



히트파이프 내장형 항온항습기

Constant Temp.
& Humidity Control Unit

1. 공냉 상향식

*Air Cooled Energy Save Type Constant Temp.
& Humidity Control Unit / Up-Flow Type*

2. 공냉 하향식

*Air Cooled Energy Save Type Constant Temp.
& Humidity Control Unit / Down-Flow Type*

3. 수냉 상향식

*Water Cooled Energy Save Type Constant Temp.
& Humidity Control Unit / Up-Flow Type*

4. 수냉 하향식

*Water Cooled Energy Save Type Constant Temp.
& Humidity Control Unit / Down-Flow Type*

C o n s t a n t T e m p .

특 징

F e a t u r e s

향온 **향습기**는 **온도와 습도**를 일정범위 이내로 유지하는 기계 장치로 전산실, 수술실, 연구실, 실험실, 반도체 제조시설, IT장비실, **정밀측정실** 등 **시스템 유지**와 **환경관리**에 반드시 필요한 장비라고 할 수 있습니다.



- 당사의 향온향습기는 에너지를 회수하는데 **동력을 사용하지 않습니다.**

Our's Constant Temperature and Humidity Control Unit does require any power source.

- 당사의 향온향습기는 유입공기(Return air)를 예냉시켜 **제습기능을 향상시킵니다.**
발명특허 제 10-1409813호

Our's Constant Temperature and Humidity Control Unit pre-cools the return air, hence improves dehumidification performance. (Korean patent No. 10-1409813)

- 당사의 향온향습기는 송풍공기를 재열하는데 별도의 **재열코일(스팀코일,온수코일 또는 전기히터)**이 필요 없습니다.

Our's Constant Temperature and Humidity Control Unit does not require additional reheating coil (steam, hot water or electric heater) to reheat supply air.

- 당사의 향온향습기를 사용하면, 송풍공기의 상대습도를 떨어트릴 수 있어 덕트시스템의 **수명을 연장시킬 수 있습니다.**

Our's Constant Temperature and Humidity Control Unit extends the life span of duct system by reducing the relative humidity level of supply air.

- 히트파이프 열교환기의 초기 **시설투자비를 2년 이내에 회수할 수 있습니다.**

The initial investment of the Heat pipe Heat Exchanger retrieved within 2 years.

& Humidity Control Unit

절전형 항온항습기 *Energy Save Type Constant Temp.&Humidity Control Unit*

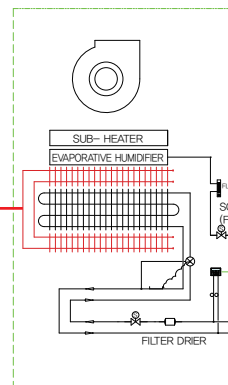
❖ 공냉식, 상향식 | *Air Cooled / Up-Flow Type*



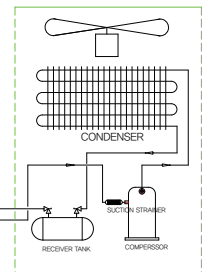
히트파이프
열교환기(특허)



IN-DOOR UNIT



OUT-DOOR UNIT



I 표준사양 (Specifications)

Cooling Capacity (R-22) at ET:7.2°C, CT:54.4°C, Comp. Design Condition.

MODEL		KC55 030	KC55 050	KC55 060	KC55 075	KC55 100	KC55 150	KC55 200	KC55 300
전원 (Power Source)		220 / 380V~440V / 3Ph / 60Hz							
사용냉매 (Refrigerant)		R-22 / R-410A / R-134a							
냉방능력 (cooling cap)	kcal/hr	8,729	14,491	17,458	19,952	28,982	39,904	62,780	93,224
	kw	10.15	16.85	20.3	23.2	33.7	46.4	73	108.4
난방능력 (heating cap)	kcal/hr	2,580	2,580	5,160	5,160	8,600	8,600	10,320	10,320
	kw	3	3	6	6	10	10	12	12
압축기 (Comp.)	Type	Hermetic - Scroll Type							
	Out put (kw)	2.2	3.75	2.2 x 2	5.5	3.75 x 2	5.5 x 2	7.5 x 2	11.25 x 2
송풍기 (Blower)	Type	Sirocco Fan / Direct - Drive							
	Motor (kw x p x ea)	0.4 x 8 x 1	0.5 x 8 x 1	0.6 x 8 x 1	0.8 x 8 x 1	0.8 x 8 x 2	0.8 x 8 x 2	1.1 x 8 x 2	1.3 x 8 x 2
	S.P (mmAq)	17~22	17~22	17~22	17~22	17~22	17~22	17~22	17~22
	Air Volume (CMM)	38	45	60	85	92	150	185	215
응축기 (Condenser)	Fan (ø x B x ea)	350x4x2	400x4x2	(350x4x2)x2	500x4x2	(400x4x2)x2	(500x4x2)x2	(550x4x2)x2	(600x4x2)x2
	Motor(w x p x ea)	100x6x2	160x6x2	(100x6x2)x2	280x6x2	(160x6x2)x2	(280x6x2)x2	(280x6x2)x2	(400x6x2)x2
	Air Volume (CMM)	80	100	80x2	190	100 x 2	190x2	210x2	300x2
	Size (W x D x H)	965x574x1,037	1,186x574x1,183	965x574x1,037-2	192x744x1,451	1,186x574x1,183-2	1,392x744x1,451-2	1,738x849x1,452-2	1,650x900x1,950-2
보조히터 (Heater)	Type	STS-Aero Finned Tube Type							
	Out put (kw)	3	3	6	6	10	10	12	12
가습기 (Humidifier)	Type	기화식 (Evaporative Type)							
	Capacity (L/hr)	4	5	8	8	10	15	20	25
배관 (Pipe Conn.)	Suction (inch)	5/8"	3/4"	5/8"x2	7/8"	3/4"x2	7/8"x2	1-1/8"x2	1-3/8"x2
	Discharge (inch)	3/8"	1/2"	3/8"x2	1/2"	1/2"x2	1/2"x2	5/8"x2	7/8"x2
	Make-Up(inch)	1/4"							
	Drain (A)	20	25						
외형치수 (Out-Dimension)	W	1,100	1,100	1,300	1,300	1,510	1,850	2,000	2,500
	D	1,100	1,100	1,150	1,150	1,150	1,150	1,250	1,300
	H	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,300
Power Consumption (kw)		5.8	7.57	11.2	12.86	19.14	23.72	29.76	37.9
전선용량 (Cable Size)	220V / wire (mm²)	6	10	16	25	35	35	50	70
	380V / wire (mm²)	4	4	6	16	16	25	25	35

Constant Temp.

절전형 항온항습기 | Energy Save Type Constant Tem.&Humidity Control Unit

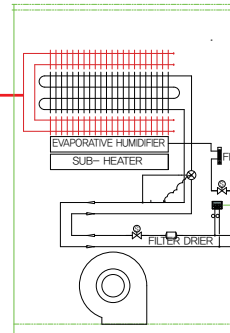
❖ 공냉, 하향식 | Air Cooled / Down-Flow Type



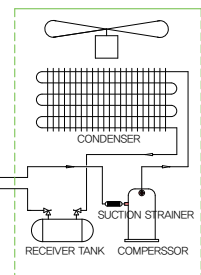
히트파이프
열교환기(특허)



IN-DOOR UNIT



OUT-DOOR UNIT



I 표준사양 (Specifications)

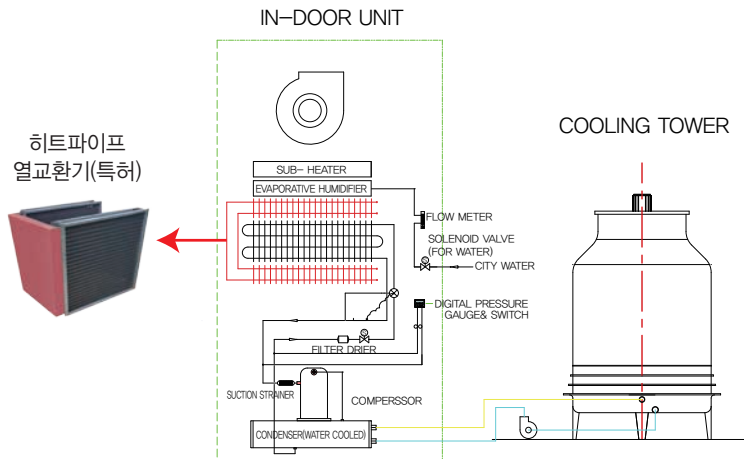
Cooling Capacity (R-22) at ET:7.2°C, CT:54.4°C, Comp. Design Condition.

MODEL		KC50 030	KC50 050	KC50 060	KC50 075	KC50 100	KC50 150	KC50 200	KC50 300
전원 (Power Source)		220 / 380V~440V / 3Ph / 60Hz							
사용냉매 (Refrigerant)		R-22 / R-410A / R-134a							
냉방능력 (cooling cap)	kcal/hr	8,729	14,491	17,458	19,952	28,982	39,904	62,780	93,224
	kw	10.15	16.85	20.3	23.2	33.7	46.4	73	108.4
난방능력 (heating cap)	kcal/hr	2,580	2,580	5,160	5,160	8,600	8,600	10,320	10,320
	kw	3	3	6	6	10	10	12	12
압축기 (Comp.)	Type	Hermetic - Scroll							
	Out put (kw)	2.2	3.75	2.2 x 2	5.5	3.75 x 2	5.5 x 2	7.5 x 2	11.25 x 2
송풍기 (Blower)	Type	Sirocco Fan / Direct-Drive							
	Motor (kw x p x ea)	0.4 x 8 x 1	0.5 x 8 x 1	0.6 x 8 x 1	0.8 x 8 x 1	0.8 x 8 x 2	0.8 x 8 x 2	1.1 x 8 x 2	1.3 x 8 x 2
	S.P (mmAq)	17~22	17~22	17~22	17~22	17~22	17~22	17~22	17~22
	Air Volume (CMM)	38	45	60	85	92	150	185	215
응축기 (Condenser)	Fan (ø x B x ea)	350x4x2	400x4x2	(350x4x2)x2	500x4x2	(400x4x2)x2	(500x4x2)x2	(550x4x2)x2	(600x4x2)x2
	Motor(w x p x ea)	100x6x2	160x6x2	(100x6x2)x2	280x6x2	(160x6x2)x2	(280x6x2)x2	(280x6x2)x2	(400x6x2)x2
	Air Volume (CMM)	80	100	80x2	190	100 x 2	190x2	210x2	300x2
	Size (W x D x H)	965x574x1,037	1,186x574x1,183	965x574x1,037-2	192x744x1,451	1,186x574x1,183-2	1,392x744x1,451-2	1,738x849x1,452-2	1,650x900x1,950-2
보조히터 (Heater)	Type	STS-Aero Finned Tube Type							
	Out put (kw)	3	3	6	6	10	10	12	12
가습기 (Humidifier)	Type	기화식 (Evaporative Type)							
	Capacity (L/hr)	4	5	8	8	10	15	20	25
배관 (Pipe Conn.)	Suction (inch)	5/8"	3/4"	5/8"x2	7/8"	3/4"x2	7/8"x2	1-1/8"x2	1-3/8"x2
	Discharge (inch)	3/8"	1/2"	3/8"x2	1/2"	1/2"x2	1/2"x2	5/8"x2	7/8"x2
	Make-Up(inch)	1/4"							
	Drain (A)	20	25						
외형치수 (Out-Dimension)	W	1,100	1,100	1,300	1,300	1,510	1,850	2,000	2,500
	D	1,100	1,100	1,150	1,150	1,150	1,150	1,250	1,300
	H	1,850	1,850	1,850	1,850	1,850	1,900	1,900	2,150
Power Consumption (kw)		5.8	7.57	11.2	12.86	19.14	23.72	29.76	37.9
전선용량 (Cable Size)	220V / wire (mm²)	6	10	16	25	35	35	50	70
	380V / wire (mm²)	4	4	6	16	16	25	25	35

& Humidity Control Unit

절전형 항온항습기 Energy Save Type Constant Tem.&Humidity Control Unit

❖ 수냉, 상향식 | Water Cooled / Up-Flow Type



I 표준사양 (Specifications)

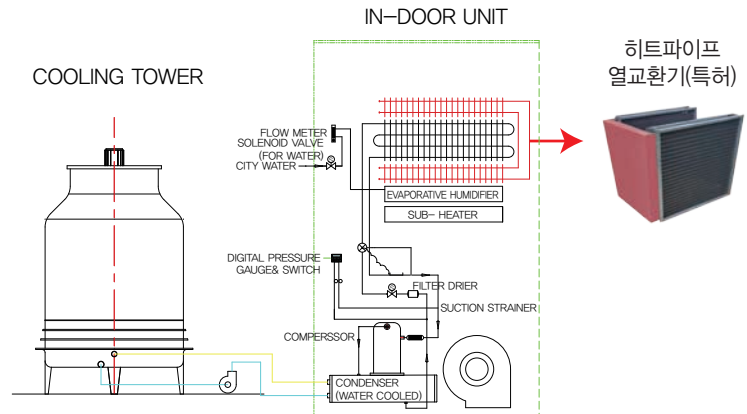
Cooling Capacity (R-22) at ET:7.2°C, CT:54.4°C, Comp. Design Condition.

MODEL		KC65 030	KC65 050	KC65 060	KC65 075	KC65 100	KC65 150	KC65 200	KC65 300
전원 (Power Source)		220 / 380V~440V / 3Ph / 60Hz							
사용냉매 (Refrigerant)		R-22 / R-410A / R-134a							
냉방능력 (cooling cap)	kcal/hr	10,492	17,372	20,984	23,478	34,744	46,956	74,132	90,644
	kw	12.2	20.2	24.4	27.3	40.4	54.6	86.2	105.4
난방능력 (heating cap)	kcal/hr	2,580	2,580	5,160	5,160	8,600	8,600	10,320	10,320
	kw	3	3	6	6	10	10	12	12
압축기 (Comp.)	Type	Hermetic - Scroll							
	Out put (kw)	2.2	3.75	2.2 x 2	5.5	3.75 x 2	5.5 x 2	7.5 x 2	11.25 x 2
송풍기 (Blower)	Type	Sirocco Fan / Direct-Drive							
	Motor (kw x p x ea)	0.4 x 8 x 1	0.5 x 8 x 1	0.6 x 8 x 1	0.8 x 8 x 1	0.8 x 8 x 2	0.8x 8 x 2	1.1 x 8 x 2	1.3 x 8 x 2
	S.P (mmAq)	17~22	17~22	17~22	17~22	17~22	17~22	17~22	17~22
	Air Volume (CMM)	38	45	60	85	92	150	185	215
응축기 (Condenser)	Capacity (RT)	3	5	6(3+3)	7.5	10(5+5)	15(7.5+7.5)	20(10+10)	30(15+15)
	Inlet/Outlet(A)	25	32	32	40	40	50	50	65
보조히터 (Heater)	Type	STS-Aero Finned Tube Type							
	Out put (kw)	3	3	6	6	10	10	12	12
가습기 (Humidifier)	Type	기화식 (Evaporative Type)							
	Capacity (L/hr)	4	5	8	8	10	15	20	25
배관 (Pipe Conn.)	Suction (inch)	5/8"	3/4"	5/8"x2	7/8"	3/4"x2	7/8"x2	1-1/8"x2	1-3/8"x2
	Discharge (inch)	3/8"	1/2"	3/8"x2	1/2"	1/2"x2	1/2"x2	5/8"x2	7/8"x2
	Make-Up(inch)	1/4"							
	Drain (A)	20	25						
외형치수 (Out-Dimension)	W	1,100	1,100	1,300	1,300	1,510	1,850	2,000	2,500
	D	1,100	1,100	1,150	1,150	1,150	1,150	1,250	1,300
	H	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,300
Power Consumption (kw)		5.6	7.25	11	12.3	18.5	22.6	29.2	37.1
전선용량 (Cable Size)	220V / wire (mm ²)	6	10	16	16	35	35	50	70
	380V / wire (mm ²)	4	4	6	6	16	25	35	35

Constant Temp. & Humidity Control Unit

절전형 항온항습기 | Energy Save Type Constant Tem.&Humidity Control Unit

❖ 수냉, 하향식 | Water Cooled / Down-Flow Type



I 표준사양 (Specifications)

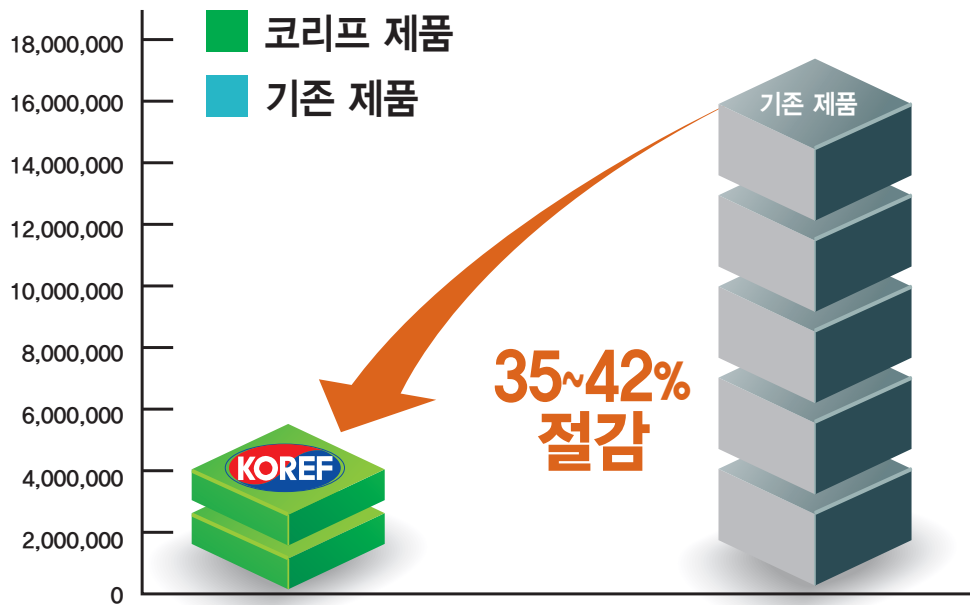
Cooling Capacity (R-22) at ET:7.2°C, CT:54.4°C, Comp. Design Condition.

MODEL		KC60 030	KC60 050	KC60 060	KC60 075	KC60 100	KC60 150	KC60 200	KC60 300
전원 (Power Source)		220 / 380V~440V / 3Ph / 60Hz							
사용냉매 (Refrigerant)		R-22 / R-410A / R-134a							
냉방능력 (cooling cap)	kcal/hr	10,492	17,372	20,984	23,478	34,744	46,956	74,132	90,644
	kw	12.2	20.2	24.4	27.3	40.4	54.6	86.2	105.4
난방능력 (heating cap)	kcal/hr	2,580	2,580	5,160	5,160	8,600	8,600	10,320	10,320
	kw	3	3	6	6	10	10	12	12
압축기 (Comp.)	Type	Hermetic - Scroll							
	Out put (kw)	2.2	3.75	2.2 x 2	5.5	3.75 x 2	5.5 x 2	7.5 x 2	11.25 x 2
송풍기 (Blower)	Type	Sirocco Fan / Direct-Drive							
	Motor (kw x p x ea)	0.4 x 8 x 1	0.5 x 8 x 1	0.6 x 8 x 1	0.8 x 8 x 1	0.8 x 8 x 2	0.8 x 8 x 2	1.1 x 8 x 2	1.3 x 8 x 2
	S.P (mmAq)	17~22	17~22	17~22	17~22	17~22	17~22	17~22	17~22
	Air Volume (CMM)	38	45	60	85	92	150	185	215
응축기 (Condenser)	Capacity (RT)	3	5	6(3+3)	7.5	10(5+5)	15(7.5+7.5)	20(10+10)	30(15+15)
	Inlet/Outlet(A)	25	32	32	40	40	50	50	65
보조히터 (Heater)	Type	STS-Aero Finned Tube Type							
	Out put (kw)	3	3	6	6	10	10	12	12
가습기 (Humidifier)	Type	기화식 (Evaporative Type)							
	Capacity (L/hr)	4	5	8	8	10	15	20	25
배관 (Pipe Conn.)	Suction (inch)	5/8"	3/4"	5/8"x2	7/8"	3/4"x2	7/8"x2	1-1/8"x2	1-3/8"x2
	Discharge (inch)	3/8"	1/2"	3/8"x2	1/2"	1/2"x2	1/2"x2	5/8"x2	7/8"x2
	Make-Up(inch)	1/4"							
	Drain (A)	20	25						
외형치수 (Out-Dimension)	W	1,100	1,100	1,300	1,300	1,510	1,850	2,000	2,500
	D	1,100	1,100	1,150	1,150	1,150	1,150	1,250	1,300
	H	1,850	1,850	1,850	1,850	1,850	1,900	1,900	2,150
Power Consumption (kw)		5.6	7.25	11	12.3	18.5	22.6	29.2	37.1
전선용량 (Cable Size)	220V / wire (mm ²)	6	10	16	16	35	35	50	70
	380V / wire (mm ²)	4	4	6	6	16	25	35	35

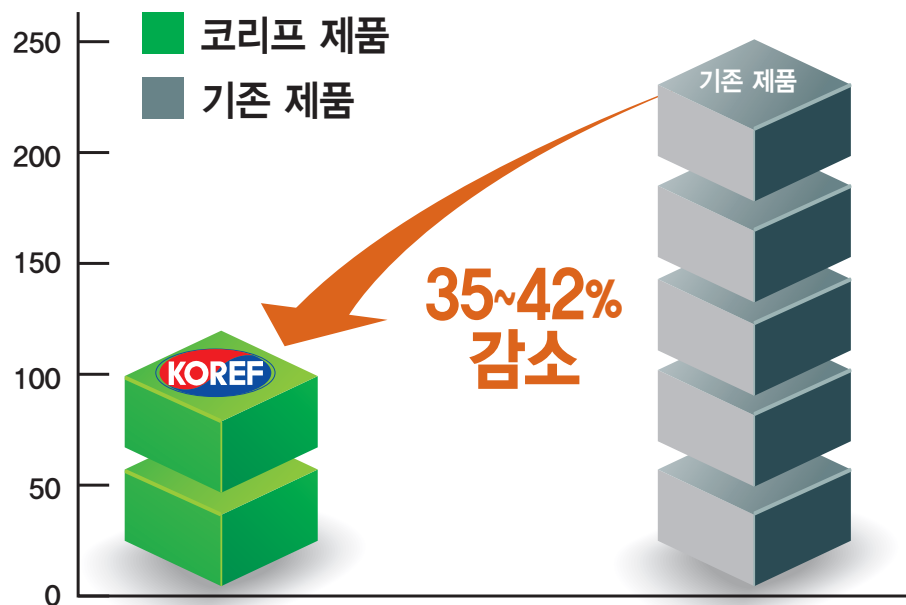
HEAT PIPE TYPE C.T.H.C

히트파이프 내장형 항온항습기 *Constant Temp. & Humidity Control Unit*

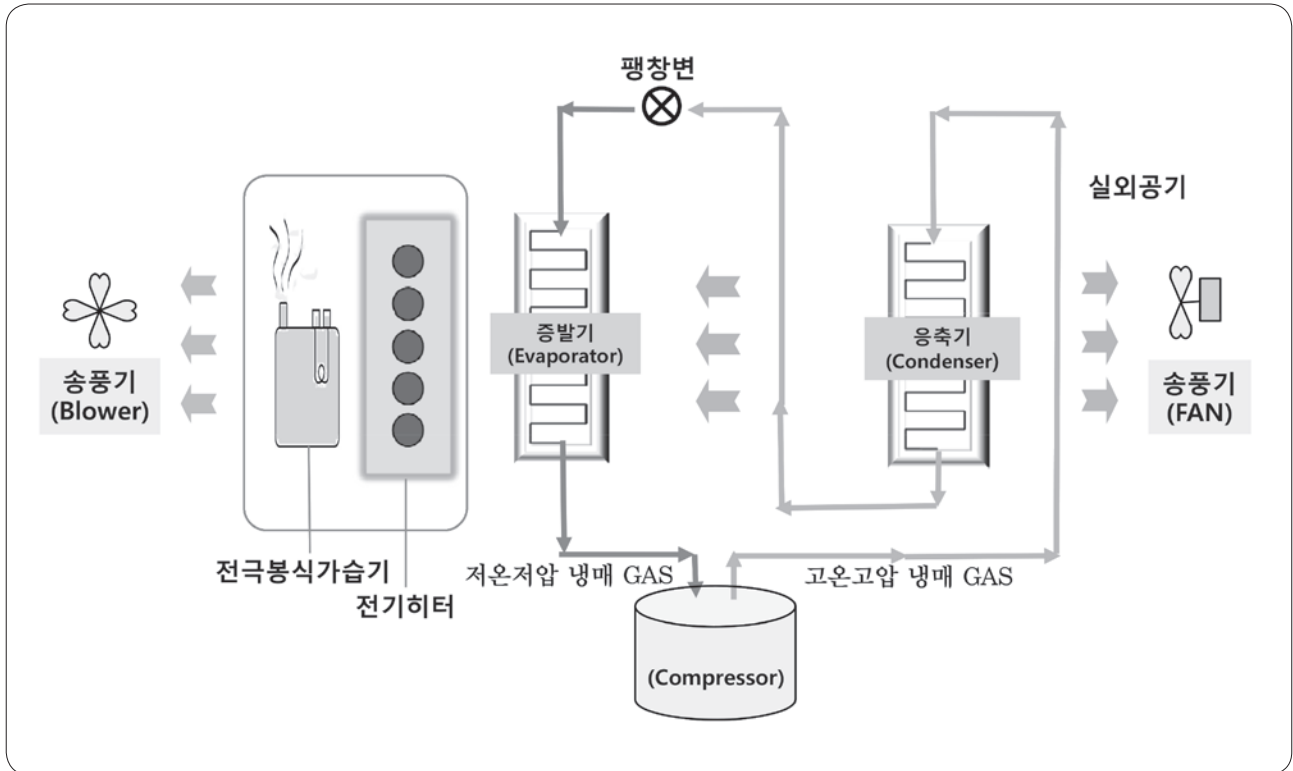
경제적 효과(전력 절감)



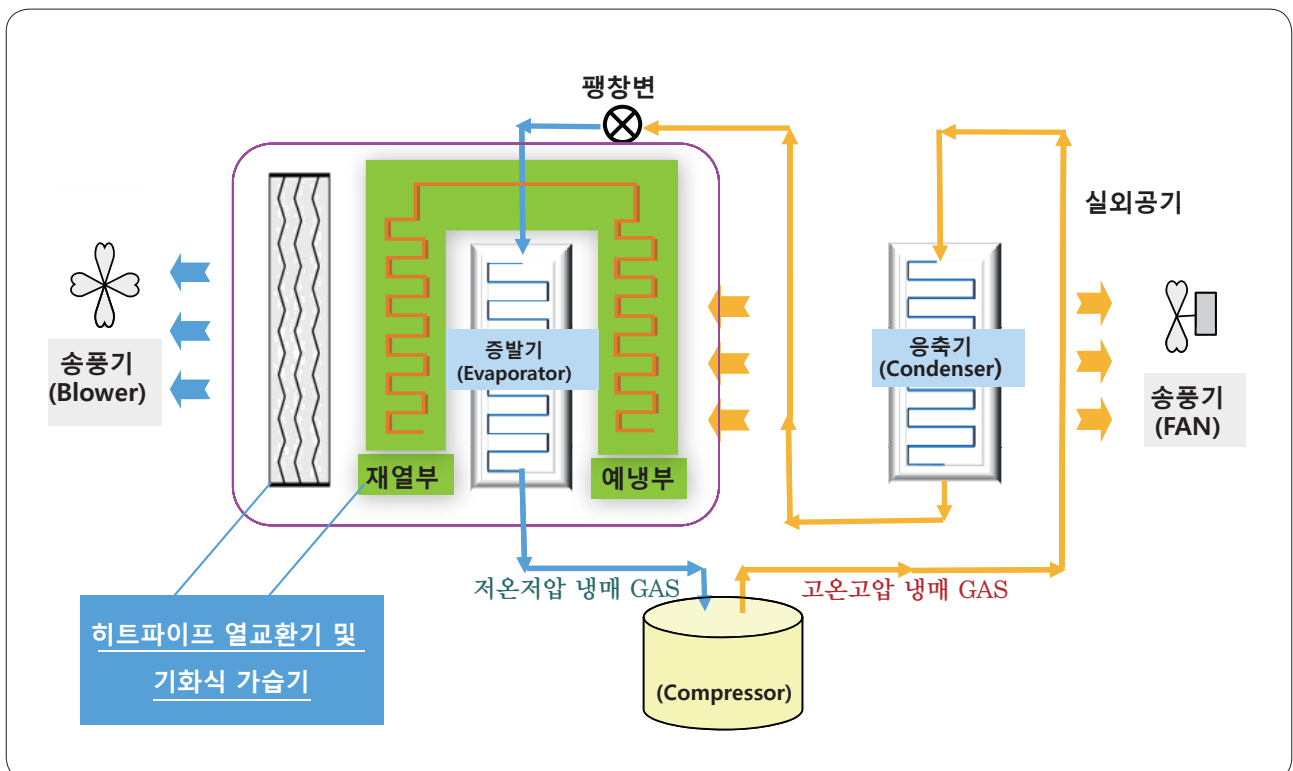
환경적 효과(온실가스 감소)



일반 Cycle 구성도



히트파이프 열교환기 Cycle 구성도



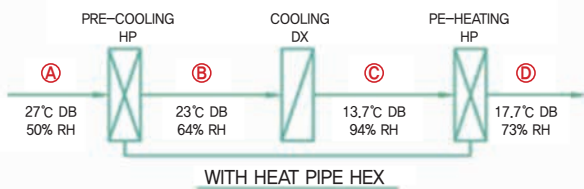
& Humidity Control Unit

향온향습기 적용 예

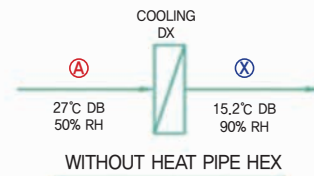
I 히트파이프 적용에 따른 공기 상태점 변화

상 태 점		건구온도 (DB℃)	습구온도 (DB℃)	엔탈피 (kcal/kg)	상대습도 (RH %)	절대습도 (kg/kg)
㉠	환기 상태점	27℃	19.5℃	13.27	50%	0.01115
㉡	예냉 HP 출구 상태점	23℃	18.2℃	12.24	64%	0.01115
㉢	냉각코일 출구 상태점	13.7℃	13.1℃	8.83	94%	0.00918
㉣	재열 HP출구 상태점	17.7℃	14.7℃	9.82	73%	0.00921
㉤	냉각코일 출구 상태점 (히트파이프 미적용)	15.2℃	14.2℃	9.5	90%	0.00969

I 히트파이프 향온향습기 I



I 일반 향온향습기 I



I PSYCHRO METRIC CHART(760mmHg) I

