed setting
- Timer function

Wired Controllers

- Bidirectional communication.Indoor unit's operating parameters (error code, temperature, address) can be inquired and displayed on the controller.
- Compact design
- Timer function

Simple Centralized Controller



- Easy to install. Controller connects to outdoor units only.
- Able to install this controller after building decoration.
- 1 Controller can control max. 64 indoor units.
- Mode lock function, user can lock the running mode of indoor unit.

Doctor Kit Pro

- Operating status, error codes inquiry.
- Compressors, sensors, valves operating parameter. real-time monitored and display.
- Commissioning results can be reported.
- Built-in with troubleshooting instruction.

SANYS VRF–SMART (Smart centralized control App)

- Available on iOS and Android
- Single unit controller or group control
- Weekly schedule management
- 64 indoor unit can be controlled
- Operation parameter enquiry

SANYS VRF– NET Control Software

- Billing function
- Operating report output
- Schedule management
- 1024 indoor unit can be connected

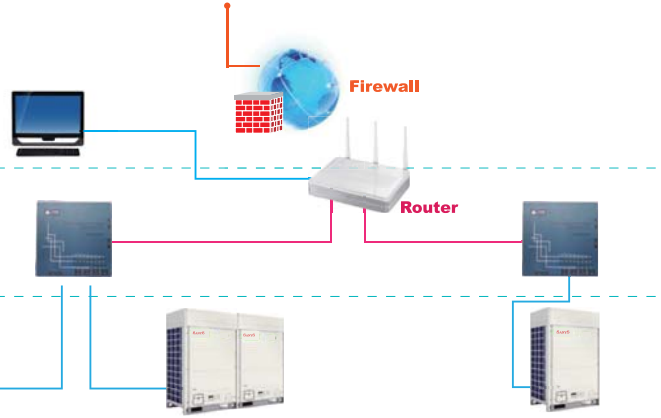
Internet

Long distance PC
Through VPN

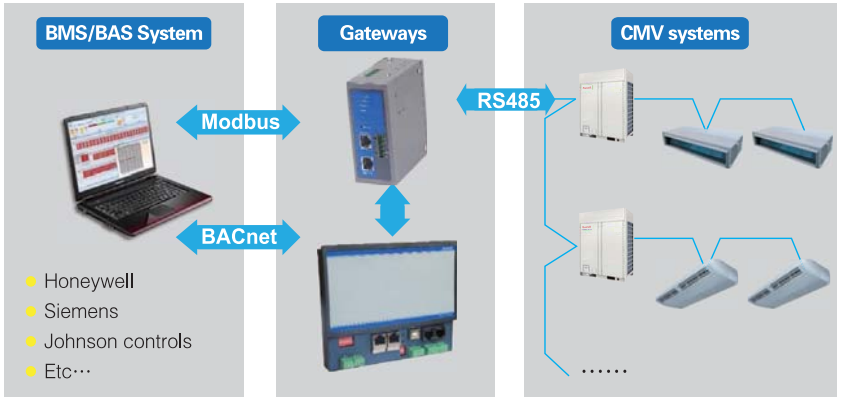
IP/Ethernet

System includes:

- SANYS VRF-NET Software
- NCC Gateway Device
- SANYS VRF System
- Softdog



BMS Gateway



- BACnet gateway
  Verified by BACnet International, fully compatible with all BACnet protocol product
- Modbus gateway
  Outdoor unit built in with Modbus gateway can be customized

AHU Connection kit

- SANYS AHU connection kit is an interface to allow 3rd party manufacturer's AHU connecting to SANYS VRF outdoor units.
- 4 basic modules: 5HP/10HP/20HP/30HP
- Can be combined into bigger capacity.