

MKM

COMMERCIAL REFRIGERATION
AIR CONDITIONING AND HEATING SYSTEMS



ROOF TOP - MKM
DPU - Digital Package Unit

ISO
9001
2000

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M.K.M.ac Package Air Conditioning Units

MKM Air Conditioning has developed a new line of package units - DPU. Digital Package Unit – born out of a desire for innovation excellence and as a manufacturing breakthrough in the Israeli production market of air conditioning units.

DPU has been developed by the engineering team of MKM after many years of experienced designing and specializing in package air conditioning units. The DPU design redefines the concept of innovation precision efficiency and engineering simplicity, with a short financial ROI for the customer, based on superior energy efficiency along with longer life span.

DPU engineering design also emphasis on “Low Foot Print”, design for the customers and architects desires and needs.

In addition, the simplicity of the installation work for the installers was also taken into consideration, reducing the need to carry out piping connections and testing in the field (as is customary in split units). This reduces installation costs and leaves only the simple duct and electrical connection, as easy as “plug and play”.

The new MKM DPU- Scroll Digital compressor utilizes axial scroll compliance to achieve modulation by new design technology forcing the scrolls to “separate”, causing compression of the refrigerant to stop without stopping the compressor motor. In this “unloaded” state, the compressor output is zero capacity.

When the scrolls are engaged in the “loaded” state, compressor output is 100% capacity.

The scrolls are separated in a periodic cycle to obtain a time-averaged. compressor capacity based on the ratio of loading and unloading times. This allows the compressor to achieve infinite capacity modulation between 10% and 100%, based on 0 to 5 volt analog controller.

DPU covers most line of package units in the market according to the requirements of the customers' consulting engineers, ranges from 2 to 36 TR.

Among the important features of the units are the following:

- High COP- Coefficient Of Performance
- ECM motor (optional)
- EEV- Electronic Expansion Valve
- PIDC-Proportional Integral Differential Controllers

This new innovative DPU characteristics create a winning combination of high performance unit with an outstanding ROI as well.

Compressors

- Scroll high E.E.R
- Low noise operation
- Complete motor protection
- Vibration absorption system
- Full electronic control
- Oil level indicator

Axial Fans

External rotor type axial fans, equipped with three phase direct drive motors VSD or direct drive, low noise, provided with a protective outlet grille.

Condenser / Evaporator

Constructed of seamless 3/8" (5/8" option) copper tubes, corrugated edge aluminum fins, and galvanized steel or stainless steel frames by demand. Tubes are mechanically expanded into die-formed fin collars, providing a uniform mechanical bond that assures maximum heat transfer efficiency.

Refrigerant System

High-quality, carefully selected components ensure reliable and efficient system operation.

The system includes:

- Electronic expansion valve or thermostatic expansion-valves for heating and cooling by demand.
- Refrigerant charge indicator
- All the necessary pressure protections
- All the necessary electrical protections
- All the necessary flow protections

Electrical Panel

- Electric panel consist of:
- Compressor contactor,
- Fan motor contactor or vsd, compressor protection breaker,
- Fan protection breaker,
- Phase sequence relay
- Reliable microprocessor temperature control unit with full function display which dramatically reducing maintenance cost thanks to its microprocessor intelligent system

For special applications, please contact our Engineering Department, or sales manager.



► General Data

Series		DIGITAL							
Model		D10	D12	D16	D20	D25	D28	D31	D36
Nominal Capacities ⁽¹⁾	TR	10	12	16	20	25	28	31	36
Cooling	kW	35.9	42.2	57.4	71.8	89	98.9	108.1	126.8
	kBTU/Hr	122	144	196	245	304	338	369	433
Stage System	%	0-100							
Heating ⁽²⁾	kW	23	27	36	45	56	63	70	81
Evaporator									
Coil									
Copper Tubes		3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Rows Deep		4	4	4	4	4	4	4	4
Fins	FPI	10	10	10	10	10	10	10	10
Total Face-Area	SQ.M.	0.7	0.9	1.21	1.49	1.9	2.14	2.34	2.88
	SQ.FT.	7.5	9.7	13	16	20.5	23	25.2	31
Fans Evaporator									
Normal Air Flow	m ³ /h	5500	6600	8800	11100	13800	15500	17100	19900
	CFM	3250	3900	5200	6500	8125	9100	10075	11700
Pressure ⁽³⁾	Pa	350	350	350	350	350	350	350	350
Power	kW	1.2	1.3	1.4	2.1	2	2.7	2	2.7
Filters⁽⁴⁾									
Total Face-Area	SQ.FT.	10	12	15	19	24	26	29	34
Compressor									
Refrigerant		R 410A	R 410A	R 410A	R 410A	R 410A	R 410A	R 410A	R 410A
Quantity		1	1	2	2	3	3	3	3
Power consumption	kW	11	13	16	20	26	29	32	37
Cooling Circuits	No	1	1	1	1	1	1	1	1
Condenser									
Copper Tubes		3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Rows Deep		3	3	3	3	3	3	3	3
Fins	FPI	12	12	12	12	12	12	12	12
Total Face-Area	SQ.M.	1.36	1.49	2.39	2.98	3.7	3.88	4.22	4.25
	SQ.FT.	14.6	16	25.7	32.1	39.8	41.8	45.4	45.8
Quantity		1	1	1	1	1	1	1	1
Fans Condenser									
Diameter	mm	800	800	630	710	710	710	710	710
Quantity		1	1	2	2	2	2	3	3
Normal Air Flow	m ³ /hr	16000	16000	9300	10000	12000	14000	10000	14000
	CFM	9800	9800	5500	6100	7300	8300	6100	8300
Power	kW	0.62	0.62	0.95	0.93	0.81	0.7	0.93	0.7
Velocity	RPM	735	735	1440	900	900	900	900	900
Dimensions									
Length	cm	190	200	200	200	210	220	210	210
Width	cm	160	160	170	190	190	190	260	260
Height	cm	180	240	290	310	360	370	300	310
Weight	kg	820	1040	1240	1400	1620	1700	1720	1760

Electrical Data

Model		D10	D12	D16	D20	D25	D28	D31	D36
Power Input	kW	12.8	14.9	19.3	24	29.6	33.1	36.8	41.8

Efficiency

Model		D10	D12	D16	D20	D25	D28	D31	D36
COP ⁽⁵⁾		2.8	2.8	3	3	3	3	2.9	3
EER		9.5	9.7	10.2	10.2	10.3	10.2	10	10.4
IPLV		5.5	5.6	5.9	5.9	6	5.9	5.8	6

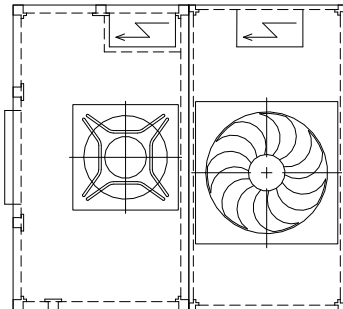
Notes:

- Capacities are according to :
Cooling at Outdoor Air DB=35°C WB=26°C and Indoor Air DB=27°C RH=50%
Heating at Outdoor Air DB=6°C and Indoor DB=21°C
mix air -50% fresh air 50% return air
- Electrical Heater is Optional
- optional 1000 Pa
- Filter FARR30/30 is Optional
- Calculated
- All the data is preliminary, could be changes without notice

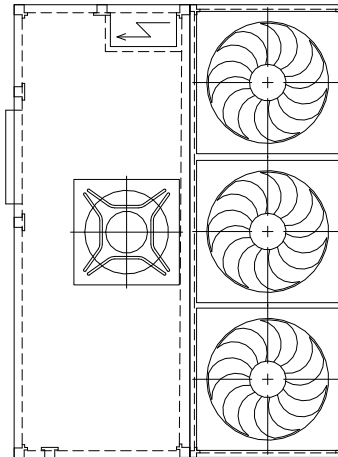
General View

Top View

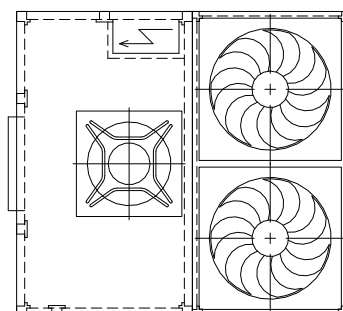
Models: D-10, D-12



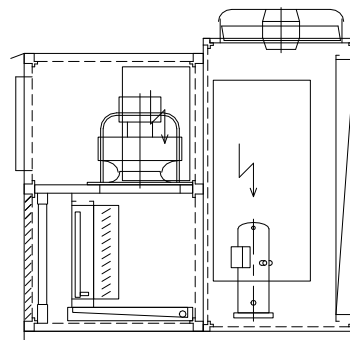
Models: D-31, D-36



Models: D-16, D-20, D-25, D-28



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	35.9
	kBTU/Hr	122
Heating capacity ⁽²⁾	kWatt	46.9
	kBTU/Hr	160.1
Power consumption ⁽³⁾	kWatt	12.8
Operating current	A	19.1
C.O.P		2.8
EER		9.5

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN -1 TR, MAX -10 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data			
Compressor	Type		Unit
	Quantity		D-Data
			Comp. A
	Power		kw
Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	5500
		cfm	3250
EC Centrifugal fan ⁽⁷⁾	Size	cm	63*63*51
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	1.2
Evaporator coil	Face area	m ²	0.7
		ft ²	7.5
	Rows deep		4
Filter	12% deep 2"	Qty.-dim.	3-20"x24"
	30% deep 2" ⁽⁹⁾		3-20"x24"
Heating elemnts ⁽⁹⁾		kw	23/30
Condenser side ⁽⁵⁾			
Condenser coil	Quantity		1
	Face area	m ²	1.36
		ft ²	14.6
EC Axial fan	Diameter	mm	800
	Quantity		1
	Air flow	m ³ /hr	16000
		cfm	9800
	Motor	kW	0.62
		RPM	735

Dimensions		
Length (A)	cm	190
Width (B)	cm	160
Height (C)	cm	180
Weight	kg	820

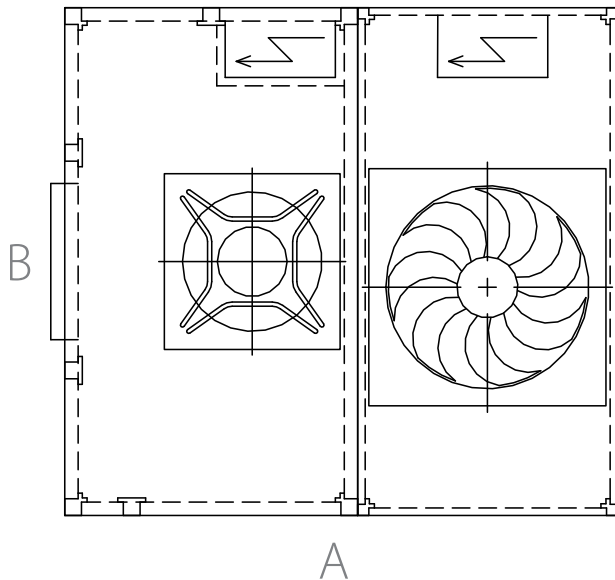
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	104	122	143
	HC	74	75	81
	KW	11	11	11
40 (104)	TC	101	118	138
	HC	72	74	78
	KW	12	12	12
45 (113)	TC	93	109	128
	HC	66	68	73
	KW	13	13	13

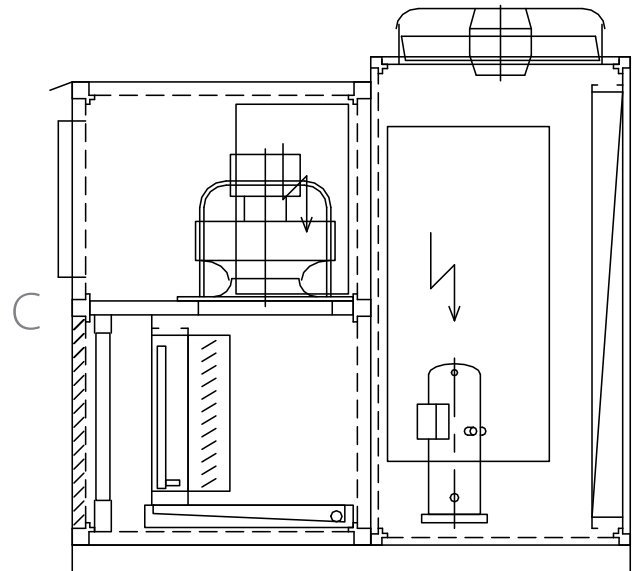
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► Model Plan: **D-10**

Top View



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	42.2
	kBTU/Hr	144
Heating capacity ⁽²⁾	kWatt	55.2
	kBTU/Hr	188.4
Power consumption ⁽³⁾	kWatt	14.9
Operating current	A	23.8
C.O.P		2.8
EER		9.7

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN-1.2 TR, MAX-12 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data			
Compressor	Type		Unit
	Quantity		D-Data
			Comp. A
	Power	kw	13
Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	6600
		cfm	3900
EC Centrifugal fan ⁽⁷⁾	Size	cm	63*63*51
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	1.3
Evaporator coil	Face area	m ²	0.9
		ft ²	9.7
	Rows deep		4
Filter	12% deep 2"	Qty.-dim.	3-24"x24"
	30% deep 2" ⁽⁹⁾		3-24"x24"
Heating elemnts ⁽⁹⁾		kw	27/36
Condenser side ⁽⁵⁾			
Condenser coil	Quantity		1
	Face area	m ²	1.49
		ft ²	16
EC Axial fan	Diameter	mm	800
	Quantity		1
	Air flow	m ³ /hr	16000
		cfm	9800
	Motor	kW	0.62
		RPM	735

Dimensions		
Length (A)	cm	200
Width (B)	cm	160
Height (C)	cm	240
Weight	kg	1040

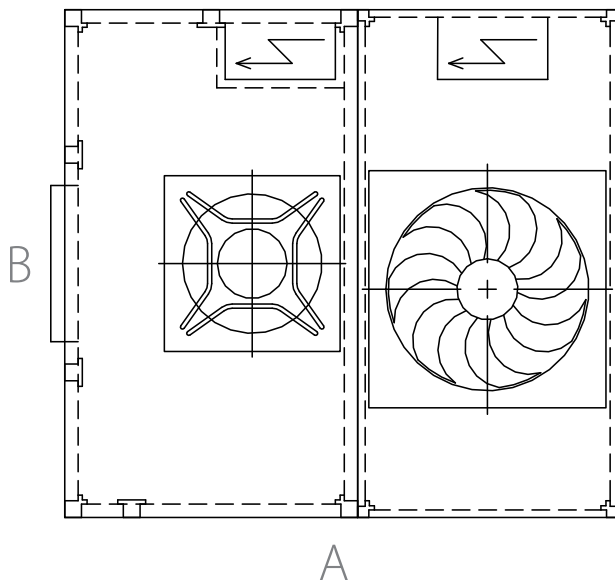
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	123	144	168
	HC	88	89	95
	KW	13	13	13
40 (104)	TC	120	140	164
	HC	86	88	93
	KW	14	14	14
45 (113)	TC	111	130	152
	HC	79	81	86
	KW	15	15	15

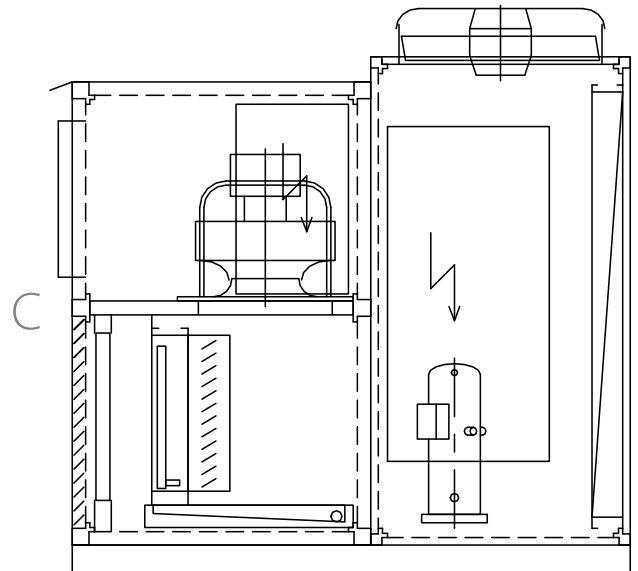
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► Model Plan: **D-12**

Top View



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	57.4
	kBTU/Hr	196
Heating capacity ⁽²⁾	kWatt	73.4
	kBTU/Hr	250.5
Power consumption ⁽³⁾	kWatt	19.3
Operating current	A	16.4
C.O.P		3
EER		10.2

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN-0.8 TR, MAX-16 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data				
Compressor	Type	Unit	D-Data	
	Quantity		2	
	Comp. A		10-100%	
		Comp. B	50%	
		Comp. A+B	60-100%	
	Power	kw	16	

Dimensions		
Length (A)	cm	190
Width (B)	cm	170
Height (C)	cm	240
Weight	kg	1040

Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	8800
		cfm	5200
EC Centrifugal fan ⁽⁷⁾	Size	cm	63*63*51
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	1.4
Evaporator coil	Face area	m ²	2.39
		ft ²	25.7
Filter	Rows deep		3
	12% deep 2"	Qty.-dim.	4-24"x24"
	30% deep 2" ⁽⁹⁾		4-24"x24"
Heating elemnts ⁽⁹⁾		kw	36/48

Condenser side ⁽⁵⁾			
Condenser coil	Quantity		1
	Face area	m ²	1.63
		ft ²	17.5
EC Axial fan	Diameter	mm	630
	Quantity		2
	Air flow	m ³ /hr	9300
		cfm	5500
	Motor	kW	0.95
		RPM	1440

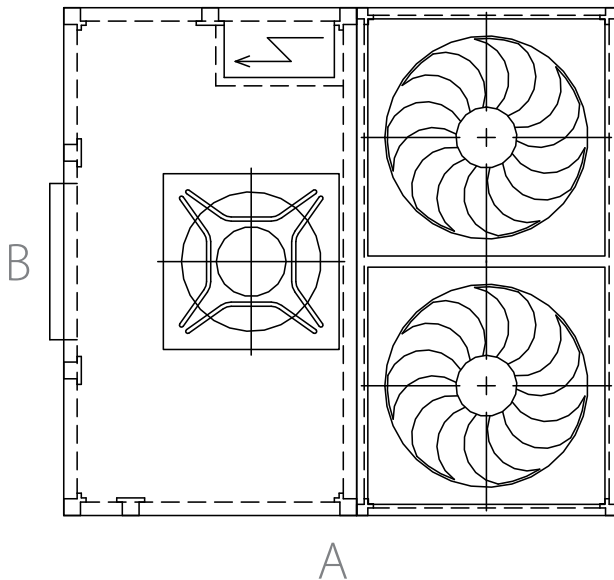
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	168	196	229
	HC	120	123	130
	KW	16	16	16
40 (104)	TC	162	190	222
	HC	116	119	126
	KW	17	17	17
45 (113)	TC	150	176	206
	HC	107	110	117
	KW	18	18	18

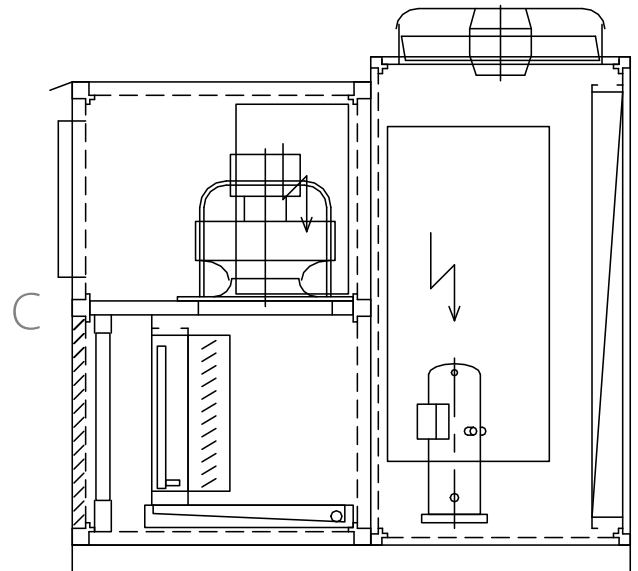
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► Model Plan: **D-16**

Top View



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	71.8
	kBTU/Hr	245
Heating capacity ⁽²⁾	kWatt	91.8
	kBTU/Hr	313.3
Power consumption ⁽³⁾	kWatt	24
Operating current	A	37.8
C.O.P		3
EER		10.2

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN-1 TR, MAX-20 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data				
Compressor	Type	Unit	D-Data	
	Quantity		2	
			Comp. A	10-50%
			Comp. B	50%
			Comp. A+B	60-100%
	Power	kw	20	

Dimensions		
Length (A)	cm	200
Width (B)	cm	190
Height (C)	cm	310
Weight	kg	1400

Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	11100
		cfm	6500
EC Centrifugal fan ⁽⁷⁾	Size	cm	63*63*51
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	2.1
Evaporator coil	Face area	m ²	1.49
		ft ²	16
Filter	Rows deep		4
	12% deep 2"	Qty.-dim.	6-20"x24"
	30% deep 2" ⁽⁹⁾		6-20"x24"
Heating elemnts ⁽⁹⁾		kw	45/60

Condenser side ⁽⁵⁾			
Condenser coil	Quantity		1
	Face area	m ²	2.98
		ft ²	32.1
EC Axial fan	Diameter	mm	710
	Quantity		2
	Air flow	m ³ /hr	10000
		cfm	6100
	Motor	kW	0.93
		RPM	900

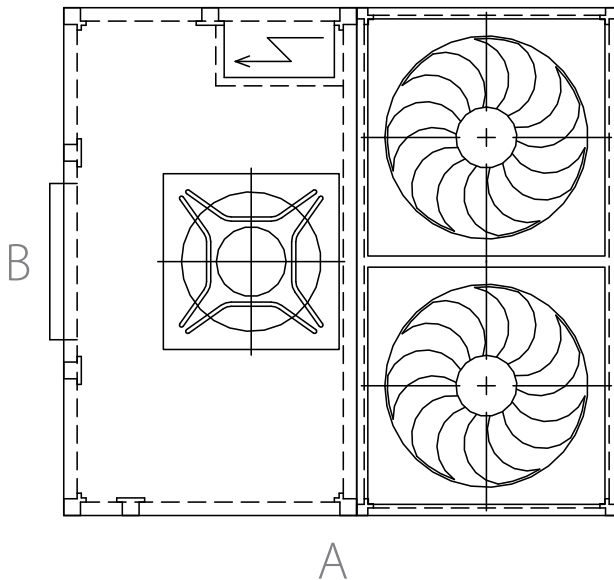
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	210	246	288
	HC	150	154	163
	KW	20	20	20
40 (104)	TC	204	239	280
	HC	146	149	159
	KW	21	21	21
45 (113)	TC	189	221	259
	HC	135	138	147
	KW	22	22	22

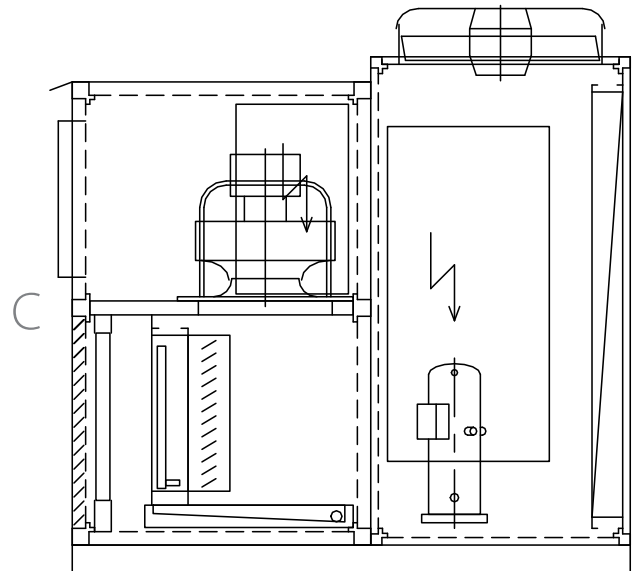
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► Model Plan: **D-20**

Top View



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	89
	kBTU/Hr	304
Heating capacity ⁽²⁾	kWatt	115
	kBTU/Hr	392.5
Power consumption ⁽³⁾	kWatt	29.6
Operating current	A	49.9
C.O.P		3
EER		10.3

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN-0.9 TR, MAX-25 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data				
Compressor	Type	Unit	D-Data	
	Quantity		3	
			Comp. A	10-34%
			Comp. B	33%
			Comp. C	33%
		Comp. A+B+C	76-100%	
	Power	kw	26	

Dimensions		
Length (A)	cm	210
Width (B)	cm	190
Height (C)	cm	360
Weight	kg	1620

Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	13800
		cfm	8125
EC Centrifugal fan ⁽⁷⁾	Size	cm	76*76*53
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	2
Evaporator coil	Face area	m ²	1.9
		ft ²	20.5
	Rows deep		4
Filter	12% deep 2"	Qty.-dim.	6-24"x24"
	30% deep 2" ⁽⁹⁾		6-24"x24"
Heating elemnts ⁽⁹⁾		kw	56/75

Condenser side ⁽⁵⁾			
Condenser coil	Quantity		1
	Face area	m ²	3.7
		ft ²	39.8
EC Axial fan	Diameter	mm	710
	Quantity		2
	Air flow	m ³ /hr	12000
		cfm	7300
	Motor	kW	0.81
		RPM	900

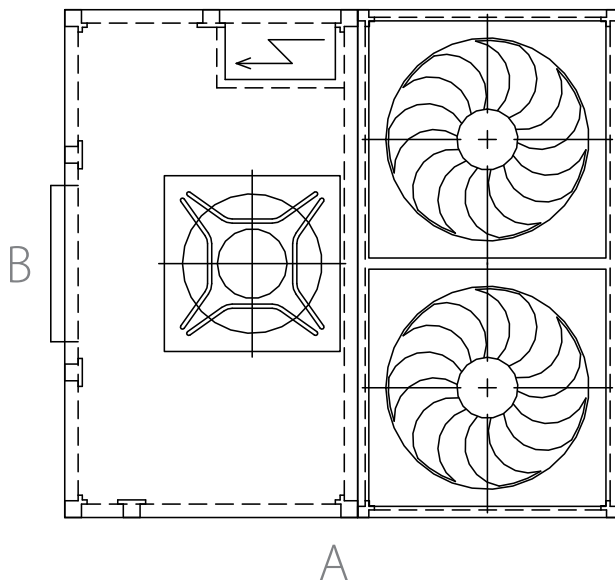
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	260	304	356
	HC	186	190	202
	KW	26	26	26
40 (104)	TC	252	295	345
	HC	180	184	195
	KW	27	27	27
45 (113)	TC	233	273	319
	HC	166	171	181
	KW	28	28	28

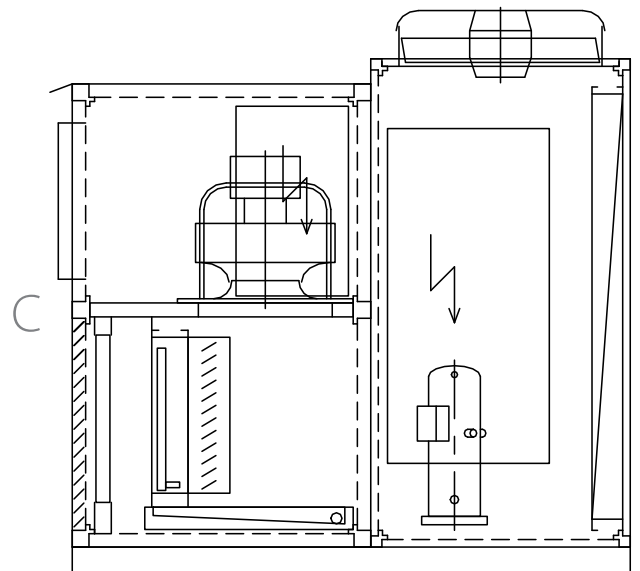
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► **Model Plan: D-25**

Top View



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	98.9
	kBTU/Hr	338
Heating capacity ⁽²⁾	kWatt	127.9
	kBTU/Hr	436.5
Power consumption ⁽³⁾	kWatt	33.1
Operating current	A	52
C.O.P		3
EER		10.2

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN-1 TR, MAX-28 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data				
Compressor	Type	Unit	D-Data	
	Quantity		3	
			Comp. A	10-34%
			Comp. B	33%
			Comp. C	33%
			Comp. A+B+C	76-100%
	Power	kw		29

Dimensions		
Length (A)	cm	220
Width (B)	cm	190
Height (C)	cm	370
Weight	kg	1700

Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	15500
		cfm	9100
EC Centrifugal fan ⁽⁷⁾	Size	cm	76*76*53
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	2.7
Evaporator coil	Face area	m ²	2.14
		ft ²	23
	Rows deep		4
Filter	12% deep 2"	Qty.-dim.	4-24"x24"
			4-20"x24"
	30% deep 2" ⁽⁹⁾		4-24"x24"
			4-20"x24"
Heating elemnts ⁽⁹⁾		kw	63/84

Condenser side ⁽⁵⁾			
Condenser coil	Quantity		1
	Face area	m ²	3.88
		ft ²	41.8
EC Axial fan	Diameter	mm	710
	Quantity		2
	Air flow	m ³ /hr	14000
		cfm	8300
	Motor	kW	0.7
		RPM	900

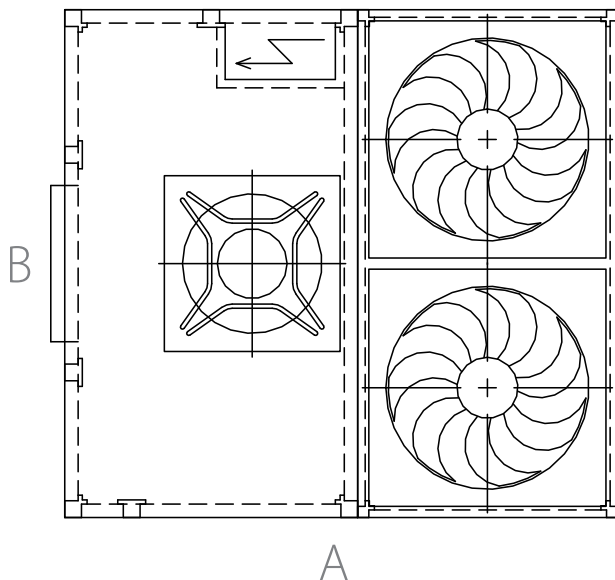
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	289	338	395
	HC	206	211	224
	KW	29	29	29
40 (104)	TC	280	328	384
	HC	200	205	218
	KW	30	30	30
45 (113)	TC	260	304	356
	HC	186	190	202
	KW	31	31	31

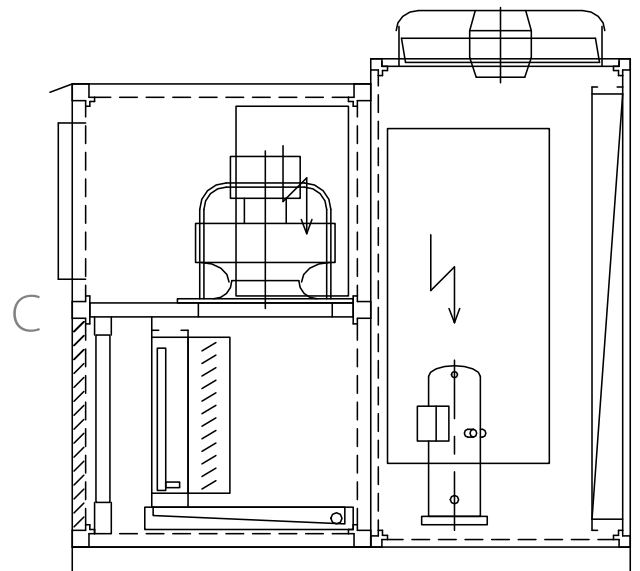
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► **Model Plan: D-28**

Top View



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	108.1
	kBTU/Hr	369
Heating capacity ⁽²⁾	kWatt	140.1
	kBTU/Hr	478.2
Power consumption ⁽³⁾	kWatt	36.8
Operating current	A	43
C.O.P		2.9
EER		10

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN-1.1 TR, MAX-31 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data				
Compressor	Type	Unit	D-Data	
	Quantity		3	
			Comp. A	10-40%
			Comp. B	32%
			Comp. C	28%
			Comp. A+B+C	70-100%
	Power	kw		32

Dimensions		
Length (A)	cm	210
Width (B)	cm	260
Height (C)	cm	300
Weight	kg	1720

Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	17100
		cfm	10075
EC Centrifugal fan ⁽⁷⁾	Size	cm	76*76*53
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	2
Evaporator coil	Face area	m ²	2.34
		ft ²	25.2
	Rows deep		4
Filter	12% deep 2"	Qty.-dim.	4-24"x24"
			4-20"x24"
			4-24"x24"
	30% deep 2" ⁽⁹⁾		4-20"x24"
Heating elemnts ⁽⁹⁾		kw	70/93

Condenser side ⁽⁵⁾				
Condenser coil	Quantity		1	
	Face area	m ²	4.22	
		ft ²	45.4	
EC Axial fan	Diameter	mm	710	
	Quantity		3	
	Air flow	m ³ /hr		10000
		cfm		6100
	Motor	kW		0.93
		RPM		900

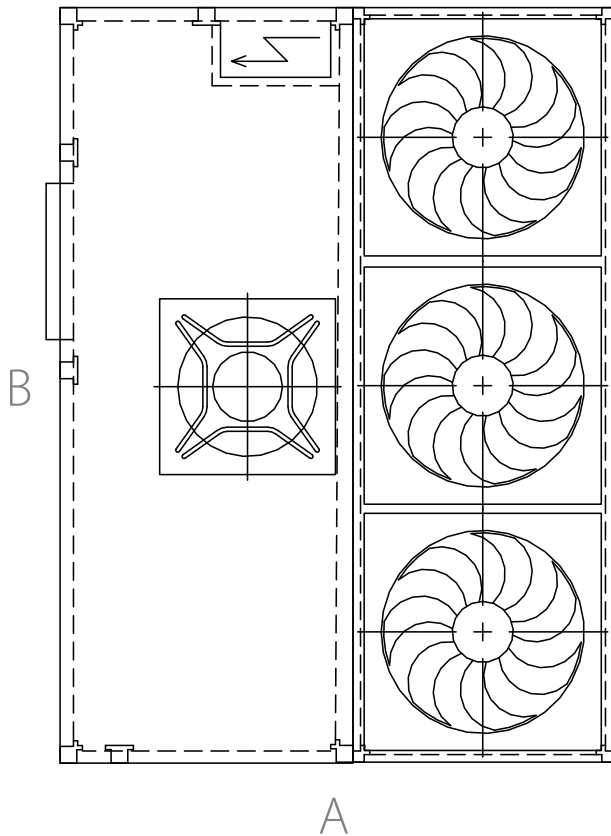
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	315	369	432
	HC	225	231	245
	KW	32	32	32
40 (104)	TC	306	358	419
	HC	219	224	237
	KW	33	33	33
45 (113)	TC	283	331	387
	HC	202	207	219
	KW	34	34	34

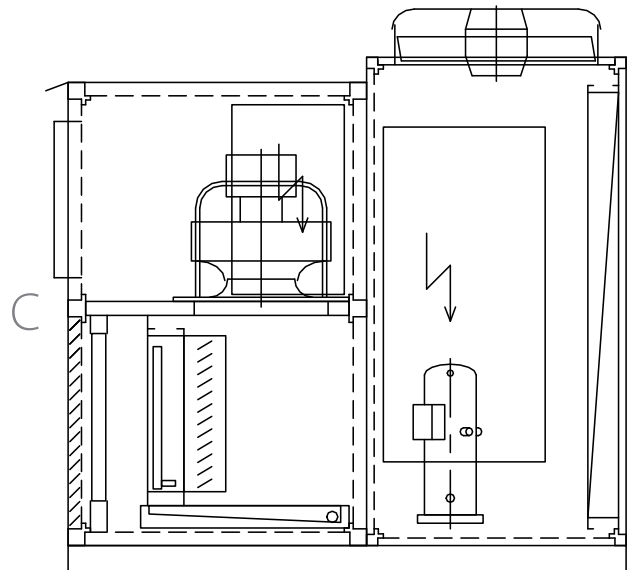
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► Model Plan: **D-31**

Top View



Side View



Performance		
Refrigerant		R-410A
Cooling capacity ⁽¹⁾	kWatt	126.8
	kBTU/Hr	433
Heating capacity ⁽²⁾	kWatt	163.8
	kBTU/Hr	559
Power consumption ⁽³⁾	kWatt	41.8
Operating current	A	47.9
C.O.P		3
EER		10.4

◀ Notes:

1. Nominal cooling capacity based on indoor air DB=27°C RH=50% and outdoor air temp. DB=35°C WB=26°C.
2. Nominal heating capacity based on indoor air DB=21°C and outdoor air DB=6°C.
3. Power supply 400v, 3ph, 50hz
4. MIN-1.1 TR, MAX-36 TR
5. One cooling circuit
6. Net static pressure available at fan discharge at nominal capacity.
7. Optional regular centrifugal fan
8. Optional regular motor
9. Optional

Technical Data				
Compressor	Type	Unit	D-Data	
	Quantity		3	
			Comp. A	10-34%
			Comp. B	33%
			Comp. C	33%
			Comp. A+B+C	76-100%
	Power	kw		37

Dimensions		
Length (A)	cm	210
Width (B)	cm	260
Height (C)	cm	310
Weight	kg	1760

Evaporator side ⁽⁵⁾			
Air flow		m ³ /hr	19900
		cfm	11700
EC Centrifugal fan ⁽⁷⁾	Size	cm	76*76*53
	Static Pressure ⁽⁶⁾	Pa	350
	Motor	kW	2.7
Evaporator coil	Face area	m ²	2.88
		ft ²	31
Filter	Rows deep		4
	12% deep 2"	Qty.-dim.	5-24"x24"
			5-20"x20"
	30% deep 2" ⁽⁹⁾		5-24"x24"
5-20"x20"			
Heating elemnts ⁽⁹⁾		kw	81/108

Condenser side ⁽⁵⁾			
Condenser coil	Quantity		1
	Face area	m ²	4.25
		ft ²	45.8
EC Axial fan	Diameter	mm	710
	Quantity		3
	Air flow	m ³ /hr	14000
		cfm	8300
	Motor	kW	0.7
		RPM	900

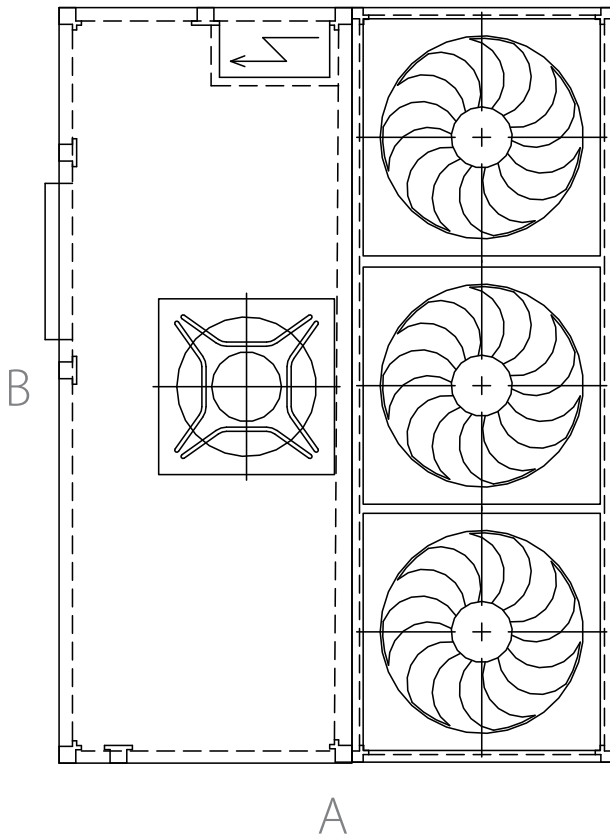
Cooling Capacity - (Capacities are According to A.R.I. Standard)

Refrigerant R-410A		return air	mixed	fresh air
Entering Air Temperature	DB/WB, °C	24/17	27/20.5	35/27
	DB/WB, °F	75.2/62.6	80.6/69	95/80.6
Outside Air Temp °C (°F)				
35 (95)	TC	369	432	505
	HC	264	270	286
	KW	37	37	37
40 (104)	TC	358	419	490
	HC	256	262	278
	KW	38	38	38
45 (113)	TC	332	388	454
	HC	237	243	257
	KW	39	39	39

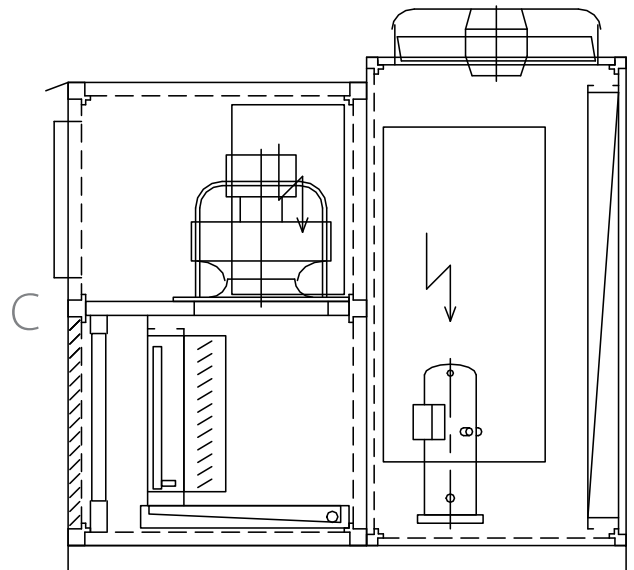
◀ Notes:
 TC-Total Cooling Capacity, kBTU/Hr
 HC-Heat Capacity, kBTU/Hr
 KW-Compressor Power Input, kW

► Model Plan: **D-36**

Top View



Side View





MKM

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