



KyungDong

AIR COOLED CONDENSER & COIL



(株)京東冷熱産業
KYUNG DONG R&H CO.,LTD.

AIR COOLED CONDENSER

I V-TYPE (저소음형) Low sound level



신개발품
New
Developed
Product

M-TYPE

(소,중 콘덴싱유닛용) For small, middle condensing unit



V-TYPE

(오염에 강한 구조) Excellent structure of air-flow



경동냉열산업 CONDENSER의 특징

1. 저소음화에 노력 하였음.
(주택가 등의 저소음 지역 설치시 당사와의 협의 바람. 40~50dB이하 가능함)
2. 냉각능력 우수함.
(능력당 충분한 fin 전열면적-R/T당 10M² 이상확보)
3. 최대 부하를 고려하여 설계 되었음.
(설계 외기온도 38°C)
4. 오염 및 먼지를 고려하여 설계 및 제작 되었음.
(CORRUGATED FIN 사용, FIN PITCH : 2.5~3mm)
5. 세척 및 FIN수명을 고려하여 제작되었음.
(FIN두께 0.13t 이상 - 오염지역 착색 FIN사용)
6. 극심 오염지역 (해변가, 폐수처리장등)설치시 폐사에 사전 협의해 주시기 바랍니다.
(용접부위 방식 처리후 출고)

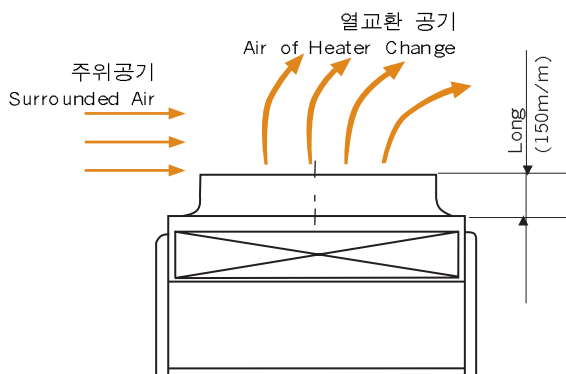
Feature of the Kyung Dong R&H Co., Ltd. condenser

1. Expert efforts to the low sound level
(Requires the discussion with us when installation of the low noise region such as a residential street and is available to below 40 ~ 50dB)
2. Superiority of the cooling capacity
(Enough Fin transfer Area per capacity Over10m²/RT)
3. Designed & Manufactured with consideration of the maximum load.
(Exterior temp of the Designing : 38°C)
4. Designed & Manufactured with reflection of the pollution and dust
(Using of the Corrugated fin, Fin pitch : 2.5 ~ 3mm)
5. Designed & Manufactured with consideration of the cleaning-up and Fin life.
(Fin thickness : Over 0.3t, Using of the painted fin in the contaminated area.)
6. Requires the discussion with us when installation of the intense contaminated area such as seaside, waste water disposal place etc.,
(Anticorrosive painted to the welding part)

FAN GUIDE의 장대화의 대한 특징(150m/m이상)

열교환 후의 공기를 상부로 높게 배출함으로 토출공기가 멀리 날아감.(주변공기와 혼합하여 다시 COIL부를 흡입되지 않음으로 열효율이 증대됨.)

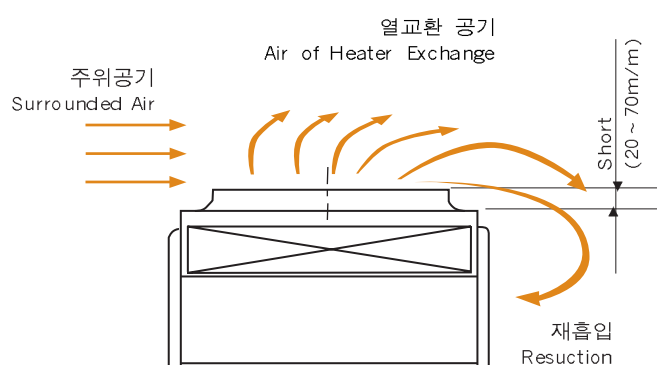
신제품 / Developed product



Feature of Air Guide on the Fan side(Over150 m/m)

Increase Heater efficiency by the longer discharging of Air after Heat Exchange together with the Mixing of the surrounded air and with no resuction into side of the coil.

기존제품 / Current product



I V - TYPE

특징

1. 초 저소음 MOTOR 채택
(주택가 등 저소음 지역 사용가능 40~50dB)
= EXTERNAL ROTOR MOTOR
2. 설치장소에 따른 변형 부착가능
3. FAN측 공기 GUIDE 장대화, 효율증대
4. 설치위치에 따라 I형이나 V형으로 변형설치가능.

NEW



[수직설치식] Vertical type

Feature

1. Low sound level by motor = External Rotor Motor
2. Possibility to attach depends on installation place.
3. Increase efficiency with longer air guide of the fan side.
4. Make possible to set up I and V type depends on installation place.



[수평설치식] Horizontal type

CONDENSER IV-TYPE SPECIFICATION

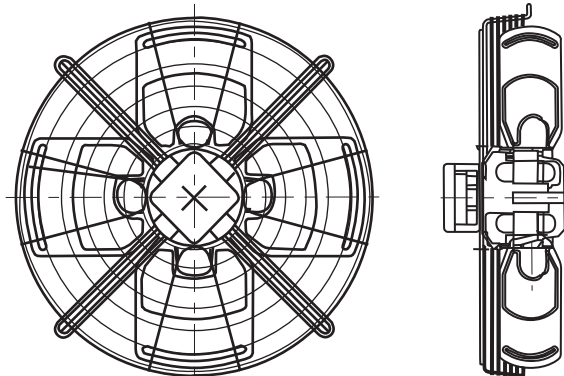
MODEL	SPEC	CAPACITY (KCAL/M)	FAN DIA (mm)	MOTOR	AIR VOLUME	EXTERNAL SIZE (Width xHeight xLength)	CONNECTION DIA		HEAT TRANSFER AREA (m)
							IN	OUT	
KAC - IV 11		9,918	500 x 1EA	0.2kw x 8P x 1EA	43	800 x 920 x 1070	3/8"	1"	34.1
KAC - IV 13		11,397	500 x 1EA	0.2kw x 8P x 1EA	46	800 x 950 x 1070	3/8"	1"	45.5
KAC - IV 23		19,836	500 x 2EA	0.2kw x 8P x 2EA	106	800 x 920 x 1930	1/2"	1 1/2"	68.2
KAC - IV 26		22,794	500 x 2EA	0.2kw x 8P x 2EA	113	800 x 950 x 1930	5/8"	1 1/2"	90.9
KAC - IV 34		29,754	500 x 3EA	0.2kw x 8P x 3EA	160	800 x 920 x 2790	5/8"	1 1/2"	102.2
KAC - IV 46		39,670	500 x 4EA	0.2kw x 8P x 3EA	170	800 x 950 x 2790	3/4"	1 1/2"	136.3
KAC - IV 53		45,588	500 x 4EA	0.2kw x 8P x 4EA	226	1550 x 950 x 1930	3/4"	2"	181.7
KAC - IV 69		59,508	500 x 6EA	0.2kw x 8P x 6EA	320	1550 x 920 x 2790	3/4"	2"	204.4
KAC - IV 79		68,392	500 x 6EA	0.2kw x 8P x 6EA	340	1550 x 950 x 2790	7/8"	2"	272.5

엑스트랄 모터 (외부 회전축모터)

1. 저소음화 (40 ~ 50dB 이하)
2. 경량화 (Motor 소형화)
3. 소요 동력감소
4. 효율증대
5. Motor수명연장 (Motor 등급향상-IP54)
6. 인버터 적용가능 MOTOR

EXTERNAL ROTOR MOTOR

1. Low sound level (below 40 ~ 50dB)
2. Light in weight (small - sized motor)
3. Reduction of the demanded power consumption
4. Increasing of the Efficiency
5. Long lasting trust of the motor(Grade-up of the motor)
6. Developed product for inverter



EXTERNAL ROTOR MOTOR

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* Above model & specifications can be changed without notice.

REMOTE CONDENSER (하부기계실) M - TYPE



AIR- CONDENSER 특징

- 냉각효율 최 우선화 구조 (10M²/RT기준)
- 기계실 점검이 용이한 구조
- 저소음용 모타채택
- 기계실 방음 구조(선택사양)

Feature of AIR- CONDENSER

- Maximum of the cooling capacity (10m²/RT)
- Easy inspection to the machinery room
- Low sound level by motor
- Soundproofing of the machinery room (option type)

AIR CONDENSER M-TYPE SPECIFICATION

MODEL	CAPACITY (Kcal/H)	TRANSFER AREA (M ²)	AIR VOLUME (CMM)	FAN (mm)	FAN MOTOR SET (KW × P × EA)	EXTERNAL SIZE (H × W × L)
KAC-M12 (3R/T)	10,500	35.4	60	φ 550	0.4 × 6 × 1	1020 × 730 × 1561
KAC-M20 (5R/T)	17,500	56.7	112	φ 450	0.2 × 6 × 2	1180 × 790 × 1661
KAC-M31 (7.5R/T)	26,250	86.3	168	φ 500	0.2 × 6 × 2	1270 × 850 × 1610
KAC-M41 (10R/T)	35,000	109	196	φ 550	0.4 × 6 × 2	1370 × 900 × 1712
KAC-M49 (12R/T)	42,000	128	245	φ 600	0.4 × 6 × 2	1570 × 940 × 1712
KAC-M61 (15R/T)	52,500	156	300	φ 650	0.75 × 6 × 2	1670 × 990 × 1814
KAC-M73 (18R/T)	63,000	180	340	φ 550	0.4 × 6 × 3	2120 × 960 × 1712
KAC-M79 (20R/T)	70,000	204	376	φ 600	0.4 × 6 × 3	2120 × 960 × 1964
KAC-M97 (25R/T)	87,500	259	465	φ 650	0.75 × 6 × 3	2270 × 1010 × 1862
KAC-M118 (30R/T)	105,000	315	570	φ 700	0.75 × 8 × 3	2420 × 1070 × 1964

■ 경동냉열산업의 콤퓨레사 마력에 따른 각종 Model 선정표(I, V, U, M형) MODEL SELECTION SHEET COMPLY WITH COMPRESSOR HP

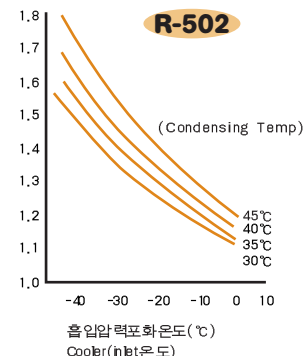
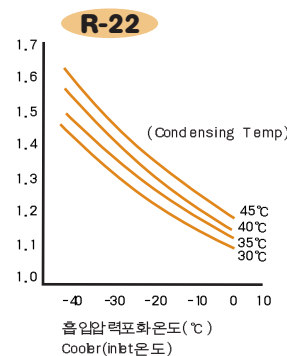
실온	MODEL	08	12	16	20	24	31	37	41	49	61	73	81	102	122
AIR CONDITION & HEAT PUMP		2HP	3HP		5HP		7.5HP		10HP		15HP		20HP		30HP
±5℃		3HP		5HP		7.5HP		10HP		15HP		20HP		30HP	
-10℃ 이하 (below)		3HP	5HP		7.5HP		10HP		15HP		20HP		30HP		

■ AIR CONDENSER 능력 산출식 / CALCULATION METHOD OF THE AIR CONDENSER CAPACITY

$$Q = (R + AW) \times F$$

- Q : 응축능력
 R : 냉동능력
 AW : 콤퓨레사동력 (kw × 860)(kcal/H)
 F : 보정계수
- Q : Condensing capacity
 R : Cooling capacity
 AW : Compressor power (kw × 860)(kcal/H)
 F : Correction factor

■ 보정계수 (F)



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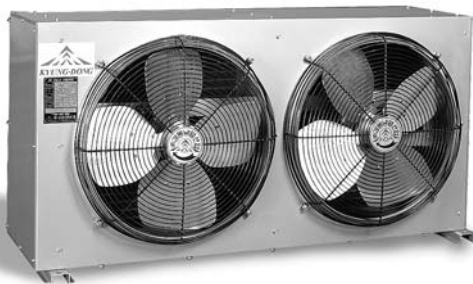
AIR CONDENSER U, V, I - TYPE



↑ V-TYPE



↑ U-TYPE



↑ I-TYPE

특징

- 냉각효율 - 고성능화
- 저소음화 (엑스트랄모타-선택사양)
- 외장등에 내식성 갈바륨 도금판을 사용함으로써 견고하며 제품의 수명이 길다.

Feature

- Superiority of the cooling capacity
- Low sound level using by external Rotor Motor (option type)
- Solid and perfect corrosion resistance used by galvarium steel sheet.

■ AIR CONDENSER V, U -TYPE SPECIFICATION

MODEL	CAPACITY (kcal/h)	MOTOR (kw × P)	FAN (DIA)	VOLUME (m3/min)	CONNECTION (IN / OUT)	V-TYPE	U-TYPE	U-Machinery Room
						EXTERNAL SIZE (L × H × W)		
KAC-V12	10,500	0.2kw × 6P	500	60	1 1/8", 3/8"	680 × 1000 × 760	800 × 1000 × 760	1150 × 1000 × 760
KAC-V16	14,000	0.4kw × 6P	550	87	1 1/8", 3/8"	880 × 1000 × 810	1000 × 1000 × 810	1350 × 1000 × 810
KAC-V20	17,500	0.4kw × 6P	550	112	1 1/8", 1/2"	780 × 1000 × 850	900 × 1000 × 850	1250 × 1000 × 850
KAC-V24	21,000	0.4kw × 6P	600	134	1 1/8", 1/2"	880 × 1000 × 900	1000 × 1000 × 900	1450 × 1000 × 900
KAC-V31	26,250	0.2kw × 6P	500 × 2	168	1 3/8", 1/2"	1580 × 1000 × 760	1700 × 1000 × 900	2100 × 1000 × 760
KAC-V37	31,500	0.4kw × 6P	550 × 2	176	1 1/4", 5/8"	1330 × 1000 × 850	1450 × 1000 × 850	1900 × 1000 × 1080
KAC-V41	35,000	0.4kw × 6P	600 × 2	196	1 1/4", 5/8"	1480 × 1000 × 900	1600 × 1000 × 900	2050 × 1000 × 900
KAC-V49	42,000	0.2kw × 8P	600 × 2	245	1 1/4", 5/8"	1680 × 1000 × 990	1800 × 1000 × 900	2250 × 1000 × 900
KAC-V61	52,500	0.4kw × 8P	650 × 2	300	1 1/2", 3/4"	1680 × 1000 × 990	1800 × 1000 × 990	2250 × 1000 × 990
KAC-V73	63,000	0.75kw × 8P	700 × 2	340	1 1/2", 3/4"	1680 × 1000 × 1080	1900 × 1000 × 1080	2250 × 1000 × 1080
KAC-V81	70,000	0.75kw × 8P	750 × 2	376	1 1/2", 3/4"	1780 × 1000 × 1130	2300 × 1000 × 1130	2300 × 1000 × 1130
KAC-V102	87,500	0.4kw × 8P	700 × 3	465	2", 7/8"	2180 × 1000 × 1040	2300 × 1000 × 1040	2300 × 1000 × 1040
KAC-V122	105,000	0.75kw × 8P	750 × 3	570	2", 7/8"	2530 × 1000 × 1080	2650 × 1000 × 1080	3150 × 1000 × 1080

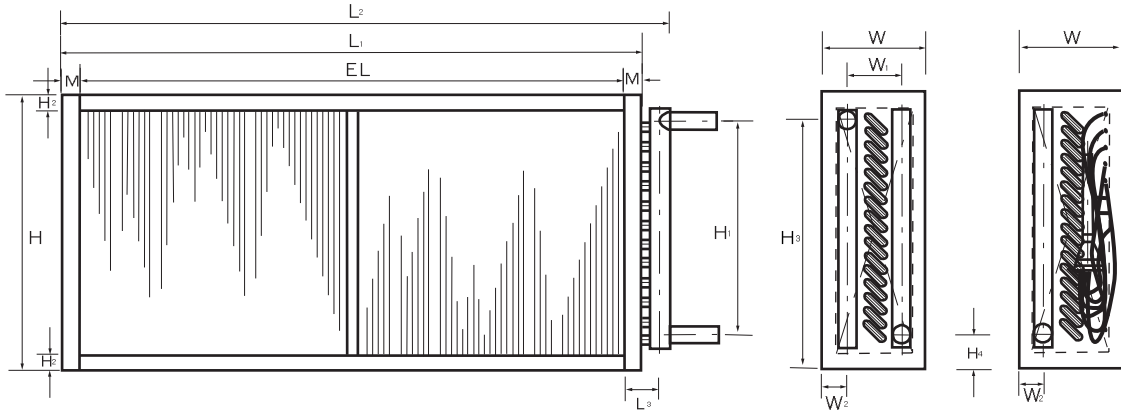
■ AIR CONDENSER I-TYPE SPECIFICATION

SPEC MODEL	POWER(HR)	CAPACITY (Kcal/H)	CONNECTION DIA(INCH)		AIR VOLUME (CMM)	MOTOR (KW × EA)	FAN DIA (MM × EA)	EXTERNAL SIZE (L × W × H)	ANCHOR SIZE (L' × W')
			IN	OUT					
KAC-I 06	2 ~ 3	5,250	3/4"	3/8"	34	0.1 × 6P × 1	400 × 1	700 × 180 × 530	650 × 120
KAC-I 08	3 ~ 4	7,000	3/4"	3/8"	45	0.2 × 6P × 1	450 × 1	700 × 180 × 630	650 × 120
KAC-I 10	4 ~ 5	8,750	3/4"	3/8"	56	0.1 × 6P × 2	400 × 2	1100 × 180 × 530	1050 × 120
KAC-I 12	5 ~ 6	10,500	3/4"	3/8"	67	0.1 × 6P × 2	400 × 2	1100 × 180 × 630	1050 × 120
KAC-I 16	6 ~ 7.5	14,000	3/4"	3/8"	90	0.2 × 6P × 2	450 × 2	1300 × 180 × 630	1250 × 120
KAC-I 20	7.5 ~ 9	17,500	7/8"	5/8"	112	0.2 × 6P × 2	500 × 2	1300 × 180 × 630	1250 × 120
KAC-I 24	9 ~ 10	21,000	7/8"	3/4"	134	0.2 × 6P × 2	500 × 2	1300 × 235 × 630	1250 × 175
KAC-I 31	10 ~ 12	26,250	1 3/8"	3/4"	168	0.2 × 6P × 2	500 × 2	1400 × 235 × 680	1350 × 175
KAC-I 37	12 ~ 15	31,500	1 3/8"	7/8"	201	0.2 × 6P × 2	550 × 2	1650 × 235 × 680	1600 × 175
KAC-I 41	15 ~ 17.5	35,000	1 5/8"	7/8"	224	0.2 × 6P × 2	550 × 2	1750 × 235 × 680	1700 × 175

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각종 COIL 설계자료

COIL DIMENSION



ROW 산정 / ROW calculation

$$ROW = \frac{Ht}{MTD(MED) \times HTC \times FA}$$

- MTD(MED): 대수평균온도차 (대수평균엔탈피차)
- HTC: 조건에 따른 전열계수
- ROW: 설계 ROW임.
- F.A: 전면 면적
- Ht : 열량 (kcal/h)
- MTD(MED): Log mean temperature difference (Log Mean Enthalpy Difference)
- HTC: Heat Transfer Coefficient
- ROW: Designed ROW
- F.A: Face Area
- Ht : Capacity (kcal/h)

COIL 설계시 주의사항

1. 실제 ROW 선정시 설계 ROW에 1.35 ~ 1.05배를 곱하십시오.
2. COIL의 통과 풍속은 2.0 ~ 3.0m/s가 적합합니다.
3. 냉·온수 COIL의 관내유속은 0.8 ~ 1.5m/s가 적합합니다.
4. 적절한 전열계수 값을 선정하십시오.
5. F.A설정시 풍속이 2.5m/s를 기준하십시오.

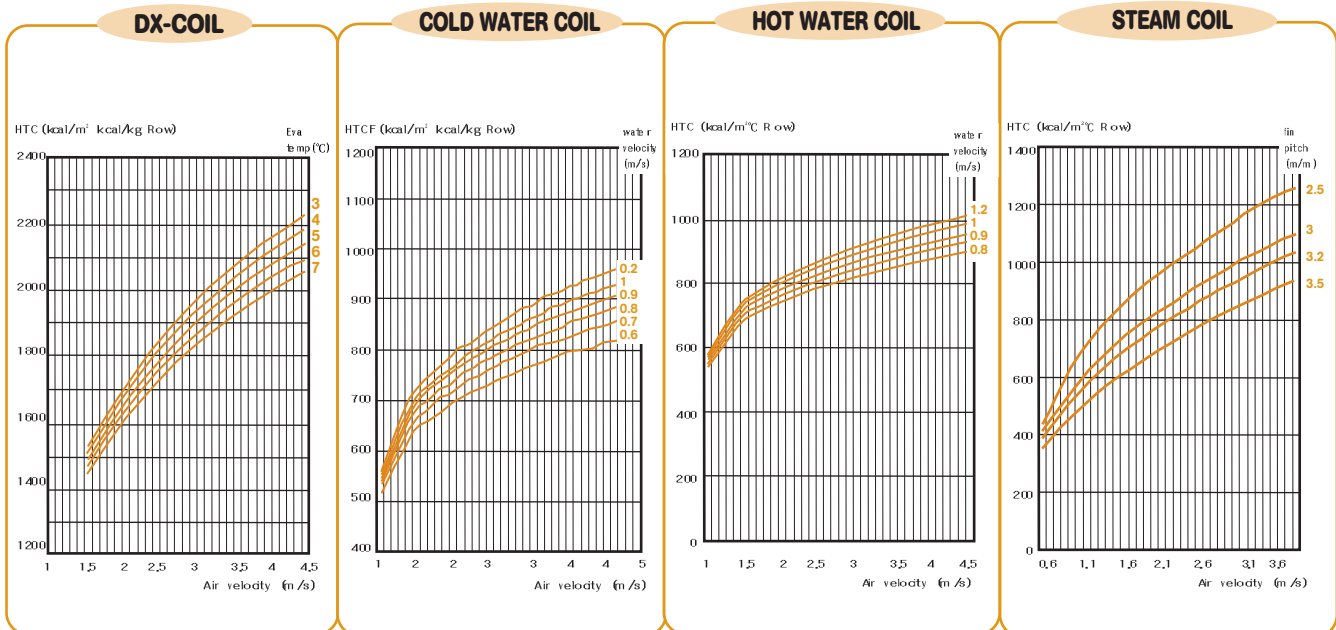
Attention matters of the coil designing

1. Please multiply 1.35 ~ 1.05 to row on the actual row selection
2. transit air-velocity of the coil are reasonable for 2.0 ~ 3.0m/s
3. Water flowing-velocity of cold & hot coil are reasonable for 0.8 ~ 1.2m/s
4. Please choose appropriate value of the transfer coefficient.
5. Please standardize air-velocity is 2.5m/s on the F.A setting up.

※ 각종 coil 설계시 자사 기술부에 문의하여 결정 해주십시오.
 ※ Please feel free to contact with us when you required coil designing

각종 COIL의 전열계수 값

Value for the Heater Transfer Coefficient of other coils



각종 열 교환기 COIL



냉 온수 COIL (Cold & hot water coil)



DX-COIL

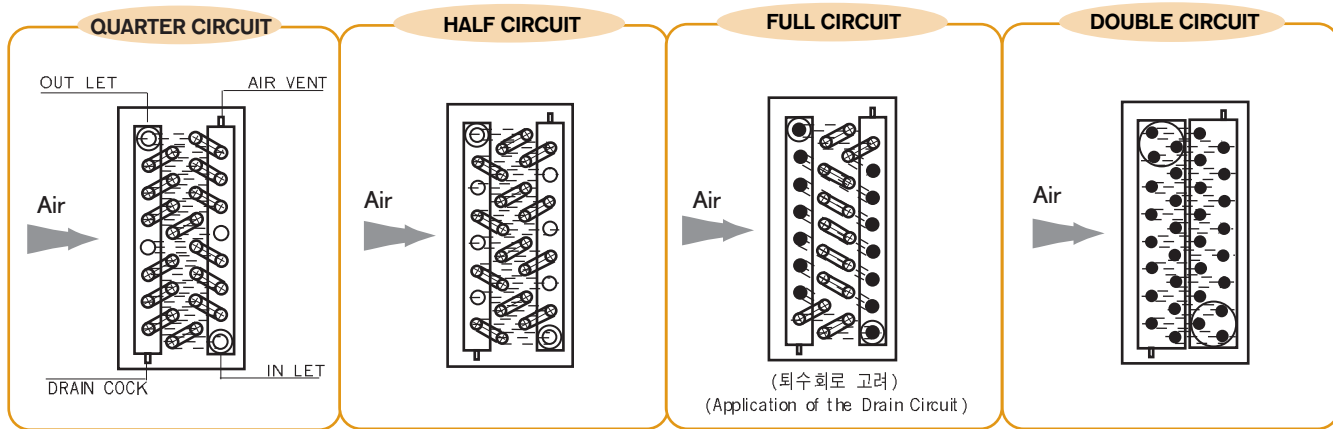
열 교환기 COIL 제작품목

공조용 DX-COIL, BRNE-COIL, 냉 온수용 COIL STEAM COIL, COPPER FIN COIL, CAR COIL, OIL COOLER, 외 각종 열교환기용 설계 및 생산

Feature of AIR- CONDENSER

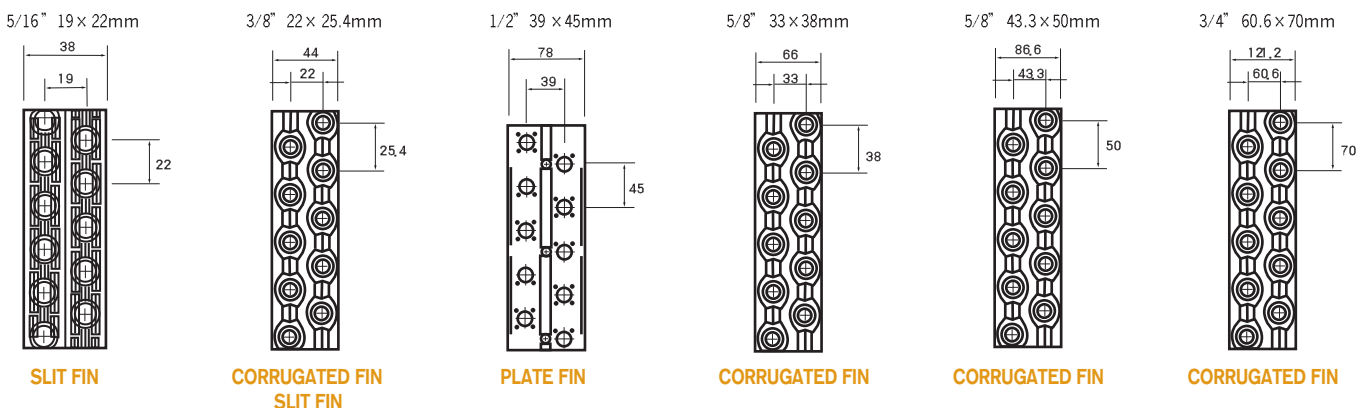
DX-coil, Brine-coil, cold & Hot water Steam coil, Copper fin coil, Car coil, Oil cooler, and Designing & Manufacturing of the other heat exchanger

■ 냉 온수 COIL 회로 구성도 / CIRCUIT OF THE COLD & HOT WATER COIL



■ FIN 사양 및 M당 전열면적표 (Fin specification and heat transfer area sheet / M)

Fin specification (KYUNG DONG Standard)



■ HEAT TRANSFER AREA

* coil 의 총 전열면적(Am²) = 열수 × 단수 × 유효장 × 하기 선정 치수
 * Total transfer Area of coil(Am²) = Row × Step × Length × Below mentioned dimensions

관경 Dia	P.P(M/M)	F.P(M/M)	2.1	2.5	2.7	3	3.2	4.5	5	5.5	6.5	8.5	10	12	15
5/16"	22		0.415	0.399	0.313	0.288									
3/8"	25.4		0.527	0.44	0.4148	0.377	0.3542	0.263	0.251						
1/2"	45										0.5501	0.4246	0.3659		
5/8"	38			0.958	0.874	0.809	0.758	0.606	0.5452	0.4844	0.4236	0.348	0.3116	0.277	
5/8"	50										0.705	0.5638	0.4948	0.4295	0.364
3/4"	70										1.267	1.039	0.843	0.718	0.585



KYUNG DONG R&H CO.,LTD.

본사 및 공장

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