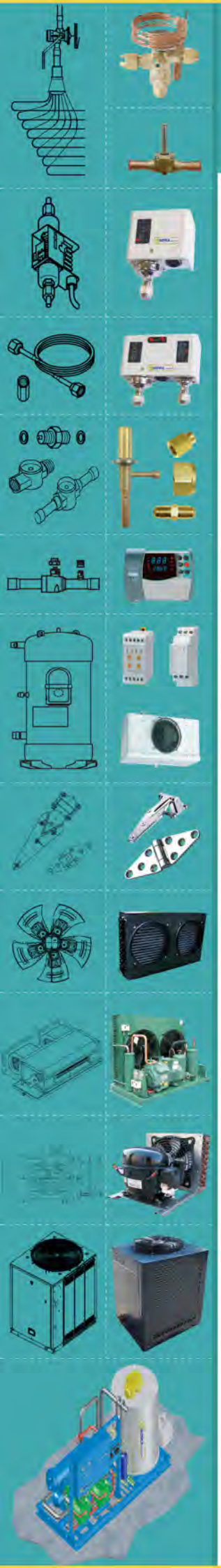
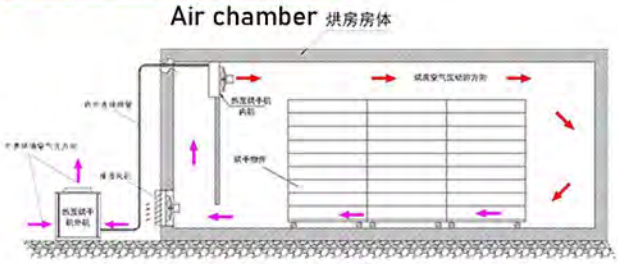


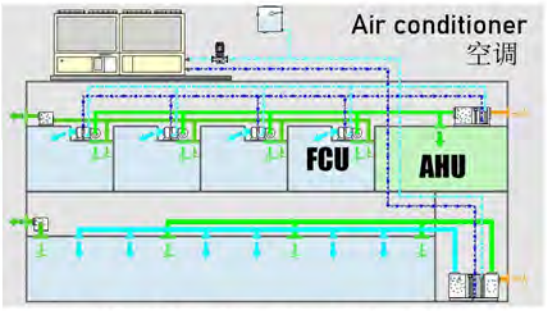
BOWA solution

空气源热泵
Air Source Heat Pump

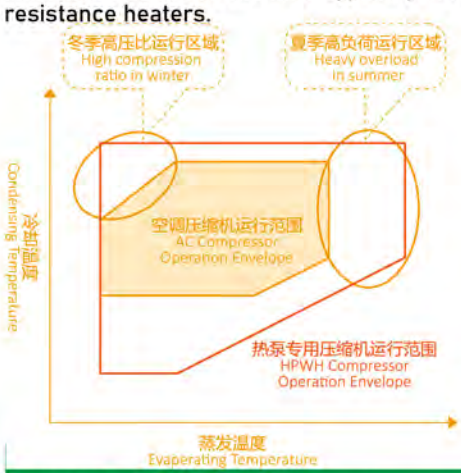
“热泵”是一种能从自然界的空气、水或土壤中获取低位热能，经过电能做功，提供可被人们所用的高位热能的装置。从周围环境中吸取热量，并把它传递给被加热的对象（温度较高的物体），其工作原理与制冷机相同，都是按照逆卡诺循环工作的，所不同的只是工作温度范围不一样。热泵在工作时，它本身消耗一部分能量，把环境介质中贮存的能量加以挖掘，通过传热工质循环系统提高温度进行利用，而整个热泵装置所消耗的功仅为输出功中的一小部分，因此，采用热泵技术可以节约大量高品位能源。

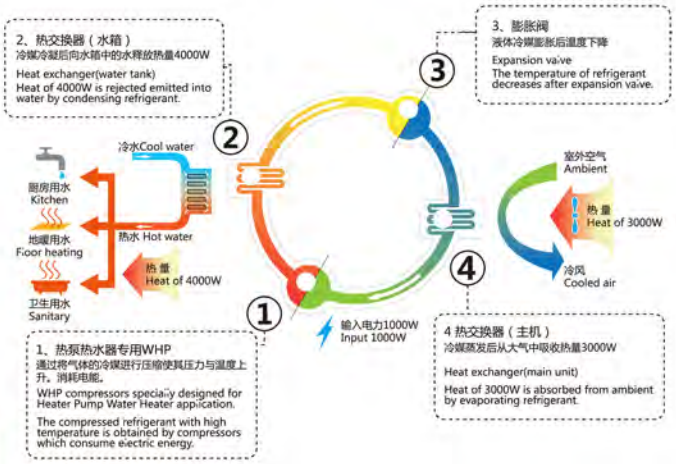
应用领域 Application Domain





A heat pump is a device that provides heat energy from a source of heat to a destination called a "heat sink". Heat pumps are designed to move thermal energy opposite to the direction of spontaneous heat flow by absorbing heat from a cold space and releasing it to a warmer one. It uses some amount of external power to accomplish the work of transferring energy from the heat source to the heat sink. While air conditioners and freezers are familiar examples of heat pumps, the term "heat pump" is more general and applies to many HVAC (heating, ventilating, and air conditioning) devices used for space heating or space cooling. When a heat pump is used for heating, it employs the same basic refrigeration - type cycle used by an air conditioner or a refrigerator, but in the opposite side-releasing heat into the conditioned space rather than the surrounding environment. In this use, heat pumps generally draw heat from the cooler external air or from the ground. In heating mode, heat pumps are three to four times more efficient in their use of electric power than simple electrical resistance heaters. Typically installed cost for a heat pump is about 20 times greater than for resistance heaters.





测试条件 Test Conditions

项目 Model	标准工况 Standard Condition	夏季工况 Summer Condition	冬季工况 Winter Condition	额定工况 Rated Condition
蒸发温度 Evaporating Temp	10°C	15°C	0°C	7.2°C
冷凝温度 Condensing Temp	55°C	55°C	55°C	54.4°C
过冷度 Sub cooling Temp	8.3°C	8.3°C	8.3°C	8.3°C
回气温度 return gas Temp	20°C	25°C	10°C	35°C
周围温度 Ambient Temp	35°C	35°C	15°C	35°C
风速 Wind Speed	2m/s	2m/s	2m/s	2m/s

型号命名规则 Model Designation

压缩机类型Compressor Type
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工作模式 Working Mode
1 = 单热 Single heating
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3 = 三联 3-in-1

版本 Version
1 = 一体机 All - in - one
2 = 分体式 Split Type

Z – C – 0015 – P – 1 – E – 1

冷媒 Refrigerant
Z = R410a
M= R134a
L = R290
Ha=R22/R417a
N = R407c
S = R404a

Compressor Displacement
= cc/rev (家用household)
x 0.001= m³/h (商用Commerce)

Power Supply
P 220~240V, 1P,50Hz
T 380~420V, 3P,50Hz

无None = 普通型 Common
E = 带补气增焓 with EVI
I = 喷液冷却 liquid injection
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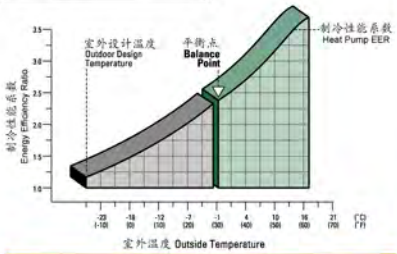

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	7	9.4		
冷量 Cooling Capacity(KW):	10	5.7	9.6	10
COP:	2.86	3.1	2.87	3.35
最高出水温度(℃) Max. output temp.:	55	65	55	55

以上数据基于额定工况 All Data is basing on Rated Conditions

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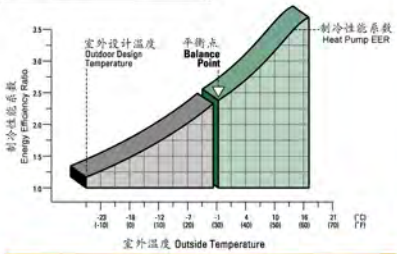

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	9	13.4		
冷量 Cooling Capacity(KW):	13	8.6	13.4	13.5
COP:	2.8	3.1	2.91	3.32
最高出水温度(℃) Max. output temp.:	55	65	55	55

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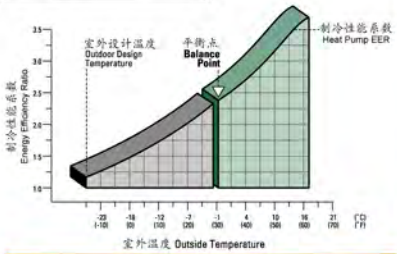

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	8	11.5		
冷量 Cooling Capacity(KW):	11.7	6.9	11.6	12
COP:	2.93	3.2	3.05	3.4
最高出水温度(℃) Max. output temp.:	55	65	55	55

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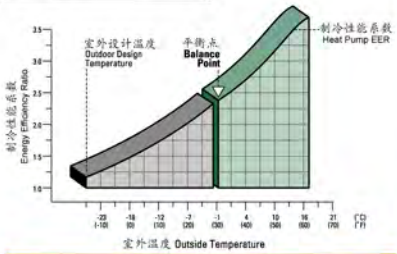

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	10	14.5		
冷量 Cooling Capacity(KW):	14.1	9.4	14.5	14.7
COP:	2.97	3.1	2.93	3.3
最高出水温度(℃) Max. output temp.:	55	65	55	55

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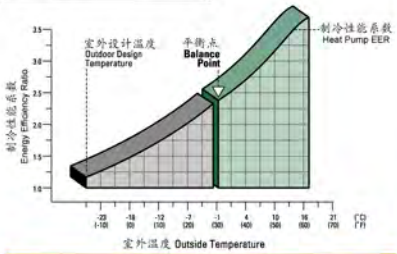

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	11.8	17		
冷量 Cooling Capacity(KW):	16.4	10.5	17.6	17.7
COP:	2.85	3.1	3.03	3.2
最高出水温度(℃) Max. output temp.:	55	65	55	55

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x 0.001= m³/h (商用Commerce)

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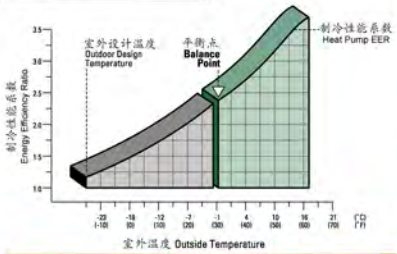

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	13.6	19.5		
冷量 Cooling Capacity(KW):	19.2	12	19.5	19.2
COP:	2.85	3.1	3.1	3.2
最高出水温度('C) Max. output temp.:	55	65	55	55

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N = R407c
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= cc/rev (家用household)
x 0.001= m³/h (商用Commerce)

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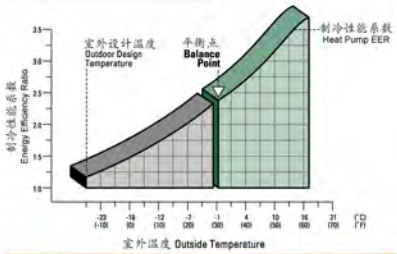

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	15.8	23.2		
冷量 Cooling Capacity(KW):	22.4	14.4	23.6	23.6
COP:	3.03	3.1	3.03	3.3
最高出水温度('C) Max. output temp.:	55	65	55	55

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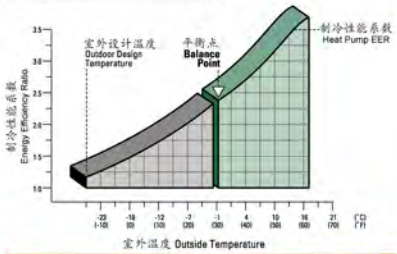

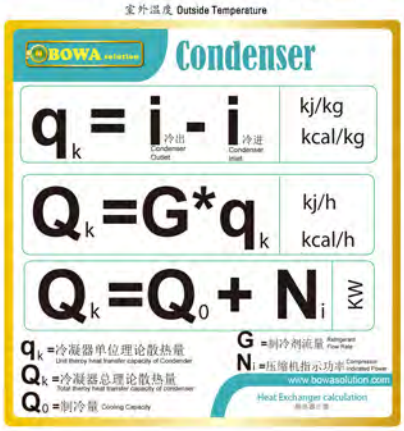

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	18.4	30		
冷量 Cooling Capacity(KW):	26	18.8	29.9	30.6
COP:	3.02	3.1	3.2	3.38
最高出水温度('C) Max. output temp.:	55	65	55	55

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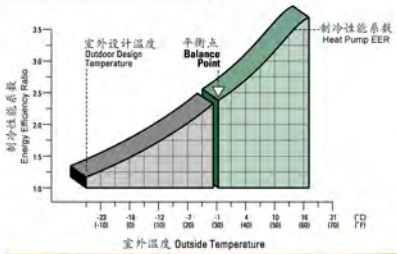

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	23.3	36		
冷量 Cooling Capacity(KW):	32.8	22.6	34.9	36.1
COP:	3.01	3.1	3.09	3.31
最高出水温度(℃) Max. output temp.:	55	65	55	55

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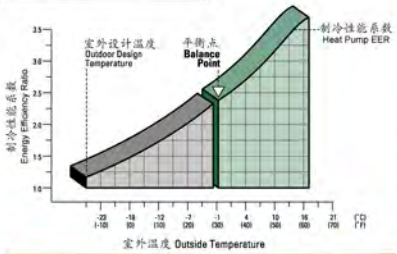

冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	30	43.4		
冷量 Cooling Capacity(KW):	42.2	22.6	42	45
COP:	3.01	3.1	3.09	3.31
最高出水温度(℃) Max. output temp.:	55	65	55	55

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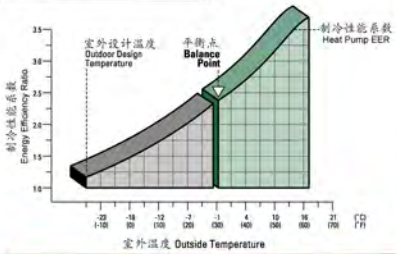
Z = R410a
M= R134a
L = R290
Ha=R22/R417a
N = R407c
S = R404a

Compressor Displacement
= cc/rev (家用household)
x 0.001= m³/h (商用Commerce)

Power Supply
P 220~240V, 1P,50Hz
T 380~420V, 3P,50Hz

无None = 普通型 Common
E = 带补气增焓 with EVI
I = 喷液冷却 liquid injection
B = 带补气增焓口和喷液冷却 with EVI & liquid injection



冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	36.8	60		
冷量 Cooling Capacity(KW):	52	37.6	59.8	61.2
COP:	3.01	3.1	3.09	3.31
最高出水温度(℃) Max. output temp.:	55	65	55	55

以上数据基于额定工况 All Data is basing on Rated Conditions

型号命名规则 Model Designation

压缩机类型Compressor Type
C = 定速 Constant Speed
V = 变速 Variable Speed

工作模式 Working Mode
1 = 单热 Single heating
2 = 冷暖 Cooling & heating
3 = 三联 3-in-1

版本 Version
1 = 一体机 All - in - one
2 = 分体式 Split Type

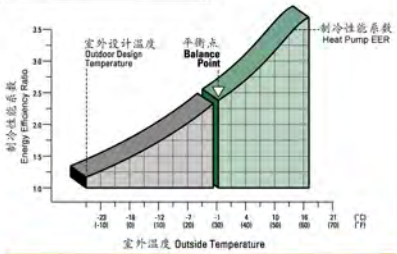
Z – C – 0015 – P – 1 – E – 1

冷媒 Refrigerant
Z = R410a
M= R134a
L = R290
Ha=R22/R417a
N = R407c
S = R404a

Compressor Displacement
= cc/rev (家用household)
x 0.001= m³/h (商用Commerce)

Power Supply
P 220~240V, 1P,50Hz
T 380~420V, 3P,50Hz

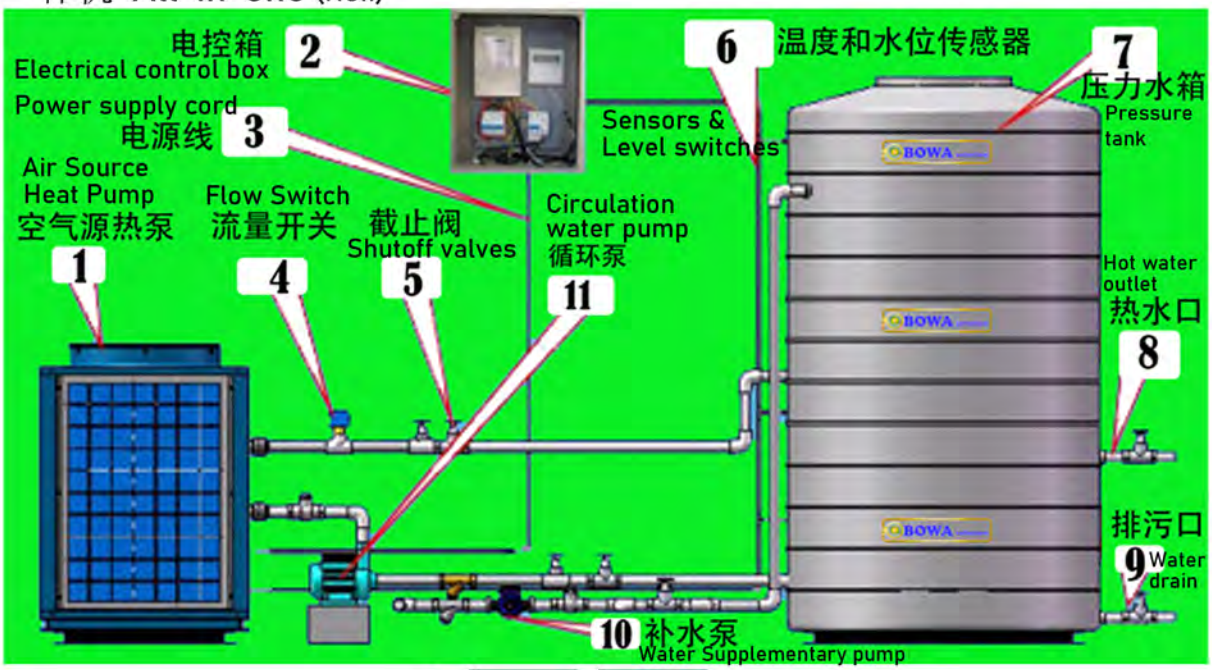
无None = 普通型 Common
E = 带补气增焓 with EVI
I = 喷液冷却 liquid injection
B = 带补气增焓口和喷液冷却 with EVI & liquid injection

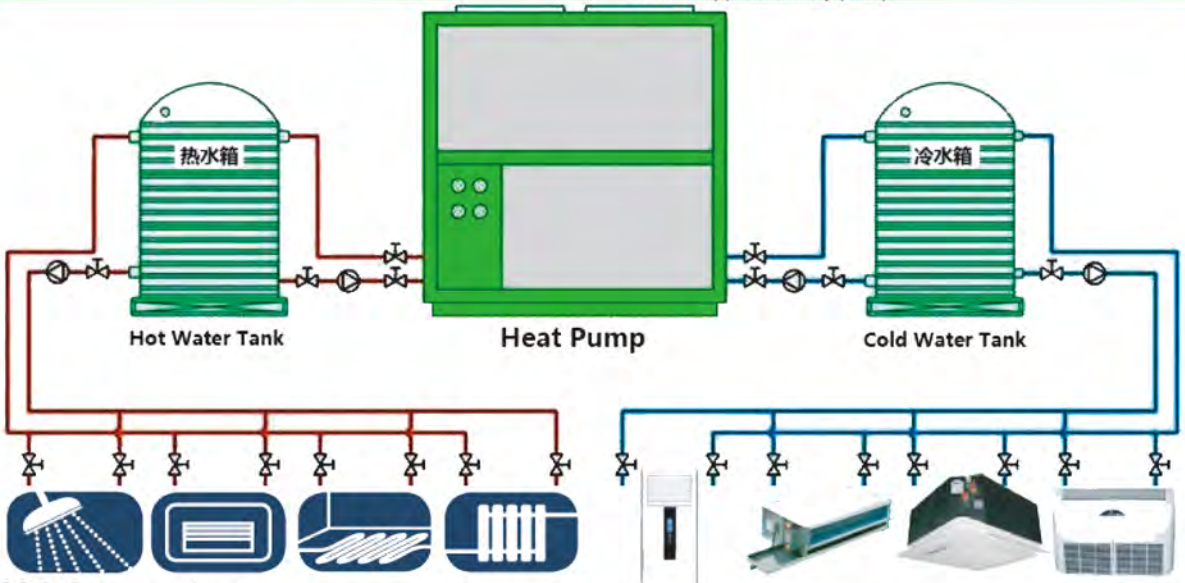


冷媒类型 Refrigerant Type:	R410a	R134a	R407c	R22/R417a
电源 Power Supply:	380Vac. 3P, 50Hz			
压缩机排气量 Comp. displacement (m³/h):	48.4	73.4		
冷量 Cooling Capacity(KW):	68.2	37.6	59.8	61.2
COP:	3.01	3.1	3.09	3.31
最高出水温度('C) Max. output temp.:	55	65	55	55

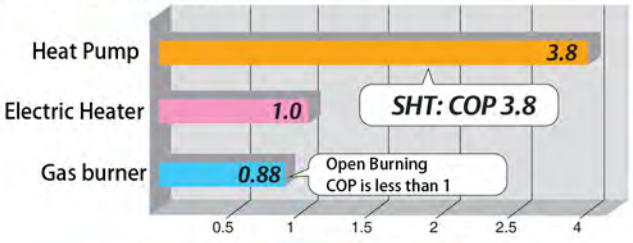
以上数据基于额定工况 All Data is basing on Rated Conditions

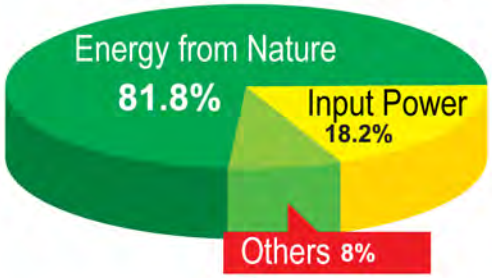
一体机 All-in-one (NO.1)

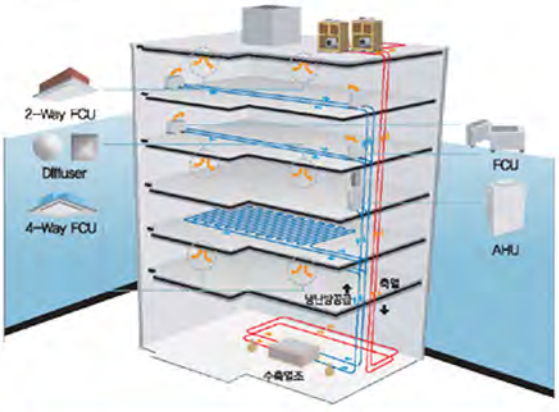




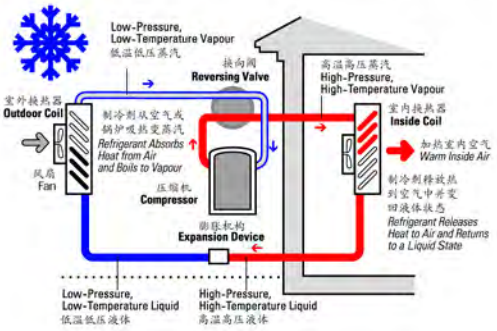
COP Comparsion

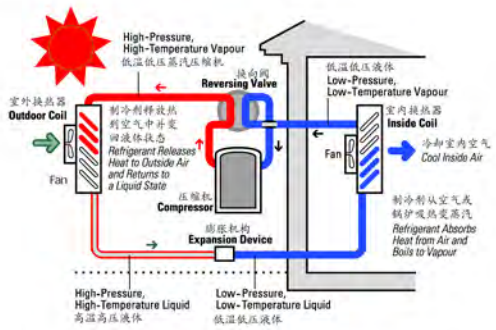




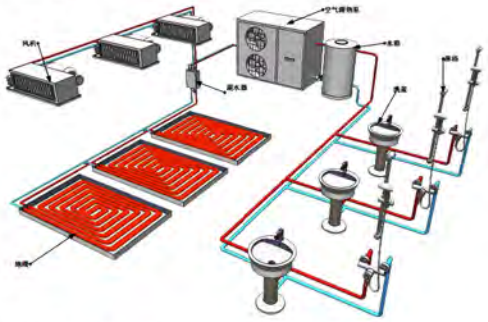


冷暖模式Cooling/heating shift

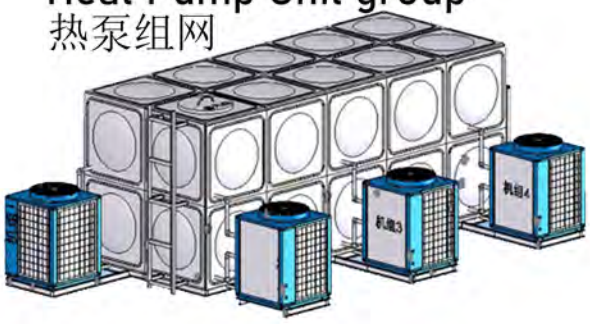




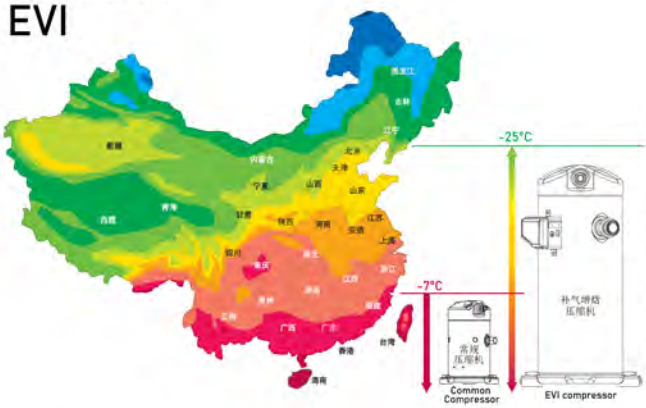
三联 3-in-1

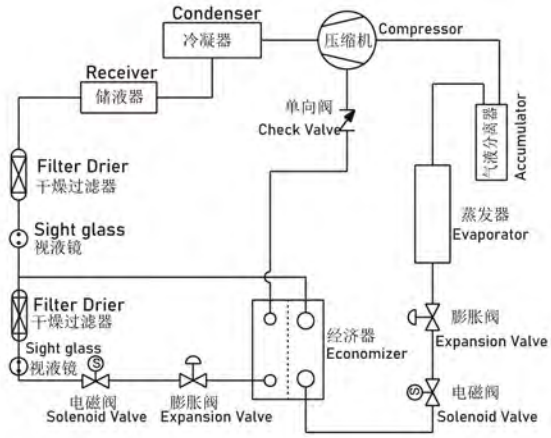


Heat Pump Unit group
热泵组网



补气增焓
EVI





喷液冷却
Liquid Injection