

COOLEX

Concealed Ducted Split Series R410A

18-60 MBH (1.5 TO 5 TR)



**Ducted Split with Hermetic Compressor
Tropical**

50 Hz

R410A

For more technical information please visit www.coolex.com.kw



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OTHER COOLEX PRODUCTS

- 1. Air Cooled Screw Water Chillers**
- 2. Air Cooled Scroll Water Chillers**
- 3. Commercial Packaged Units**
- 4. Residential Packaged Units**
- 5. Air Handling Units**
- 6. Ducted Split Units**
- 7. Fan Coil Units**

INTRODUCTION

COOLEX High Efficiency UL listed Concealed Ducted Split Units are designed specifically for tropical operation with high performance, low power consumption, easy installation and low noise operations.

COOLEX Concealed Ducted Split Units can be used for cooling or heating with optional duct electric heater.

NOMENCLATURE

CHCF - 030 A 2

Unit Series Description

CHCF-Concealed High Efficiency Condenser
(R410A Refrigerant)

CHEF-Concealed High Efficiency Evaporator
(R410A Refrigerant)

Cooling Capacity Nominal MBH

18	-	42
24	-	48
30	-	60
36		

Electrical Specifications

CODE	DESCRIPTION
2	415V / 3 ph / 50hz
7	240V / 1 ph / 50hz

CODE	DESCRIPTION
A	First Series
B	Second Series
C	Third Series

UNIT RATING SUMMARY

Model	Air Flow (MAX)	Ambient temp 95°F				Ambient temp 115°F				Ambient temp 118.4°F				Ambient temp 125°F			
		Cooling Capacity	Total Power	kW/Ton	EER	Cooling Capacity	Total Power	kW/Ton	EER	Cooling Capacity	Total Power	kW/Ton	EER	Cooling Capacity	Total Power	kW/Ton	EER
	(CFM)	(MBH)	(kW)		(MBH)	(kW)			(MBH)	(kW)			(MBH)	(kW)			
CHCF-018 A7 / CHEF-018 A7	695	18.77	1.5	0.96	12.51	15.57	1.76	1.36	8.85	15.1	1.79	1.42	8.44	14.5	1.88	1.56	7.71
CHCF-024 A7/ CHEF-024 A7	858	25.09	2.22	1.06	11.30	22.17	2.51	1.36	8.83	21.96	2.43	1.33	9.04	20.59	2.71	1.58	7.60
CHCF-030 A7/ CHEF-030 A7	1008	33.04	2.54	0.92	13.01	29.33	3.07	1.26	9.56	27.60	3.19	1.39	8.65	27.27	3.35	1.47	8.14
CHCF-036 A2/ CHEF-036 A7	1168	41.02	3.09	0.90	13.28	36.79	3.84	1.25	9.57	34.68	4.01	1.39	8.65	34.26	4.21	1.47	8.14
CHCF-042 A2/ CHEF-042 A7	1269	45.65	3.62	0.95	12.61	40.55	4.12	1.22	9.83	38.16	4.25	1.34	8.98	37.7	4.46	1.42	8.45
CHCF-48 A2/ CHEF-048 A7	1426	52.05	3.93	0.91	13.24	48.42	4.90	1.21	9.89	45.96	5.11	1.33	8.99	45.41	5.36	1.42	8.47
CHCF-060 A2/ CHEF-060-A7	1583	63.95	4.98	0.93	12.84	59.32	6.01	1.22	9.86	56.28	6.25	1.33	9.00	55.6	6.56	1.42	8.48

Rating Conditions: Indoor Temperature DB = 80° F (26.7° C).
WB = 67° F (19.4° C).

OUT STANDING FEATURES

Indoor Unit

- Compact design
- Low profile
- Low sound power level
- For ducted application
- 3 speed motors
- Easy maintenance
- Easy installation
- External terminal box

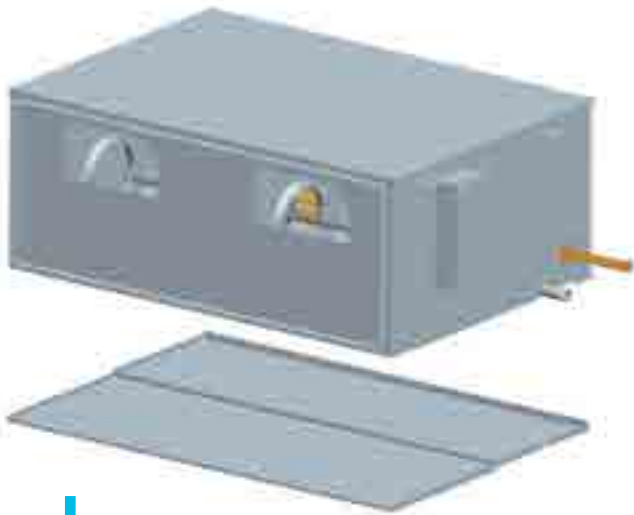
Outdoor Unit:

- High efficiency tropical design
- High Efficiency Scroll Compressor
- Model 018 - High efficiency Rotary Compressor
- Galvanized heavy gauge panels, oven baked powder coated
- Designed to operate at severe ambient temperature up to 52°C without tripping
- Coil guard protection
- External service valve with gauge ports

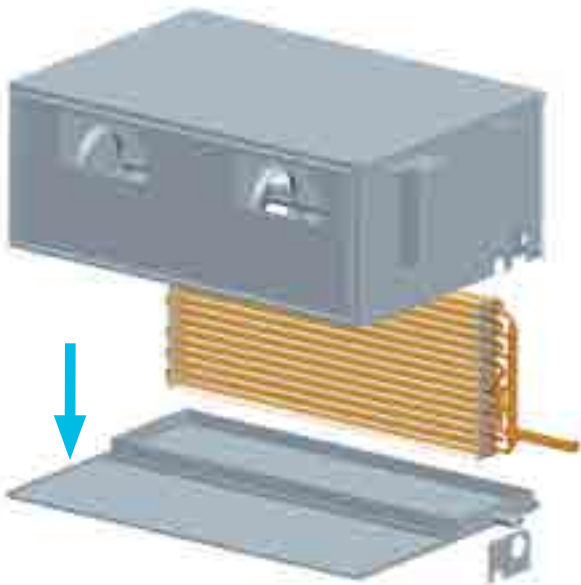
OUT STANDING FEATURES

Options & Accessories

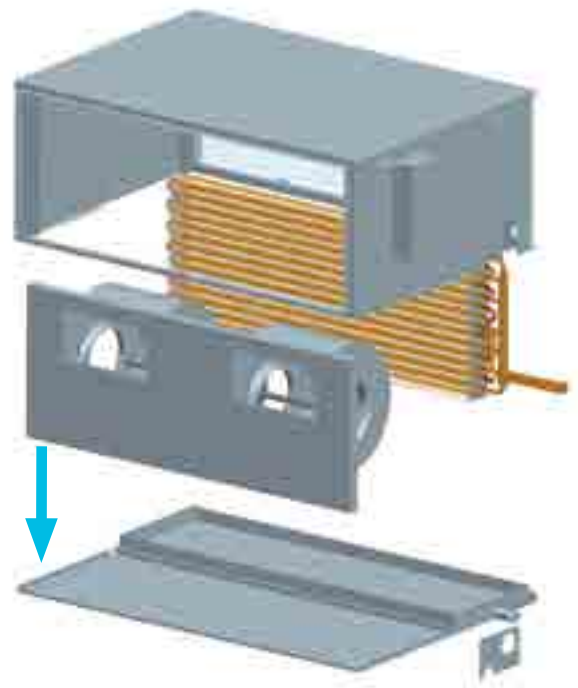
- Microprocessor Based Controller
- Digital Thermostat(3speed)
- Cleanable air filter



Bottom access panel



Bottom sliding coil and drain pan



Bottom sliding fan deck

STANDARD SPECIFICATIONS (OUTDOOR UNIT) & (INDOOR UNIT)

General

The side discharge condensing units are provided with the latest advanced technology to provide quiet, reliable performance. The wrap around coil adds aesthetical appeal and gives optimum heat transfer efficiency. The access panels provide access to the compressor and to the control box. Removal of top panel gives access to fan motor and coil.

Unit Construction

The indoor unit consists of a coil, motor/blower assembly and a drain pan securely mounted on heavy gauge galvanized steel housing.

Condenser Coils

The coils are built up of ripple finned seamless copper tubes and mechanically bonded to scientifically designed louvered fins. The assembled coils are factory leak tested under water at a pressure of 700 [psig] for quality and leak free unit.

Condenser Fans

Axial type condenser fan are used which precisely match with extra strong fan motor to ensure efficient hot air dissipation.

Condenser Fan Motor

The condenser fan motors are a 4/6 poles electric motor which directly drive the condenser fans conforming to BS/IES standards. They are totally enclosed air over type electric motors with built-in thermal protector class F insulation.

Unit Casing

The casing sheet metal is fabricated from hot dipped G90, Zinc coating and zero spangle galvanized steel, oven-baked powder coated.

Compressor

The compressors are hermetically sealed type. The compressors are equipped with internal motor protector and necessary accessories for safe operation.

Evaporator Coils

The coils are built up of ripple finned seamless copper tubes and mechanically bonded to scientifically designed louvered fins. The assembled coils are factory leak tested under water at a pressure of 350 psig for quality and leak free units.

Blower Assembly

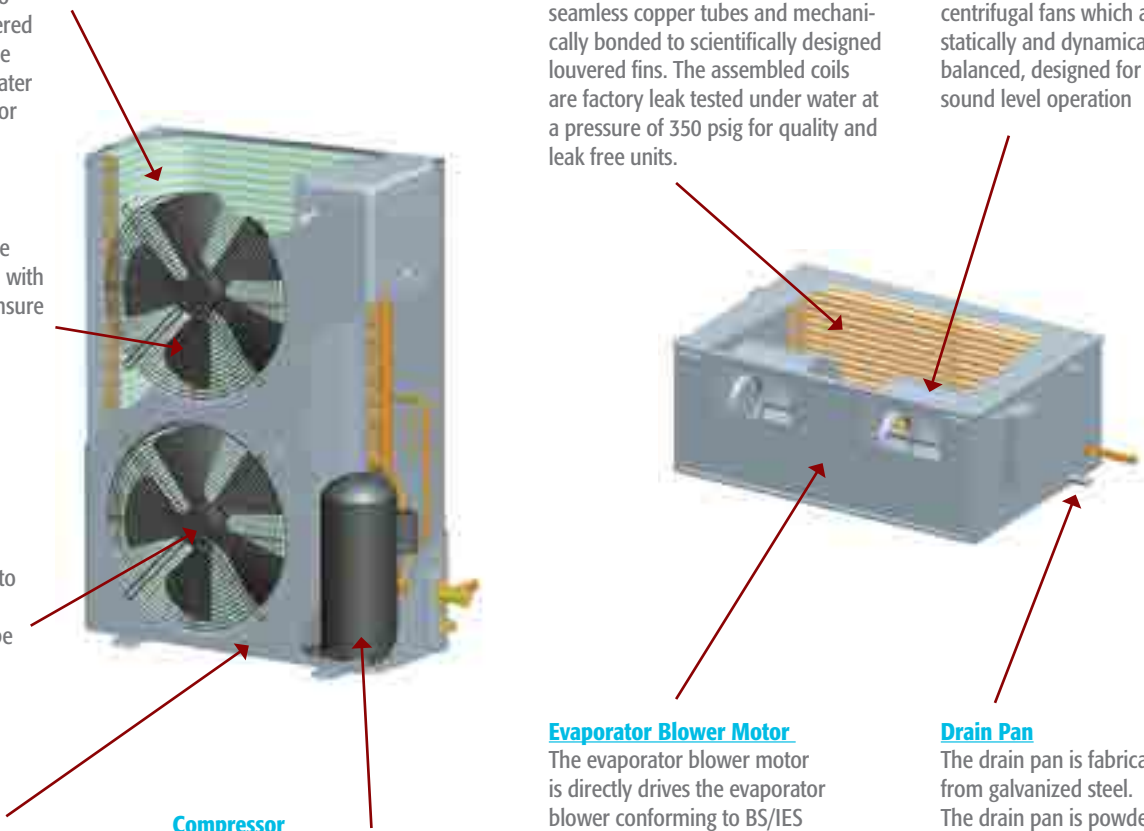
The units are provided with centrifugal fans which are statically and dynamically balanced, designed for low sound level operation

Evaporator Blower Motor

The evaporator blower motor is directly drives the evaporator blower conforming to BS/IES standards it is open drip proof type electric motors with built-in thermal protector and permanently lubricated ball bearings class B insulation.

Drain Pan

The drain pan is fabricated from galvanized steel. The drain pan is powder coat painted and the outer surface is thermally insulated.



MICROPROCESSOR BASED CONTROLLER

The concealed ducted split units are provided with Microprocessor based controller, incorporating the following benefits and features:

- Compressor anti short cycle timer.
- Compressor lock out function.
- Compressor trip/lock out error indication through LED.

OPTIONAL SPECIFICATIONS

Duct Electric Heater

A protection box with duct electric heater and safety control can also be provided. Maximum kW Ratings is as shown

Model	kW	Model	kW
CHEF-018 A	1.5	CHEF-024 A	2
CHEF-030 A	3	CHEF-036 A	3
CHEF-042 A	4	CHEF-048 A	4
CHEF-060 A	5		

Home Automation System

Cooler App



Wi Fi Module



Typical Thermostat



Thermostat features:

1. Voltage rating: 24VAC
2. Room temperature/Set temperature display in °C or °F
3. Mode of operation: Cool/Heat/Auto
4. Fan mode: Auto/ON
5. 3Speed fan
6. Key lock function
7. Preset temperature setting: Comfort/Economy/Away
8. Duct/Remote sensor option
9. Temperature offset calibration
10. BMS Modbus option

Home Automation through Voice Commands

Example: Set the bed room (Device name) to cool/heat/auto/off mode. You can say (Change/switch/turn/make) bed room to cool mode.

Link App

Tuya Smart and Amazon Alexa.

Typical Thermostat



SELECTION PROCEDURE

The below example illustrates the selection procedure to assist using this catalog to select the appropriate CHEF/CHCF unit that meets the design requirements.

Example :

Design requirements

- Total cooling capacity 26500 [Btu/hr]
- Sensible cooling capacity 20300 [Btu/hr]
- Design ambient temperature 118.4 [°F]
- Evaporator air flow 1000 [CFM]
- Evaporator entering temperature DB/WB 80/67 [°F/°F]
- Altitude 3000 [ft]
- Power supply 415V/3Ph/50Hz

Altitude [ft]	Correction factor
Sea level	1
1000	0.996
2000	0.990
3000	0.984
4000	0.980
5000	0.974
6000	0.965
7000	0.960

*Using the correction factor table at the specified altitude, thereby the required capacity will be:

Corrected capacity = Required capacity / corr. factor

Corrected total capacity = 26,500 [Btu/hr]/0.984
= 26,930 [Btu/hr]

Corrected sensible capacity = 20,300 [Btu/hr]/0.984
= 20,630 [Btu/hr]

From the cooling capacity at performance data tables (page 9), the closest selection model to the required Capacity is CHEF/CHCF-030:

Total capacity = 27,189 [Btu/hr]

Sensible capacity = 22,177 [Btu/hr]

GENERAL DATA

Outdoor Units		CHCF 018	CHCF 024	CHCF 030	CHCF 036	CHCF 042	CHCF 048	CHCF 060
Compressor	Type	Rotary	Scroll					
	Quantity	1	1	1	1	1	1	1
	Refrigerant	R410A						
Condenser Fan	Type	Propeller						
	Quantity	1	1	1	1	2	2	2
	Drive	Direct						
Condenser Coil	Type	Hydrophilic Aluminum Fins & Inner Grooved Copper Tubes						
	Row Deep	2	2	2	2	2	2	2
	FPI	13	13	13	13	13	13	13
	Total Area, Sq.m	0.45	0.56	0.56	0.63	0.95	0.95	0.95
	(Sq.Ft)	4.8	6.0	6.0	6.8	10.2	10.2	10.2
Weight	kg	45	59	61	64	89	92	95

Indoor Units		CHEF 018	CHEF 024	CHEF 030	CHEF 036	CHEF 042	CHEF 048	CHEF 060
Evaporator Blower	Type	Centrifugal Forward Curve DWDI						
	Airflow, m³/h	1188	1622	1809	2006	2310	2594	2846
	(CFM)	699	954	1064	1180	1359	1526	1674
	Drive	Direct						
Evaporator Coil	Type	Hydrophilic Aluminum Fins & Inner Grooved Copper Tubes						
	Row Deep	3	3	3	3	3	3	3
	FPI	16	14	14	14	14	14	14
	Total Area, Sq.m	0.25	0.29	0.29	0.32	0.32	0.44	0.44
	(Sq.Ft)	2.71	3.16	3.16	3.4	3.4	4.7	4.7
Expansion Devices		Capillary	Thermal Expansion Valve					
Weight	kg	35	40	40	54	54	61	61

PERFORMANCE DATA TABLES

Model	Air On Evaporator			Condenser Ambient Temperature [°F]											
	Air Flow		Temp ° F	95			115			118.4			125		
	CFM	DB	WB	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input
				Total	Sen.		Total	Sen.		Total	Sen.		Total	Sen.	
CHCF-018 A7 / CHEF-018 A7	567	84.2	66.2	17,771	15,105	1.49	14,744	12,532	1.74	14,302	12,157	1.78	13,712	11,655	1.86
		80.0	67.0	18,134	15,414	1.49	15,045	12,788	1.74	14,594	12,405	1.78	13,992	11,893	1.86
		74.0	62.0	16,356	13,903	1.45	13,571	11,535	1.70	13,164	11,189	1.73	12,621	10,728	1.82
		68.0	57.0	15,033	12,778	1.42	12,473	10,602	1.66	12,099	10,284	1.69	11,600	9,860	1.78
	615	84.2	66.2	18,142	15,421	1.49	15,053	12,795	1.75	14,601	12,411	1.78	13,999	11,899	1.87
		80.0	67.0	18,447	15,680	1.49	15,306	13,010	1.75	14,846	12,619	1.78	14,234	12,099	1.87
		74.0	62.0	16,639	14,143	1.46	13,806	11,735	1.70	13,392	11,383	1.74	12,839	10,913	1.82
		68.0	57.0	15,293	12,999	1.42	12,688	10,785	1.67	12,308	10,462	1.70	11,800	10,030	1.78
	695	84.2	66.2	18,554	15,771	1.50	15,394	13,085	1.76	14,932	12,692	1.79	14,316	12,169	1.88
		80.0	67.0	18,766	15,951	1.50	15,570	13,235	1.76	15,103	12,838	1.79	14,480	12,308	1.88
		74.0	62.0	16,927	14,388	1.46	14,044	11,937	1.71	13,623	11,580	1.74	13,061	11,102	1.83
		68.0	57.0	15,557	13,223	1.43	12,908	10,972	1.67	12,521	10,643	1.70	12,004	10,203	1.79
CHCF-024 A7/CHEF-024 A7	817	84.2	66.2	23927	20,338	2.06	21,144	17,972	2.34	20,666	17,566	2.39	19,631	16,686	2.54
		80.0	67.0	24,415	20,753	2.06	21,575	18,339	2.34	21,088	17,925	2.39	20,032	17,027	2.54
		74.0	62.0	21,520	18,292	1.94	19,017	16,164	2.21	18,588	15,800	2.25	17,657	15,008	2.39
		68.0	57.0	18,701	15,896	1.87	16,525	14,046	2.11	16,152	13,729	2.14	15,343	13,042	2.29
	843	84.2	66.2	24,330	20,681	2.07	21,500	18,275	2.36	21,015	17,863	2.41	19,962	16,968	2.56
		80.0	67.0	24,739	21,028	2.07	21,861	18,582	2.36	21,368	18,163	2.41	20,298	17,253	2.56
		74.0	62.0	21,804	18,533	1.96	19,267	16,377	2.24	18,833	16,008	2.28	17,890	15,207	2.43
		68.0	57.0	18,949	16,107	1.88	16,744	14,232	2.13	16,367	13,912	2.17	15,547	13,215	2.31
	858	84.2	66.2	24,803	21,083	2.09	21,923	18,635	2.38	21,712	18,455	2.43	20,361	17,307	2.58
		80.0	67.0	25,088	21,325	2.09	22,173	18,847	2.38	21,960	18,666	2.43	20,594	17,505	2.58
		74.0	62.0	22,109	18,793	1.98	19,537	16,606	2.26	19,096	16,232	2.31	18,139	15,418	2.45
		68.0	57.0	19,215	16,333	1.89	16,980	14,433	2.15	16,596	14,107	2.19	15,765	13,400	2.33
CHCF-030 A7/CHEF-030 A7	952	84.2	66.2	31,510	27,099	2.50	27,971	24,055	3.02	26,283	22,603	3.11	25,994	22,355	3.30
		80.0	67.0	32,153	27,652	2.50	28,542	24,546	3.02	26,819	23,064	3.11	26,524	22,811	3.30
		74.0	62.0	28,340	24,372	2.36	25,157	21,635	2.86	23,508	20,217	2.94	23,379	20,106	3.12
		68.0	57.0	24,627	21,179	2.29	21,861	18,800	2.74	20,283	17,443	2.80	20,316	17,472	2.99
	983	84.2	66.2	32,041	27,555	2.52	28,443	24,461	3.04	26,739	22,996	3.13	26,433	22,732	3.32
		80.0	67.0	32,580	28,019	2.52	28,921	24,872	3.04	27,189	23,383	3.13	26,877	23,114	3.32
		74.0	62.0	28,714	24,694	2.39	25,489	21,921	2.89	23,833	20,496	2.98	23,688	20,372	3.16
		68.0	57.0	24,954	21,460	2.30	22,152	19,051	2.76	20,567	17,688	2.84	20,586	17,704	3.01
	1008	84.2	66.2	32,666	28,093	2.54	29,003	24,943	3.07	27,288	23,468	3.19	26,961	23,186	3.35
		80.0	67.0	33,039	28,414	2.54	29,334	25,227	3.07	27,600	23,736	3.19	27,269	23,451	3.35
		74.0	62.0	29,116	25,040	2.42	25,846	22,228	2.92	24,181	20,796	3.01	24,019	20,656	3.19
		68.0	57.0	25,305	21,762	2.31	22,463	19,318	2.78	20,871	17,949	2.86	20,875	17,953	3.04

Note: Capacity in KW= (Btu/hr)*0.0003. Cooling capacities are gross ratings
Power Input is Total Power (kW)

PERFORMANCE DATA TABLES

Model	Air On Evaporator			Condenser Ambient Temperature [°F]											
	Air Flow		Temp ° F	95			115			118.4			125		
	CFM	DB	WB	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input
				Total	Sen.		Total	Sen.		Total	Sen.		Total	Sen.	
CHCF-036 A2/CHEF-036 A7	1097	84.2	66.2	39,125	34,039	3.04	35,078	30,518	3.78	33,024	28,731	3.91	32,661	28,415	4.14
		80.0	67.0	39,923	34,733	3.04	35,794	31,141	3.78	33,698	29,317	3.91	33,328	28,995	4.14
		74.0	62.0	35,189	30,614	2.87	31,550	27,449	3.57	29,538	25,698	3.69	29,376	25,557	3.91
		68.0	57.0	30,579	26,604	2.77	27,416	23,852	3.43	25,486	22,173	3.52	25,527	22,208	3.76
	1133	84.2	66.2	39,784	34,612	3.06	35,669	31,032	3.80	33,599	29,231	3.93	33,213	28,895	4.17
		80.0	67.0	40,453	35,194	3.06	36,269	31,554	3.80	34,164	29,723	3.93	33,771	29,381	4.17
		74.0	62.0	35,653	31,018	2.91	31,966	27,810	3.62	29,946	26,053	3.74	29,764	25,895	3.97
		68.0	57.0	30,985	26,957	2.80	27,780	24,169	3.45	25,843	22,483	3.56	25,866	22,503	3.78
	1168	84.2	66.2	40,560	35,287	3.09	36,371	31,643	3.84	34,288	29,831	4.01	33,877	29,473	4.21
		80.0	67.0	41,023	35,690	3.09	36,787	32,005	3.84	34,680	30,172	4.01	34,264	29,810	4.21
		74.0	62.0	36,152	31,452	2.94	32,413	28,199	3.66	30,384	26,434	3.78	30,180	26,257	4.00
		68.0	57.0	31,420	27,335	2.81	28,170	24,508	3.49	26,225	22,816	3.60	26,230	22,820	3.82
CHCF-042 A2/CHEF-042 A7	1172	84.2	66.2	43,538	37,878	3.56	38,669	33,642	4.06	36,338	31,614	4.14	35,939	31,267	4.39
		80.0	67.0	44,427	38,651	3.56	39,458	34,328	4.06	37,080	32,260	4.14	36,672	31,905	4.39
		74.0	62.0	39,159	34,068	3.37	34,779	30,258	3.84	32,502	28,277	3.92	32,324	28,122	4.15
		68.0	57.0	34,028	29,604	3.28	30,222	26,293	3.68	28,043	24,397	3.73	28,089	24,437	3.98
	1222	84.2	66.2	44,273	38,518	3.58	39,321	34,209	4.08	36,970	32,164	4.17	36,546	31,795	4.42
		80.0	67.0	45,017	39,165	3.58	39,982	34,784	4.08	37,592	32,705	4.17	37,160	32,329	4.42
		74.0	62.0	39,676	34,518	3.41	35,238	30,657	3.89	32,951	28,667	3.97	32,750	28,493	4.21
		68.0	57.0	34,480	29,998	3.26	30,624	26,643	3.71	28,436	24,739	3.78	28,462	24,762	4.01
	1269	84.2	66.2	45,135	39,267	3.62	40,095	34,883	4.12	37,729	32,824	4.25	37,276	32,430	4.46
		80.0	67.0	45,651	39,716	3.62	40,553	35,281	4.12	38,160	33,199	4.25	37,702	32,801	4.46
		74.0	62.0	40,230	35,000	3.44	35,730	31,085	3.92	33,433	29,087	4.01	33,208	28,891	4.25
		68.0	57.0	34,965	30,420	3.29	31,054	27,017	3.74	28,857	25,106	3.81	28,861	25,109	4.05
CHCF-048 A2/CHEF-048 A7	1291	84.2	66.2	49,550	43,604	3.87	46,166	40,626	4.82	43,766	38,514	4.98	43,285	38,091	5.28
		80.0	67.0	50,651	44,573	3.87	47,108	41,455	4.82	44,659	39,300	4.98	44,168	38,868	5.28
		74.0	62.0	44,645	39,288	3.66	41,522	36,539	4.55	39,146	34,448	4.71	38,931	34,259	4.99
		68.0	57.0	38,796	34,140	3.56	36,082	31,752	4.37	33,775	29,722	4.48	33,830	29,770	4.79
	1374	84.2	66.2	50,475	44,418	3.89	46,944	41,311	4.85	44,527	39,184	5.01	44,015	38,733	5.31
		80.0	67.0	51,324	45,165	3.89	47,733	42,005	4.85	45,276	39,843	5.01	44,755	39,384	5.31
		74.0	62.0	45,234	39,806	3.70	42,070	37,022	4.61	39,686	34,924	4.77	39,445	34,712	5.06
		68.0	57.0	39,311	34,594	3.54	36,561	32,174	4.40	34,249	30,139	4.54	34,279	30,166	4.82
	1426	84.2	66.2	51,459	45,284	3.93	47,868	42,124	4.90	45,441	39,988	5.11	44,895	39,508	5.36
		80.0	67.0	52,047	45,801	3.93	48,415	42,605	4.90	45,960	40,445	5.11	45,408	39,959	5.36
		74.0	62.0	45,866	40,362	3.74	42,658	37,539	4.66	40,267	35,435	4.81	39,996	35,196	5.10
		68.0	57.0	39,864	35,080	3.57	37,075	32,626	4.44	34,756	30,585	4.58	34,761	30,590	4.87

Note: Capacity in KW= (Btu/hr)*0.0003. Cooling capacities are gross ratings
Power Input is Total Power (kW)

PERFORMANCE DATA TABLES

Model	Air On Evaporator			Condenser Ambient Temperature [°F]											
	Air Flow		Temp ° F	95			115			118.4			125		
	CFM	DB	WB	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input	Capacity Btu/Hr		kW Input
			Total	Sen.		Total	Sen.		Total	Sen.		Total	Sen.		
CHCF-060 A2/CHEF-060 A7	1410	84.2	66.2	60,994	53,675	4.90	56,563	49,775	5.92	53,523	47,100	6.09	53,004	46,644	6.46
		80.0	67.0	62,239	54,770	4.90	57,717	50,791	5.92	54,615	48,061	6.09	54,086	47,596	6.46
		74.0	62.0	54,859	48,276	4.63	50,873	44,768	5.59	47,864	42,120	5.76	47,673	41,952	6.10
		68.0	57.0	47,671	41,950	4.48	44,208	38,903	5.37	41,287	36,333	5.49	41,427	36,456	5.86
	1526	84.2	66.2	62,022	54,579	4.93	57,497	50,597	5.96	54,456	47,921	6.13	53,899	47,431	6.50
		80.0	67.0	63,065	55,497	4.93	58,484	51,466	5.96	55,371	48,726	6.13	54,805	48,228	6.50
		74.0	62.0	55,583	48,913	4.69	51,545	45,360	5.67	48,526	42,703	5.83	48,302	42,506	6.18
		68.0	57.0	48,304	42,508	4.51	44,795	39,420	5.40	41,867	36,843	5.56	41,977	36,940	5.90
	1583	84.2	66.2	63,232	55,644	4.98	58,649	51,611	6.01	55,573	48,904	6.25	54,976	48,379	6.58
		80.0	67.0	63,954	56,280	4.98	59,319	52,201	6.01	56,208	49,463	6.25	55,604	48,932	6.56
		74.0	62.0	56,359	49,596	4.74	52,265	45,993	5.72	49,236	43,328	5.89	48,977	43,100	6.24
		68.0	57.0	48,983	43,105	4.53	45,424	39,973	5.46	42,488	37,389	5.61	42,566	37,458	5.95

LEGEND:

- CFM : Air flow rate (Ft³/minute)
- DB : Dry bulb temperature (°F)
- WB : Wet bulb temperature (°F)
- KW : Total Power Input (Kilowatts)

Note: Capacity in KW= (Btu/hr)*0.0003. Cooling capacities are gross ratings
Power Input is Total Power (kW)

UNIT ELECTRICAL DATA

Outdoor Units		CHCF-018	CHCF-024	CHCF-030	CHCF-036	CHCF-042	CHCF-048	CHCF-060
Unit Power Supply	Volt	240	240	240	415	415	415	415
	Phase	1	1	1	3	3	3	3
	Hz	50						
Compressor	V - Ph - Hz	220/240 - 1 - 50			380/420 - 3 - 50			
	RLA	6.4	12.5	13.6	6.6	6.8	10.7	10
	LRA	38	60	67	46	43	64	64
Condenser Fan Motor	V - Ph - Hz	240 - 1 - 50			* 415 - 3 - 50	415 - 3 - 50		
	Output kW	0.16	0.16	0.16	0.37	0.37 X 2	0.37 X 2	0.37 X 2
	FLA	0.75	0.75	0.75	0.70	0.70 X 2	0.70 X 2	0.70 X 2
Unit Ampacity, Ampere		8.8	16.4	17.8	8.9	9.9	14.8	13.9
Max. Fuse Size, Ampere		15	25	30	15	15	25	25
Minimum Wire Size, mm ²		2.5	4	4	2.5	2.5	2.5	2.5

* 240 - 1 - 50, to be provided upon customer request.

Indoor Units		CHEF-018	CHEF-024	CHEF-030	CHEF-036	CHEF-042	CHEF-048	CHEF-060
Unit Power Supply	Volt	240						
	Phase	1						
	Hz	50						
Blower Motor	V - Ph - Hz	240 - 1 - 50						
	Motor Hp	1/6	1/3	1/3	1/2	1/2	3/4	3/4
	FLA	1.5	2.5	2.5	3.1	3.1	4.5	4.5
Unit Ampacity, Ampere		1.9	3.1	3.1	3.9	3.9	5.6	5.6
Max. Fuse Size, Ampere		5	5	5	5	5	10	10
Minimum Wire Size, mm ²		1.5	1.5	1.5	1.5	1.5	1.5	1.5

LEGEND:

- FLA : Full Load Amps
- RLA : Rated Load Amps
- LRA : Locked Rotor Amps

SUPPLY AIR PERFORMANCE

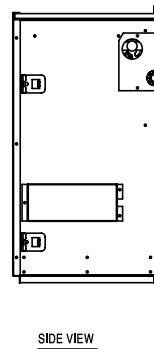
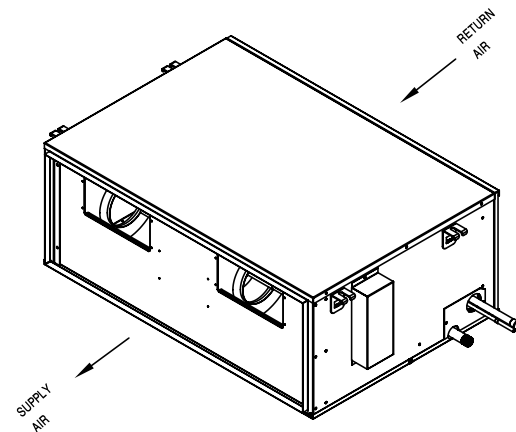
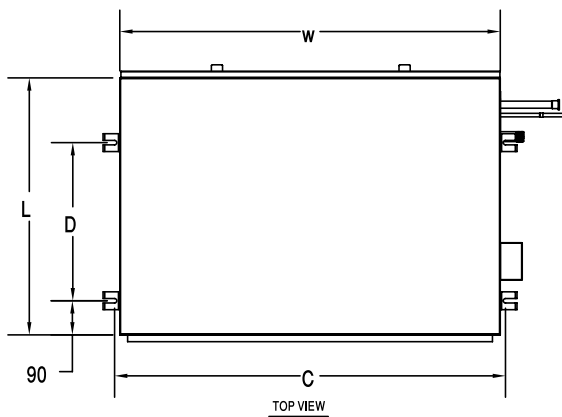
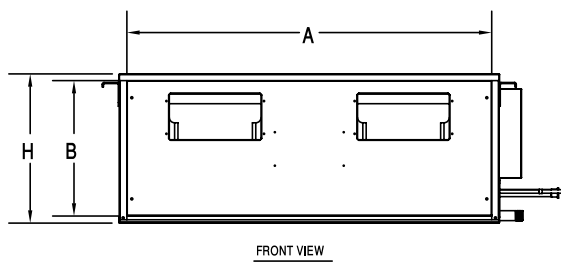
Model	SPEED	External Static Pressure [in.wg]					
		0.0	0.1	0.2	0.3	0.4	0.5
		Air Flow Rate [CFM]					
CHEF-018	HIGH	736	695	595	544	441	-
	MED	699	615	523	475	-	-
	LOW	648	567	477	-	-	-
CHEF-024	HIGH	1107	858	759	652	552	-
	MED	954	843	743	606	-	-
	LOW	923	817	721	-	-	-
CHEF-030	HIGH	1202	1008	919	825	752	-
	MED	1064	983	888	786	-	-
	LOW	1028	952	861	-	-	-
CHEF-036	HIGH	1202	1168	1089	1010	970	-
	MED	1180	1133	1043	976	-	-
	LOW	1150	1097	1011	928	-	-
CHEF-042	HIGH	1404	1338	1269	1210	1207	-
	MED	1359	1297	1222	1188	-	-
	LOW	1311	1251	1172	1137	-	-
CHEF-048	HIGH	1583	1466	1426	1338	1224	720
	MED	1526	1427	1374	1308	1083	-
	LOW	1450	1367	1291	1232	-	-
CHEF-060	HIGH	1993	1644	1583	1466	1241	737
	MED	1674	1600	1526	1427	1193	623
	LOW	1548	1477	1410	1327	1134	-

UNIT DIMENSIONS

Indoor Unit

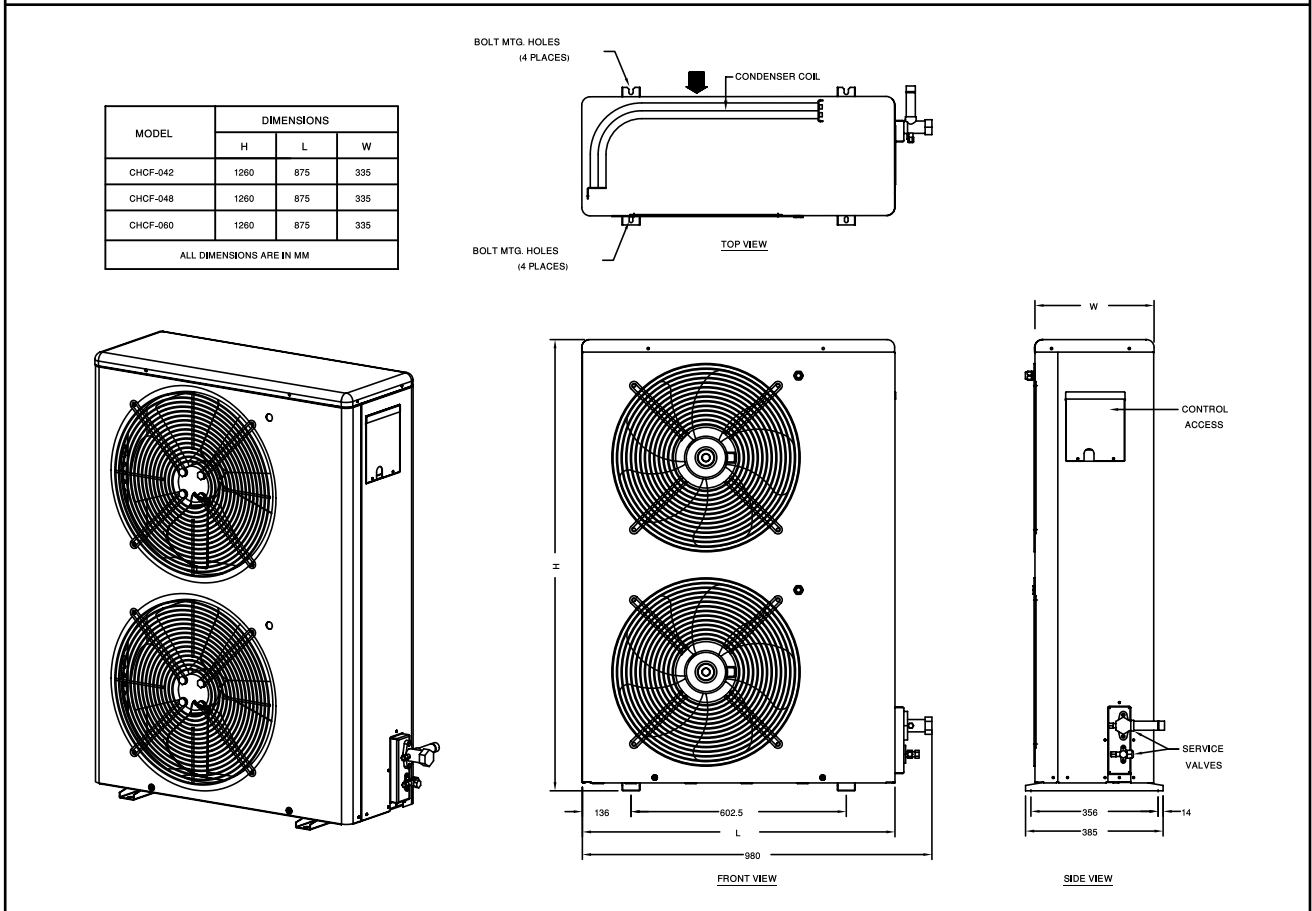
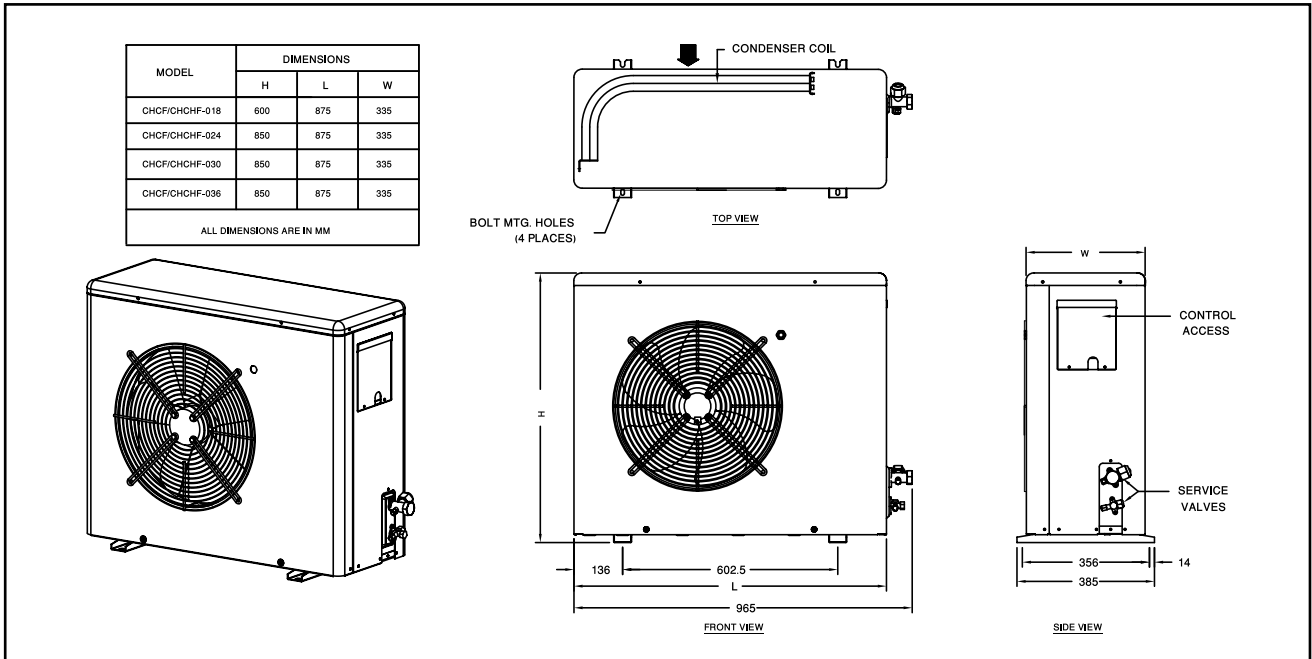
MODEL	DIMENSIONS					
	L	W	H	DUCT CONN. A X B	C	D
CHEF - 018	600	950	325	912 X 288	980	380
CHEF - 024	600	950	325	912 X 288	980	380
CHEF - 030	600	950	325	912 X 288	980	380
CHEF - 036	670	950	370	912 X 333	980	425
CHEF - 042	670	950	370	912 X 333	980	425
CHEF - 048	840	1020	400	980 X 363	1050	600
CHEF - 060	840	1020	400	980 X 363	1050	600

ALL DIMENSIONS ARE IN mm



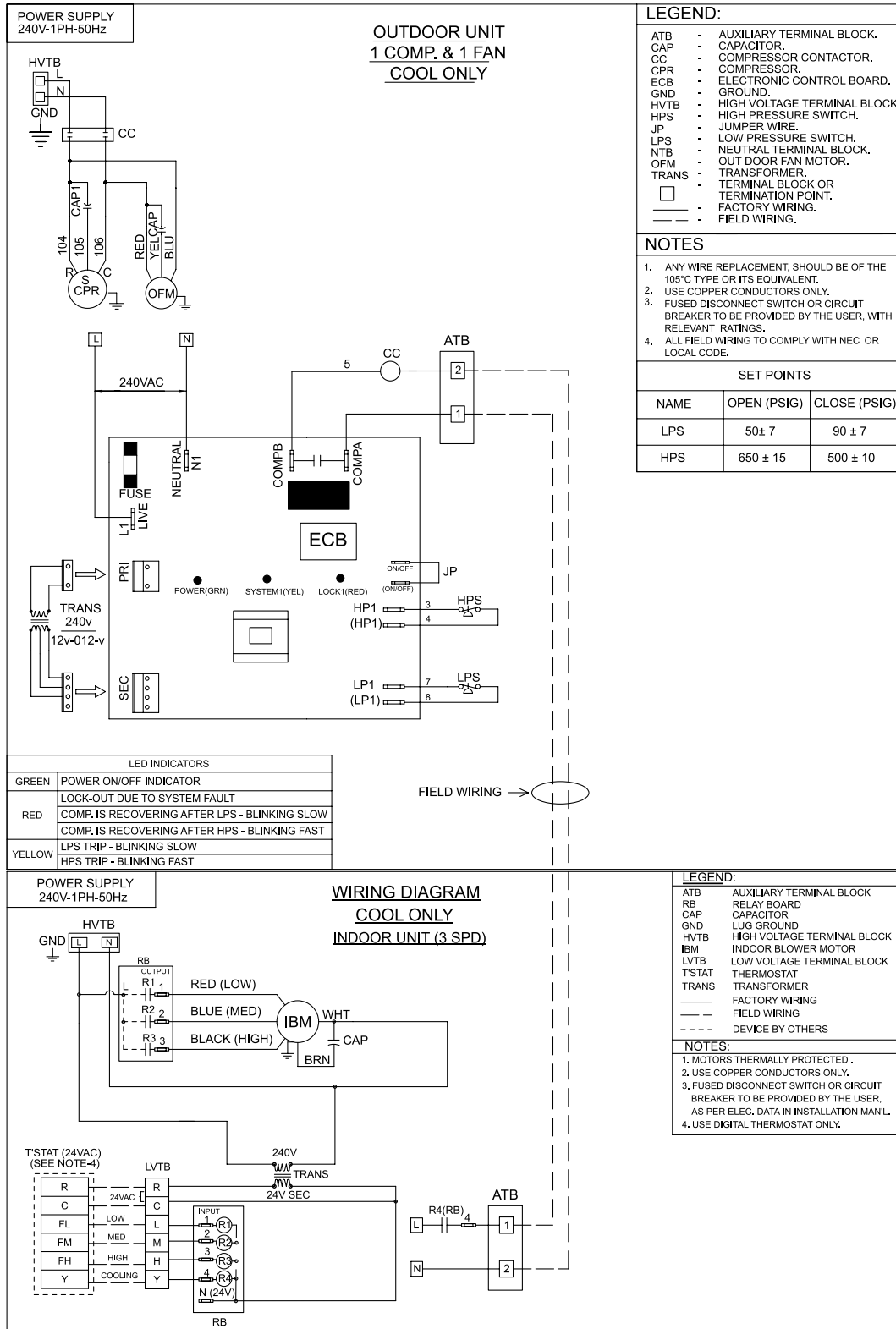
UNIT DIMENSIONS

Outdoor Units



WIRING DIAGRAMS

Typical Wiring Diagram



INSTALLATION

Before starting prepare refrigerant lines

To create the refrigerant lines you will need refrigeration quality annealed copper tubing. These tubes are available on the local market together with the insulation and mounting equipment.

Indoor unit installation position

To ensure correct installation, the following points must be considered:

- The ceiling must be strong enough to support the weight of the unit.
- Choose a place where it will be easy to comply with the recommended clearances, taking into account the additional space required due to external accessories.
- Take into consideration the drilling of the holes in the walls to connect the unit.
- Make sure the maximum distances between the two units are not exceeded. See following tables

Models CHCF/ CHEF	Refrigerant Lines	Equivalent Length	
		0 - 40 Ft	41 - 60 Ft
18	Liquid Line	3/8	3/8
	Suction Line	5/8	3/4
24	Liquid Line	3/8	3/8
	Suction Line	5/8	3/4
30	Liquid Line	3/8	1/2
	Suction Line	3/4	3/4
36	Liquid Line	3/8	1/2
	Suction Line	3/4	3/4
42	Liquid Line	1/2	1/2
	Suction Line	3/4	7/8
48	Liquid Line	1/2	1/2
	Suction Line	7/8	7/8
60	Liquid Line	1/2	1/2
	Suction Line	7/8	1.1/8

Models CHCF/ CHEF	Refrigerant Lines	Equivalent Length	
		0 - 60 Ft	61-100 Ft
18	Liquid Line	3/8	1/2
	Suction Line	3/4	3/4
24	Liquid Line	3/8	1/2
	Suction Line	3/4	3/4
30	Liquid Line	1/2	1/2
	Suction Line	3/4	3/4
36	Liquid Line	1/2	1/2
	Suction Line	3/4	7/8
42	Liquid Line	1/2	1/2
	Suction Line	7/8	7/8
48	Liquid Line	1/2	1/2
	Suction Line	7/8	7/8
60	Liquid Line	1/2	5/8
	Suction Line	1.1/8	1.1/8

Models CHCF/ CHEF	Refrigerant Lines	Equivalent Length	
		0 - 80 Ft	81-100 Ft
18	Liquid Line	3/8	1/2
	Suction Line	3/4	3/4
24	Liquid Line	3/8	1/2
	Suction Line	3/4	3/4
30	Liquid Line	1/2	1/2
	Suction Line	3/4	3/4
36	Liquid Line	1/2	1/2
	Suction Line	3/4	7/8
42	Liquid Line	1/2	1/2
	Suction Line	7/8	7/8
48	Liquid Line	1/2	1/2
	Suction Line	7/8	7/8
60	Liquid Line	1/2	5/8
	Suction Line	1.1/8	1.1/8



Note for TABLE 1 : Near to the evaporator Inverted vapor line trap should be installed.



Note for TABLE 2 : Depending on the vertical rise of the line set, oil traps are required in the suction line. Oil traps should be installed at equal intervals along the suction line. install 1 oil trap for a height difference of 15-25 feet between indoor and outdoor units. install 2 oil traps for a difference of 26-50 ft, 3 for 51-100 ft .



Note for TABLE 3 : Inverted vapor line trap & Oil trap not required.



Note: Equivalent length = Piping Length+ Fitting equivalent Length

NOTES

NOTES

NOTES

About RIC

Refrigeration Industries Company (KSE 504) is a group holding company with diversified interests in manufacturing, contracting and services. Recognized regionally for our engineering capabilities and management excellence, RIC and its subsidiaries offer a wide range of high quality products and services that cater to both residential and commercial customers, in the areas of climate control technologies and specialized storage solutions.

In view of the growing Kuwait infrastructure and the limitations imposed on it by the country's arid climate, the Refrigeration Industries Company was established 43 years ago in 1973, by Amiri Decree. The company's operations began with the construction of the first cold stores in the region, to enable the storage of the imported foods, on which Kuwait relied. Along with the development and advancement of the country, so has RIC prospered and expanded, and is now a milestone in the history of modern Kuwait.

RIC takes pride in its successful record and the many accolades it has garnered over time, but the greatest achievement has been the provision of comfort and protection from the harsh climate, to the people of Kuwait.

More than 43 years of uninterrupted service, overcoming extreme weather conditions, war, economic recessions and ever increasing competition, is testimony to the fact that RIC has met the expectations and responsibilities that was envisioned at the beginning and also highlights the tenacity and vision to exceed them in the future.

Facts throughout the years

- 1973 Warehouses were established by Amiri Decree.
- 1979 RIC Constructed the Medical Cold Stores Complex, the world's largest at that time.
- 1980 RIC Air Conditioning manufacturing plant set up in Sulaihya.
- 1981 Production of Package & Mini-Split A/Cs started under York-Gulf.
- 1984 RIC was listed in Kuwait Stock Exchange.
- 1986 COOLEX brand Production Launched.
- 1991 RIC rebuilt the manufacturing plant destroyed during the war.
- 1997 Achieved ISO Certification ISO 9001:1994.
- 2002 ETL Designed testing lab became fully operational.
- 2004 Privatization of RIC.
- 2010 COOLEX becomes the first A/C Unit to Pass MEW's new regulations.
- 2010 RIC Factory Renovation and Expansion into neighboring countries.
- 2012 Achieved UL & AHRI Certification for Coolex Units.
- 2014 Achieved SASO Certification for Concealed Ducted Split Series.
- 2014 Achieved EUROVENT Certification for Air Handling Units AHU.
- 2014 Achieved UL Certification for Air Cooled Chillers.
- 2015 Achieved ISO 17025 Certification for Psychrometric Laboratory.
- 2016 Achieved Energy Efficiency Certification for Concealed Ducted Split Series & Rooftop Package units (Kingdom of Bahrain).

نبذة عن الشركة

شركة صناعات التبريد (متداولة في سوق الكويت للأوراق المالية برقم 504) هي شركة متنوعة الأنشطة تعمل في مجال التصنيع والمقاولات والخدمات. ونحن نقدم مجموعة كبيرة من المنتجات والخدمات والحلول التقنية في مجال مواجهة الظروف المناخية وحلول التخزين. وقد حازت الشركة على إعراف إقليمي بقدراتها الهندسية وكفاءتها الإدارية.

شركة صناعات التبريد هي مجموعة شركات تهدف إلى توفير أعلى مستويات الجودة من حيث المنتجات والخدمات التي تلبى إحتياجات عملائها السكنية والتجارية. وعلى مدى ثلاثة وأربعين عاماً مضت على إنشاء شركتنا فقد إستطعنا أن نوظد أقدامنا في جميع قطاعات السوق الكويتي. ونحن إذ نفتخر بإنجازات التي حققناها، إلا أننا أشد فخراً بأننا تمكنا من الوقوف إلى جانب أهل الكويت على مدى سنوات طويلة في مواجهة تقلبات الظروف المناخية القاسية سواء من حيث درجات الحرارة العالية أو الأتربة أو الرطوبة.

وباعتبارها إحدى الشركات الصناعية العاملة في دولة الكويت، فقد واجهت الشركة تحديات وأمال كبيرة في سعيها لتحقيق النجاح، وقد كانت الشركة - ولا تزال - معلماً من المعالم المهمة في نظر أهل الكويت لما قدمته من منتجات وخدمات إستطاعت أن تغير الطبيعة القاسية لمناخ الكويت. فبعد نحو 43 عاماً تقريبا، لا يزال السؤال مطروحا حول تحقيقنا لهذه التوقعات، فهل إستطاعت الشركة أن تتحمل مسؤولياتها على الوجه الأكمل؟ ويأتي الرد بالإيجاب، فعلى مدى ثلاثة وأربعين عاماً تقريبا لم تتوقف الشركة خلالها عن الإستمرار في تقديم خدماتها وأعمالها رغم الصعوبات التي تمثلت في ظروف الطقس القاسية أو الحروب أو الكساد الاقتصادي أو إرتفاع حدة المنافسة، فقد كانت كل واحدة من هذه الظروف بمثابة شهادة على أننا حققنا ما وعدنا به وما عقدنا العزم على تنفيذه.

حقائق وتواريخ

- 1973 تم إنشاء المستودعات بناء على مرسوم أميري.
- 1979 عهدت وزارة الصحة الكويتية لشركة صناعات التبريد بإنشاء مجمع مستودعات مخازن التبريد الطبية، وقد كان هذا المجمع حينها هو الأضخم من نوعه على مستوى العالم، وقد وصلت تكلفته إلى 12,000,000 دينار كويتي.
- 1980 تم إنشاء مصنع مكيفات الهواء التابع لشركة صناعات التبريد في الصليبية.
- 1981 بدء إنتاج أجهزة التكييف المدمجة والمنفصلة الصغيرة تحت علامة York-Gulf.
- 1984 تم قيد شركة صناعات التبريد في سوق الكويت للأوراق المالية.
- 1986 بدء إنتاج مكيفات علامة كولكس.
- 1991 قامت شركة صناعات التبريد بإعادة بناء مصنعها الذي دمرته الحرب.
- 1997 الحصول على شهادة الأيزو 9001:1994
- 2002 بدء تشغيل مختبر فحص وحدات التكييف (ETL)
- 2004 خصخصة شركة صناعات التبريد.
- 2010 كانت وحدات كولكس أول وحدات تكييف هواء تجتاز اللوائح التي أقرتها (وزارة الكهرباء والماء).
- 2010 تم تجديد مصنع شركة صناعات التبريد وبدء التوسع والتصدير إلى الدول المجاورة.
- 2012 الحصول على شهادة UL و AHRI لأجهزة التكييف كولكس.
- 2014 الحصول على شهادة SASO لأجهزة التكييف المنفصلة.
- 2014 الحصول على شهادة EUROVENT لأجهزة مناولة الهواء.
- 2014 الحصول على شهادة UL لمبردات الهواء الشيلر.
- 2015 الحصول على شهادة الأيزو ISO 17025 لمختبر السيكرومترية.
- 2016 الحصول على شهادة كفاء الطاقة لأجهزة التكييف المنفصلة والوحدات المدمجة (مملكة البحرين).

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Website: www.alnoorprojects.com

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Email : anshul.bawa@almoayyed.com.bh
Website: www.almoayyed.com

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specific information on the current design and
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