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Emerson Commercial & Residential Solutions

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Ahmedabad

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Gurgaon

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Mumbai

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Secunderabad

Emerson Climate Technologies (India) Pvt. Ltd.
C/o: Agility Logistics Pvt. Ltd, # 8-122,
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Tel: (91) 9247000174/9000649871

COLD CHAIN CENTERS

Chakan

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Plot No. G-8/3, Block M.I.D.C.
Chakan Industrial Area, Phase - III,
Taluka : Khed. Dist : Pune - 410 501
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Gurgaon

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PLANT

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REGISTERED HEAD OFFICE

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EMERSON. CONSIDER IT SOLVED.

COMMERCIAL REFRIGERATION COMPRESSORS



ASIA10-B0303-R00-11/2017

COPELAND™



Emerson At-a-Glance

- Founded In 1890
- 155 Manufacturing Locations
- Among FORTUNE 500 of America's Largest Corporations

About Emerson

Emerson is a global technology and engineering company providing innovative solutions for customers in industrial, commercial, and residential markets. Our Emerson Commercial and Residential Solutions business helps ensure human comfort and health, protect food quality and safety, advance energy efficiency, and create sustainable infrastructure.

Emerson provides advanced compressors, condensing units, flow control systems and electronic controls to protect food quality while enabling operators to maximize equipment uptime and increase energy efficiency. Fractional and Integral Horse Power compressors provide

perfect cooling, creating value for its users. The compressors are manufactured at the state-of-the-art Atit Plant, which enjoys 'Gold Rating' under Emerson's plant technology franchise standards.

The performance of the compressors is optimized using Computer Aided Engineering facilities. The components are sourced internationally and have been subjected to stringent qualification standards of Emerson. The performance of compressors is validated by testing in a suitable appliance at an ambient of 46°C.

The countrywide sales and service network of Emerson is positioned to provide prompt service to our customers.

Headquarters in St. Louis, Mo.



Copeland™ Reciprocating Compressors

Partner For All Your Cooling Needs With
Energy Efficient And Rugged Designs

FHP Applications

Low Back Pressure

- Chest Freezers
- Softy Machines
- Ice Cube Machine
- Centrifuge, Low Temp. Baths
- Blood / Plasma Storage

Commercial Back Pressure

- Chest Coolers
- Display Cabinets
- Visi-Coolers

High Back Pressure

- Water-Coolers
- Air Dryers, Panel Coolers
- Oil-Coolers

IHP Applications

- Multi Deck
- Cabinet
- Island Freezer
- Cold Rooms
- Small Flake Ice Machines
- Environmental Chamber
- Clean Air Room
- Water Chiller
- Bulk Milk Cooler



Visi Cooler

KCE 1/6 to 1/2 HP R22, R134a



KCN 1/6 to 1/2 HP R134a, R404A



Deep Freezer



Bulk Milk Cooler

CRKQM 4 to 6HP R22



CRK6/KCM 1.3 to 3 1/2 HP, R22, R134a, R404A



Split AC



Cold Room



Display Cabinet

KCJ 1 to 1 1/4 HP R22, R404A

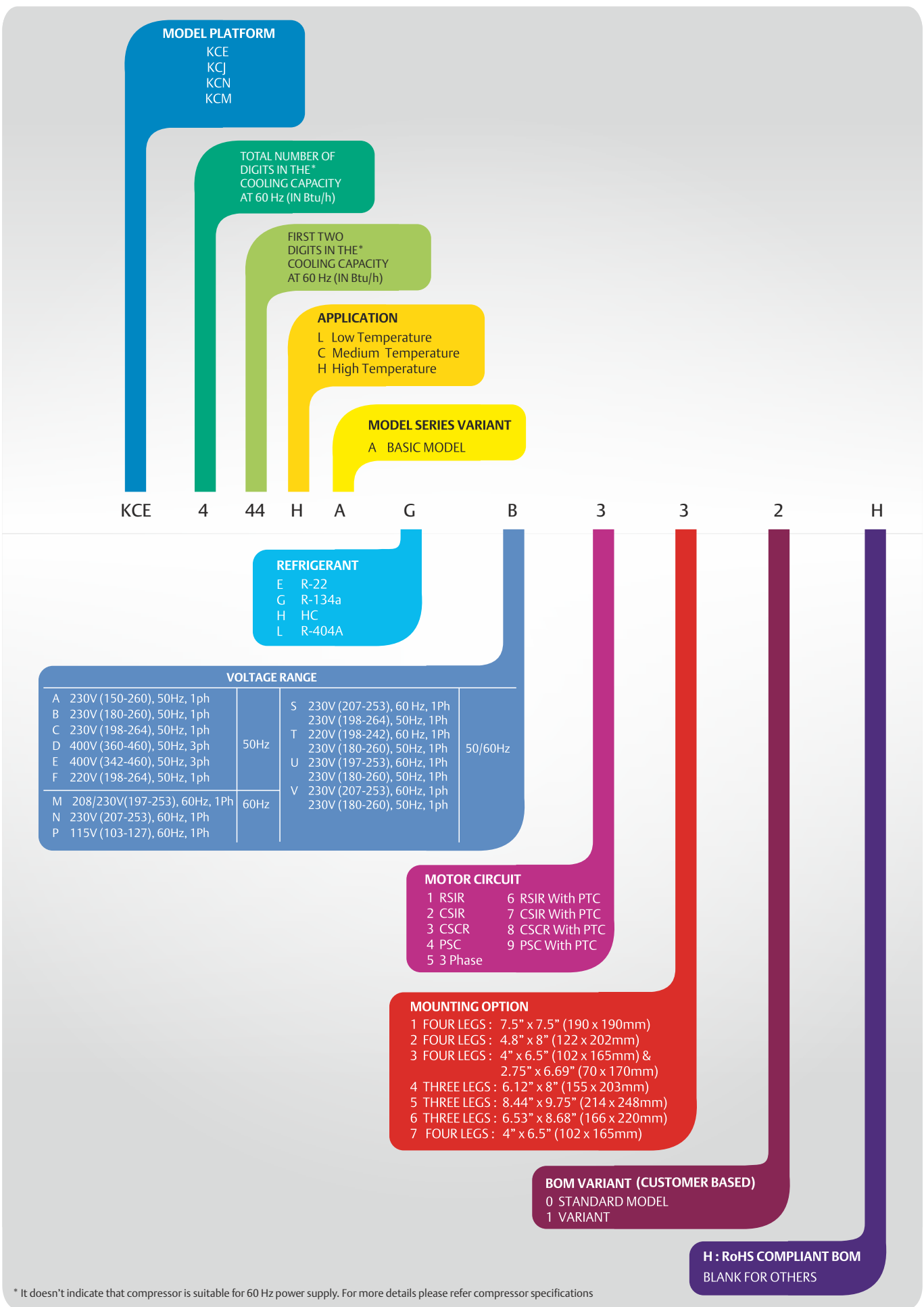


KCJ 1/4 to 1HP R22, R134a, R404A

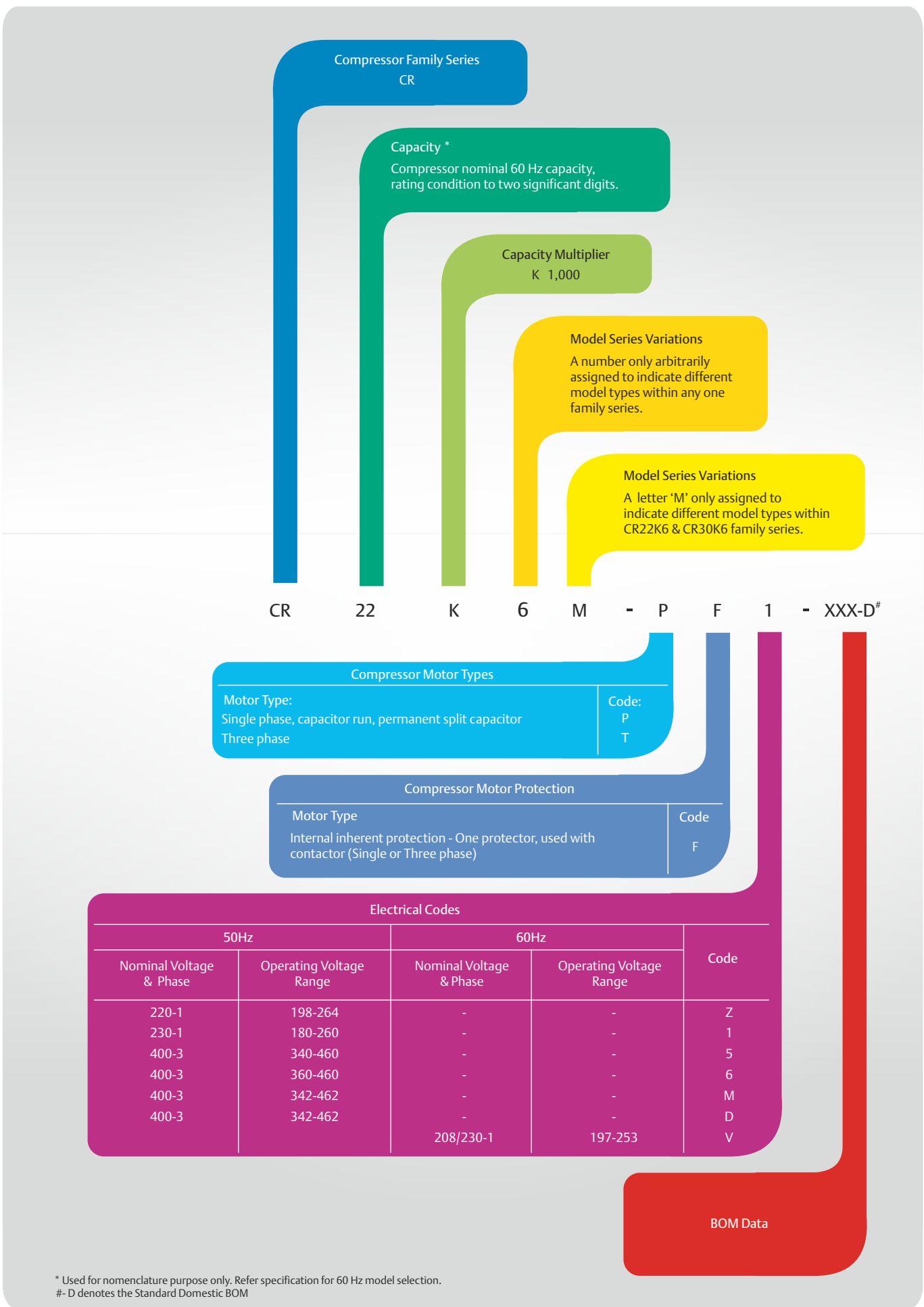


Water Cooler

KCX Series Compressor Nomenclature



CR Series Compressor Nomenclature



Performance Nominals And Specifications

R22 High Temperature

Model	Hz	Displacement (CC/rev)	Performance at ASRE/T Rated Condition				Refrigeration Capacity (Watts) #						
			Capacity		Power	Current	Evap. Temp. / Cond. Temp. (°C)	-17.8	-15	-10	-5	0	5
			Btu/hr	W	W	A							
R22, 1Phase													
KCE443HAE	50	8.00	3,600	1,055	460	2.10	43.3 54.4	- -	- -	- -	692 543	894 731	1,125 919
KCE461HAE	50	11.50	5,100	1,494	625	2.90	43.3 54.4	- -	- -	- -	1,047 840	1,323 1,082	1,649 1,347
	60		6,103	1,787	740	3.30	43.3 54.4	- -	- -	- -	1,246 1,001	1,574 1,289	1,964 1,605
KCJ511HAE	50	18.27	9,150	2,681	1,020	4.70	43.3 54.4	- -	- -	- -	1,647 1,293	2,025 1,593	2,807 2,286
	60		10,505	3,076	1,175	5.30	43.3 54.4	- -	- -	- -	1,911 1,500	2,348 1,847	3,256 2,652
KCJ513HAE	50	25.91	12,800	3,750	1,440	6.80	43.3 54.4	1,605 1,306	1,732 1,419	1,981 1,681	2,422 2,067	3,065 2,573	3,772 3,220
	60		14,507	4,248	1,720	7.96	43.3 54.4	1,830 1,489	2,001 1,618	2,258 1,917	2,761 2,357	3,494 2,933	4,301 3,671
CR22K6M-PF1	50	40.80	19,000	5,563	1,750	7.80	43.3 54.4	1,421 -	1,909 -	2,803 2,065	3,740 2,912	4,783 3,822	6,017 4,881
CR30K6M-PF1	50	51.47	25,000	7,330	2,350	11.00	43.3 54.4	2,021 -	2,559 -	3,666 2,734	4,946 3,915	6,340 5,162	7,916 6,572
CR36K6M-PFZ	50	59.65	30,100	8,814	2,720	13.60	43.3 54.4	2,412 -	3,120 -	4,526 3,264	5,965 4,774	7,563 6,220	9,366 7,847
CR42K6M-PFZ	50	72.08	36,100	10,572	3,240	15.40	43.3 54.4	3,203 -	3,882 -	5,300 4,155	7,018 5,659	9,014 7,402	11,282 9,404
CR47KQM-PFZ	50	82.74	41,752	12,226	3,950	20.00	43.3 54.4	2,842 -	3,992 -	6,091 4,700	8,285 6,729	10,560 8,772	12,932 10,866
CR47KQM-PFV	60		47,500	13,921	4,650	22.00	43.3 54.4	4,248 -	5,406 -	7,489 6,004	9,732 8,034	12,311 10,261	15,179 12,720
R22, 3 Phase													
CR22K6M-TFM	50	40.80	18,350	5,373	1,750	3.20	43.3 54.4	1,454 2,188	1,906 -	2,649 1,930	3,571 2,733	4,666 3,690	5,952 4,805
							CR30K6M-TFM	50	51.47	24,400	7,144	2,275	4.20
CR36K6M-TFM	50	59.66	29,900	8,755	2,680	4.90	43.3 54.4	2,556 -	3,222 -	4,496 3,405	5,931 4,744	7,515 6,188	9,301 7,796
							CR42K6M-TFM	50	72.09	35,100	10,278	3,300	6.10
CR47KQM-TFD	50	78.78	40,692	11,916	3,825	6.90	43.3 54.4	4,583 -	5,325 -	6,756 5,722	8,387 7,239	10,227 8,986	12,522 10,791
	60		48,379	14,167	4,550	6.80	43.3 54.4	5,534 -	6,431 -	8,170 6,901	10,148 8,746	12,351 10,883	15,110 13,028
CR53KQM-TFD	50	88.28	45,800	13,411	4,350	7.70	43.3 54.4	- -	- -	7,436 7,672	9,434 9,617	11,796 11,811	15,251 14,681
	60		54,300	15,910	5,200	7.50	43.3 54.4	- -	- -	8,860 8,425	11,237 10,662	14,041 13,136	18,172 16,143
CR57KQM-TFD	50	94.61	48,995	14,347	4,650	8.30	43.3 54.4	- -	- -	7,596 7,759	10,128 10,149	13,030 12,866	16,195 15,821
	60		58,425	17,108	5,550	8.10	43.3 54.4	- -	- -	9,054 8,474	11,981 10,752	15,384 13,838	19,156 17,399
CR62KQM-TFD	50	101.92	52,800	15,461	5,100	8.80	43.3 54.4	- -	6,806 -	8,760 8,390	11,129 10,538	13,847 12,970	16,933 15,528
	60		62,800	18,400	6,075	8.70	43.3 54.4	- -	8,234 -	10,594 10,142	13,491 12,718	16,794 15,664	20,534 18,282
CR72KQM-TFM	50	115.79	61,500	18024	6,100	10.5	43.3 54.4	8,859 -	10,191 -	12,278 11,114	14,212 12,839	16,249 14,583	18,646 16,602

* Please refer our separate catalogues for CR Models with R407C Refrigerant.

		Mechanical Specification			Electrical Specification									
10	12.8	Oil Charge(cc)	Cooling Type (CFM)	Net Wt. (Kg.)	LRA (A)	Voltage Range(V)	Motor Type	Fig No.	Start Capacitor (Mfd)	Run Capacitor (Mfd)	Relay		OLP	
											Potential / PTC	Current		
1,503 1,222	1,706 1,441	310	Fan 350	11.80	13	180-260	CSCR	1/4	40/60	10	LT85002 or HLR3800-4L3C-2	-	KAT0072/K3 or MRA12309-12103	
2,016	2,250	510	Fan 350	13.40	17	180-260	PSC / CSCR*	1/4	60/80*	15	LT85003* or HLR3800-4L3C-3	-	KAT0159/B2 (Annapurna) Or MRA12397-12102 (Sensata)	
1,693	1,912				21	207-253								
2,399	2,678													
2,025	2,275													
3,750	4,265	905	Fan 350	21.50	25	180-260	PSC / CSCR*	1/4	80/100*	25	LT85002* or HLR3800-4L3C-2	-	Internal	
3,135	3,618					197-253								
4,350	4,947													
3,636	4,196													
4,869	5,435	890	Fan 350	22.50	30	198-264	PSC / CSCR*	1/4	80/100*	36	AC85001* or HLR3800-6H3C-1	-	Internal	
4,337	4,858				36	207-253								
5,551	6,195													
4,944	5,538													
7,501	8,529	1,330	Fan 400	29.80	54	180-260	PSC / CSCR*	1/4	80/100*	36	AC85004	-	Internal	
6,182	7,059	1,330	Fan 400	32.50	72	180-260	PSC / CSCR	1/4	150/200	45	AC85001M	-	Internal	
9,640	10,735													
8,116	9,088													
11,398	12,735													
9,640	10,853	1,330	Fan 400	34.90	85	198-264	CSCR	4	130/156	40 or 45	AC85004	-	Internal	
13,712	15,294	1,330	Fan 400	34.90	104	198-264	CSCR	4	189/227	60 or 65	AC85005	-	Internal	
11,573	12,912													
15,763	17,023													
13,331	14,679													
18,400	20,363	1,330	Fan 400	36.00	110	198-264	CSCR	4	189/227	60	AC85005	-	Internal	
15,617	17,280				115	197-253								
7,354 6,036	8,235 6,794	1,330	Fan 400	29.50	20	342-462	3 Ph	-	-	-	-	-	Internal	
9,464 7,823	10,706 8,941	1,330	Fan 400	30.00	28	342-462	3 Ph	-	-	-	-	-	Internal	
11,280 9,552	12,559 10,647	1,330	Fan 400	31.00	41	360-460	3 Ph	-	-	-	-	-	Internal	
13,478 11,280	15,088 12,735	1,330	Fan 400	32.70	45	340-460	3 Ph	-	-	-	-	-	Internal	
15,038 13,198	16,639 14,630	1,330	Fan 400	36.20	60	342-462	3 Ph	-	-	-	-	-	Internal	
18,142	20,076				51	361-506								
15,994	17,723													
16,570	18,358													
15,682 19,725	17,245 21,863	1,330	Fan 400	36.20	61	342-462	3 Ph	-	-	-	-	-	Internal	
17,475	19,197				60	361-506								
18,464	20,399													
17,028	18,875													
21,805 18,625	24,150 20,750	1,330	Fan 400	36.20	61	342-462	3 Ph	-	-	-	-	-	Internal	
20,493	22,701				60	361-506								
19,132	21,144													
16,939	18,756													
23,187 20,493	25,592 22,701	1,330	Fan 400	36.20	55	342-462	3 Ph	-	-	-	-	-	Internal	
21,658	23,709				50	361-506								
19,154	20,911	1,330	Fan 400	37.5	69	360--460	3 Ph	-	-	-	-	-	Internal	

Performance Nominals And Specifications

R134a

R404A

Medium Temperature

Model	Hz	Displacement (CC/rev)	Performance at ASRE/T Rated Condition				Refrigeration Capacity (Watts) #						
			Capacity		Power	Current	Evap. Temp. / Cond. Temp. (°C)	-17.8	-15	-10	-5	0	5
			Btu/hr	W	W	A							
R134a, 1 Phase													
KCN413CAG	50	6.15	1,080	316	180	0.80	43.3	268	301	355	424	518	613
	60		1,240	363	205	0.80	54.4	235	243	289	355	446	538
							43.3	307	346	408	486	594	704
							54.4	270	279	331	407	512	618
KCN416CAG	50	7.31	1,342	393	220	1.00	43.3	284	328	409	511	627	763
	60		1,540	451	250	1.10	54.4	236	271	342	431	535	655
							43.3	326	377	470	588	721	876
							54.4	271	312	393	496	615	753
R404A, 1 Phase													
KCJ438CAL	50	11.50	3,200	938	625	3.70	43.3	639	745	952	1,189	1,455	1,749
							54.4	459	545	712	919	1,161	1,418
KCJ461CAL	50	18.27	5,100	1,494	925	4.10	43.3	1,147	1,338	1,709	2,134	2,612	3,139
							54.4	824	979	1,279	1,649	2,085	2,545
KCJ484CAL	50	25.91	7,000	2,051	1,250	6.20	43.3	1,571	1,833	2,341	2,924	3,579	4,287
							54.4	1,128	1,341	1,752	2,259	2,856	3,487
KCM511CAL*	50	40.80	9000	2638	1385	6.7	43.3	-	2043	2770	3754	4950	6310
							54.4	-	-	2043	2837	3833	4988
KCM514CAL*	50	51.47	12000	3517	1840	9.1	43.3	-	2462	3546	4815	6219	7702
							54.4	-	-	2644	3819	5102	6436
KCM519CAL*	50	59.65	16100	4718	2360	12.3	43.3	-	3822	4941	6439	8235	10257
							54.4	-	-	3766	5003	6524	8256
KCM522CAL*	50	72.08	18300	5363	2600	12.5	43.3	-	4569	5779	7447	9504	11878
							54.4	-	-	4317	5727	7491	9545
R404A, 3 Phase													
KCM511CAL*	50	40.80	9450	2770	1380	2.4	43.3	-	2013	2890	3956	5152	6407
							54.4	-	-	2081	2986	4015	5102
KCM514CAL*	50	51.47	13000	3810	1865	3.5	43.3	-	2567	3693	5014	6480	8027
							54.4	-	-	2746	3971	5308	6703
KCM519CAL*	50	59.65	15800	4631	2325	4.7	43.3	-	3728	4839	6342	8147	10167
							54.4	-	-	3681	4909	6433	8165
KCM522CAL*	50	72.08	18650	5466	2640	5.2	43.3	-	4683	5905	7561	9604	11984
							54.4	-	-	4417	5832	7593	9651

*Performance Table at ARI Conditions.

		Mechanical Specification			Electrical Specification								
10	12.8	Oil Charge(cc)	Cooling Type (CFM)	Net Wt. (Kg.)	LRA (A)	Voltage Range(V)	Motor Type	Fig No.	Start Capacitor (Mfd)	Run Capacitor (Mfd)	Relay		OLP
											Potential / PTC	Current	
759	-	340	Fan 350	9.70	8	180-260	CSCR	4	40/60	6	PTC-8EA19D7	-	KAT0411/ H3
656	-												
871	-												
754	-												
914	-	340	Fan 350	9.70	10	180-260	CSCR	4	40/60	6	PTC-8EA19D7	-	KAT0413 / H3 or MRA 12390-12101
794	-												
1,051	-												
912	-												
2,185	-	890	Fan 350	21.50	24	180-260	CSIR	6	80/100	-	-	KARP5641 / MTRP5641	T0732/B9
1,808	-												
3,922	-	890	Fan 350	21.50	25	180-260	CSCR	4	80/100	25	LT85002 or HLR3800-4I3C-2	-	Internal
3,246	-												
5,373	-	890	Fan 350	22.50	37	180-260	CSCR	4	80/100	25	AC85001 OR HLR3800-6H3C-1	-	Internal
4,448	-												
7787	8646	1330	Fan 400	29.80	54	180-260	CSCR	4	80/100	36	AC85004	-	Internal
6257	6993												
9211	10041	1330	Fan 400	32.50	72	180-260	CSCR	4	150/100	45	AC85001 or HLR3800-6H3C-1	-	Internal
7769	8490												
12435	13683	1330	Fan 400	34.90	85	180-260	CSCR	4	120/150	45	AC85004 or 3ARR3CT3P5 or RVA-3F6	-	Internal
10131	11207												
14501	16040	1330	Fan 400	34.90	104	180-260	CSCR	4	120/150	60	AC85005 or 3ARR3CT24S5 or RVA-3AG 6D	-	Internal
11817	13147												
7655	8323	1330	Fan 400	29.50	20	342-462	3Ph	-	-	-	-	-	Internal
6184	6758												
9598	10460	1330	Fan 400	30.00	28	342-462	3Ph	-	-	-	-	-	Internal
8092	8842												
12309	13516	1330	Fan 400	31.00	41	342-460	3Ph	-	-	-	-	-	Internal
10014	11058												
14651	16236	1330	Fan 400	32.70	45	342-460	3Ph	-	-	-	-	-	Internal
11954	13323												

Notes

1. Electrical rating is 230 V, 50 Hz and 230 V, 60 Hz for single phase models and, 400 V, 50 Hz for three phase models.

2. Operating voltage range signifies the range of voltage for which the compressor can start and run up to 43°C ambient.

3. Cooling capacity and power consumption are nominal values at specified rating conditions and subject to ±5% variation.

4. Direct air flow on glass terminal cover should be avoided.
5. Compressors with CSIR, CSCR circuit and three phase models may be used with thermostatic expansion valve.

6. Compressors with RSIR Circuit must use capillary tube only.

7. All compressors use two pole motors.

8. Compressors for specific applications are rated for IS-10617 Part I and Part III-1983.

9. All run capacitor should have a rating of 440 VAC and start capacitor 275 VAC surge, unless otherwise specified by Emerson.

Performance Nominals And Specifications

R134a

R404A

Low Temperature

Model	Hz	Displacement (CC/rev)	Performance at ASRE/T Rated Condition				Refrigeration Capacity (Watts) #						
			Capacity		Power	Current	Evap. Temp. / Cond. Temp. (°C)	-37.2	-35	-30	-25	-20	-15
			Btu/hr	W	W	A							
R134a, 1 Phase													
KCN372LAG	50	7.31	600	176	159	1.34	43.3	80	94	130	181	246	321
							54.4	76	86	115	162	223	294
KCN396LAG	50	9.00	800	235	205	1.85	43.3	-	115	174	247	323	403
							54.4	-	107	157	215	276	343
KCN411LAG	50	11.10	960	282	245	2.10	43.3	-	135	207	297	396	515
							54.4	-	106	177	255	348	467
KCJ412LAG	50	16.35	1,028	301	280	2.75	43.3	-	-	-	358	500	683
							54.4	-	-	-	260	405	583
KCN415LAG	50	15.33	1,260	371	325	1.80	43.3	-	150	259	373	509	677
							54.4	-	112	210	328	466	625
KCJ423LAG	50	32.61	1,925	566	485	3.00	43.3	-	-	-	661	943	1,267
							54.4	-	-	-	486	740	1,016
R404A, 1 Phase													
KCN414LAL	50	7.31	1,150	337	325	2.30	43.3	166	198	263	354	458	578
							54.4	137	159	222	307	399	506
KCN418LAL	50	9.00	1,455	426	385	2.00	43.3	205	257	354	470	607	759
							54.4	178	203	276	385	504	637
KCN422LAL	50	11.10	1,825	535	455	2.20	43.3	256	321	443	588	759	949
							54.4	225	255	348	486	635	802
KCN430LAL	50	15.33	2,575	754	580	4.40	43.3	364	454	626	831	1,074	1,342
							54.4	317	359	489	682	892	1,127
KCJ430LAL	50	16.35	2,435	713	580	3.20	43.3	304	389	550	747	977	1,232
							54.4	222	293	460	647	865	1,125
KCJ450LAL	50	32.64	4,100	1,201	1,000	5.50	43.3	416	591	934	1,325	1,771	2,235
							54.4	273	438	727	1,079	1,512	1,992
KCM475LAL	50	51.47	5,703	1,670	1,250	6.80	43.3	876	1,068	1,490	1,880	2,514	3,298
							54.4	-	-	1,114	1,529	2,205	2,974

*Please refer our separate catalogue for KCM low temperature 3 phase models

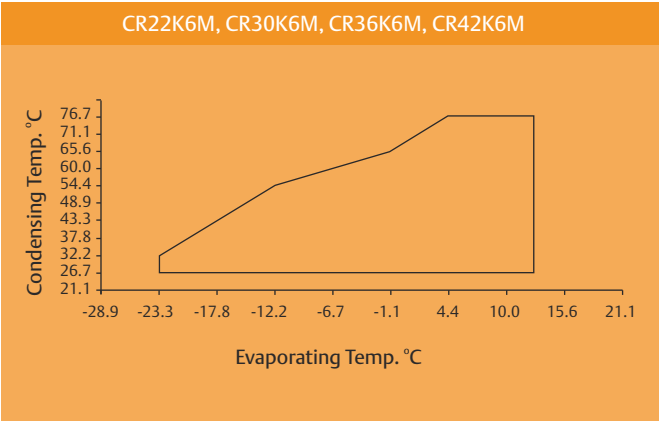
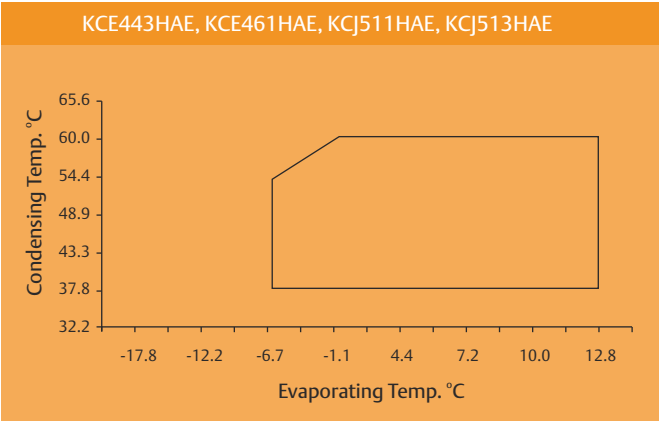
		Mechanical Specification			Electrical Specification								
-10	-6.7	Oil Charge(cc)	Cooling Type (CFM)	Net Wt. (Kg.)	LRA (A)	Voltage Range(V)	Motor Type	Fig No.	Start Capacitor (Mfd)	Run Capacitor (Mfd)	Relay		OLP
											Potential / PTC	Current	
404	462	340	Oil / Fan 260	10.20	10	180-260	CSIR	6	40/60	-	-	KARP-3141/ MTRP-3141 KARP3227	TAE15/H3
377	438						RSIR	3					
488	547	340	Oil / Fan 260	10.20	10	180-260	CSIR	6	40/60	-	-	KARP 4141/ MTRP 4141	TAE5M/H3
418	471												
653	750	380	Fan 350	11.50	10	180-160	CSIR	6	40/60	-	-	KARP4241/ MTRP4241	KAT0072/H3 OR MRA12309-12101
604	699												
907	1068	890	Fan 350	21.00	24	180-260	CSIR	6	80/100	-	-	MTRP 4841/ KARP4841	KAT0159/B2
802	968												
867	1,000	380	Fan 350	11.50	14	180-260	CSCR	4	80/100	10	LT85002 OR HLR3800-413C-2	-	KAT0072/H3 or MRA-12309-12101
805	932												
1,683	2,000	890	Fan 350	22.50	30	198-264	CSCR	4	150/200	10	LT85003	-	T0732/B2 or KAT0732/B2
1,390	1,712												
727	838	340	Fan 350	10.20	16	180-260	CSIR	6	60/80	-	-	KARP– 4241	KAT0072/ H3 or MRA2309-12101
640	738												
934	1,065	380	Fan 350	11.50	14	180-260	CSCR	4	80/100	10	LT85002 or HLR3800-413C-2	-	KAT0072/B2 or MRA12309-12102 or T0072/B2
806	938												
1,168	1,331	380	Fan 350	11.50	17	180-260	CSCR	4	80/100	15	LT85003 or HLR3800-4L3C-3	-	KAT0164/ B2 OR T0164/K9
1,015	1,182												
1,652	1,883	420	Fan 350	12.50	18	180-260	CSCR	4	80/100	15	LT85003 or HLR3800-4L3C-3	-	KAT0733/ B2
1,426	1,660												
1,474	1,612	890	Fan 350	22.50	30	180-260	CSCR	4	150/200	10	LT85003 or HLR3800-4L3C-3	-	Internal
1,381	1,524												
2,698	3,003	890	Fan 350	25.00	50	180-260	CSCR	4	150/200	25	AC85005	-	Internal
2,476	2,788												
4,236	4,966	1,300	Fan 350	32.50	72	198-264	CSCR	4	150/200	25	AC85004	-	Internal
3,785	4,386												

ASRE/T Rating Conditions

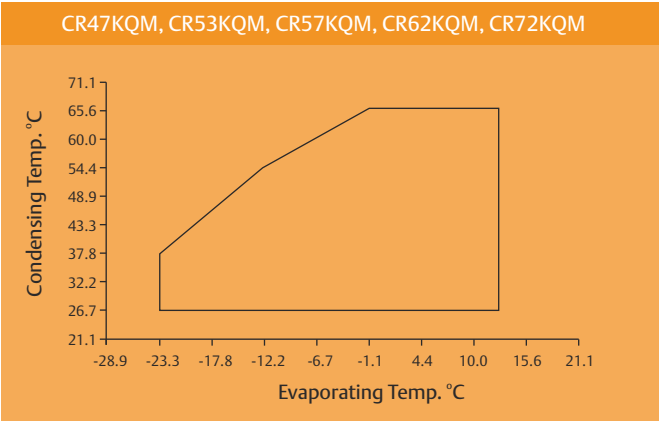
Ambient Temperature	Evaporating Temperature	Condensing Temperature	Sub Cooled Liquid Temp	Suction Gas Temperature	Suction Pressure			Discharge Pressure		
					R134a	R22	R404A	R134a	R22	R404A
°C	°C	°C	°C	°C	psig	psig	psig	psig	psig	psig
High Temperature										
35	7.2	54.4	46.1	35	40	77	93.7	196	300	354
Medium Temperature										
35	-6.7	54.4	46.1	35	18	----	55.6	196	----	354
Low Temperature										
32	-23.3	54.4	32	32	1.9	----	24.6	196	----	354

Operating Envelopes

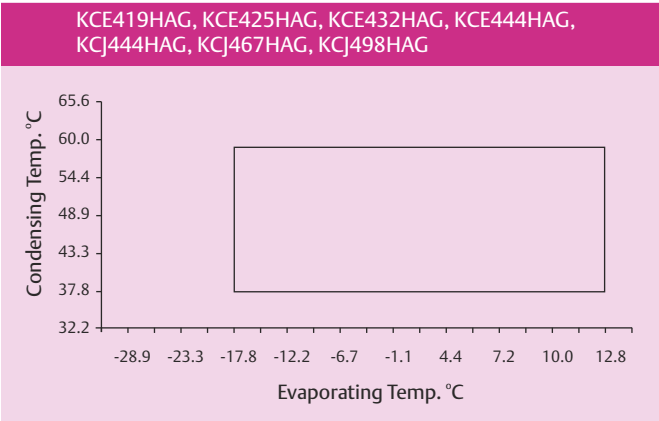
High Temperature (R22)



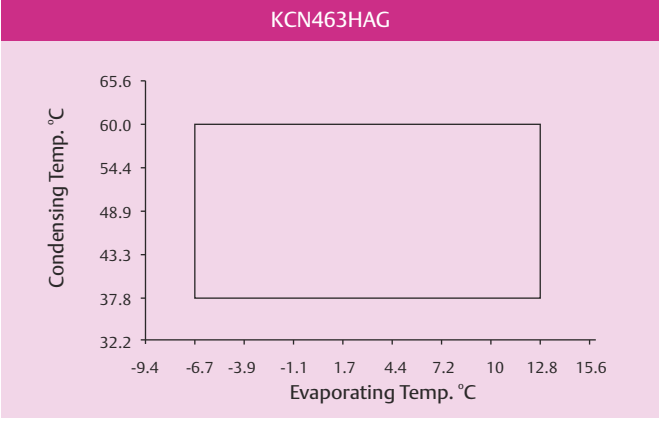
High Temperature (R22)



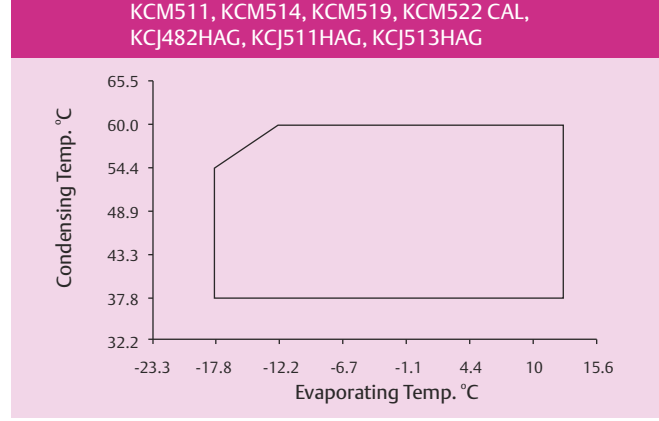
High Temperature (R134a)



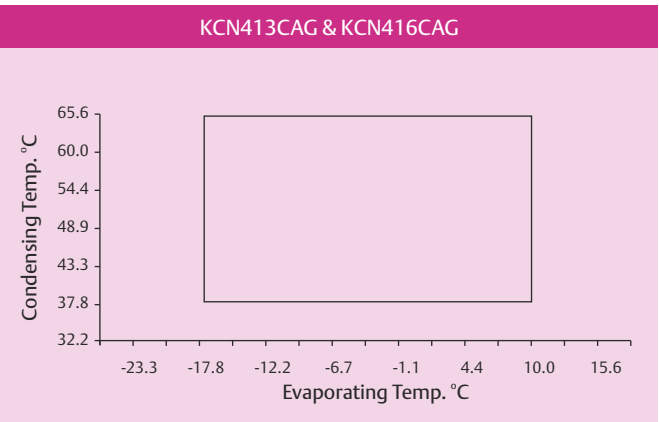
High Temperature (R134a)



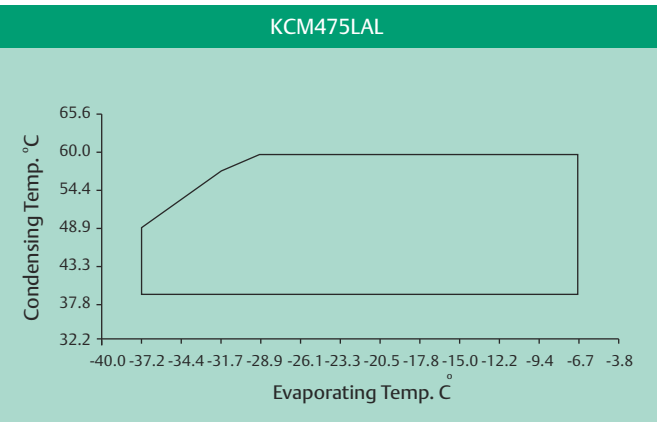
High Temperature (R134a)



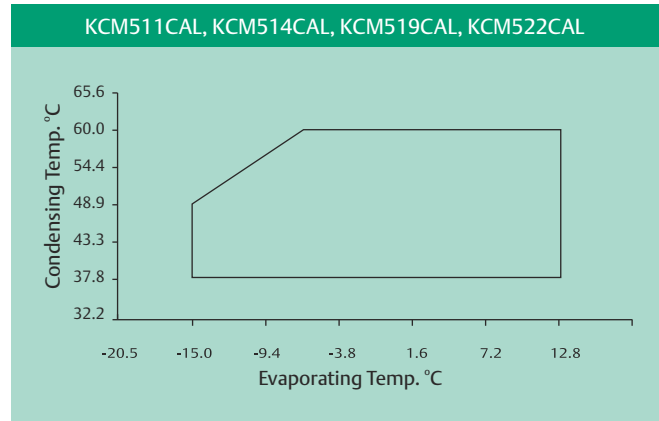
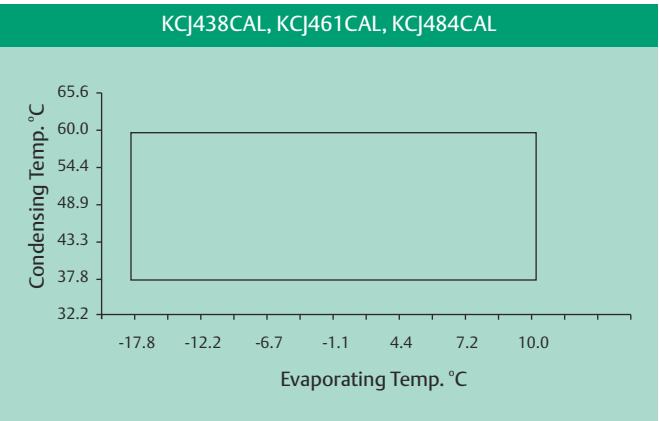
Medium Temperature (R134a)



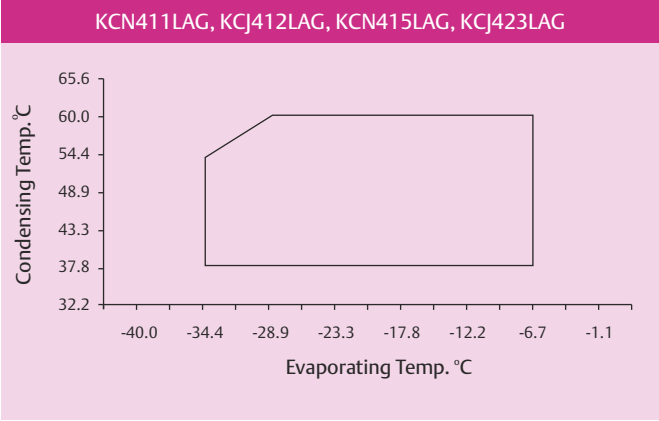
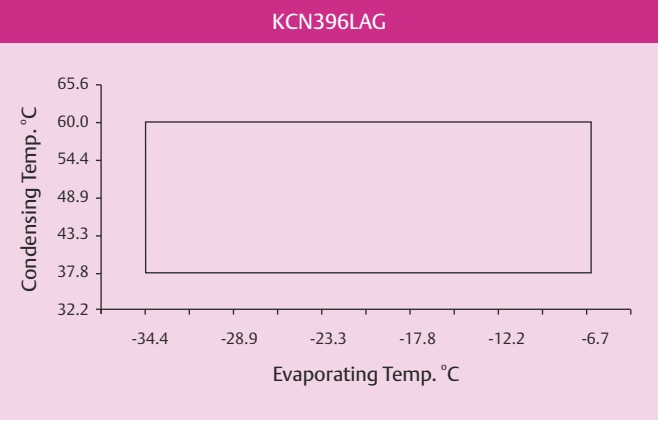
Low Temperature (R404A)



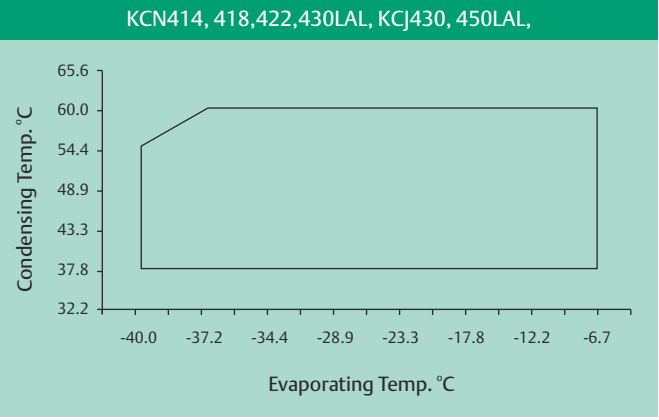
Medium Temperature (R404A)



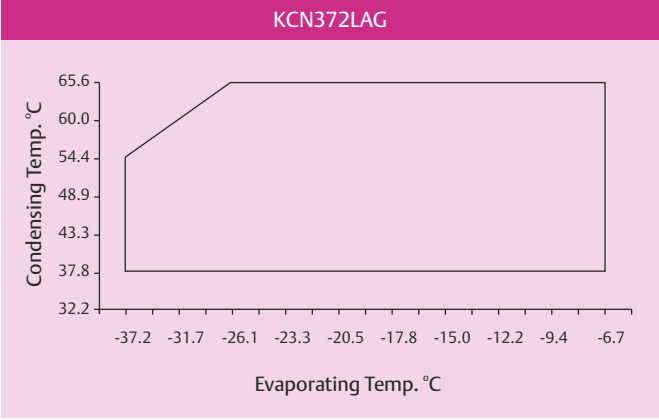
Low Temperature (R134a)



Low Temperature (R404A)



Low Temperature (R134a)



Standard BoM Data

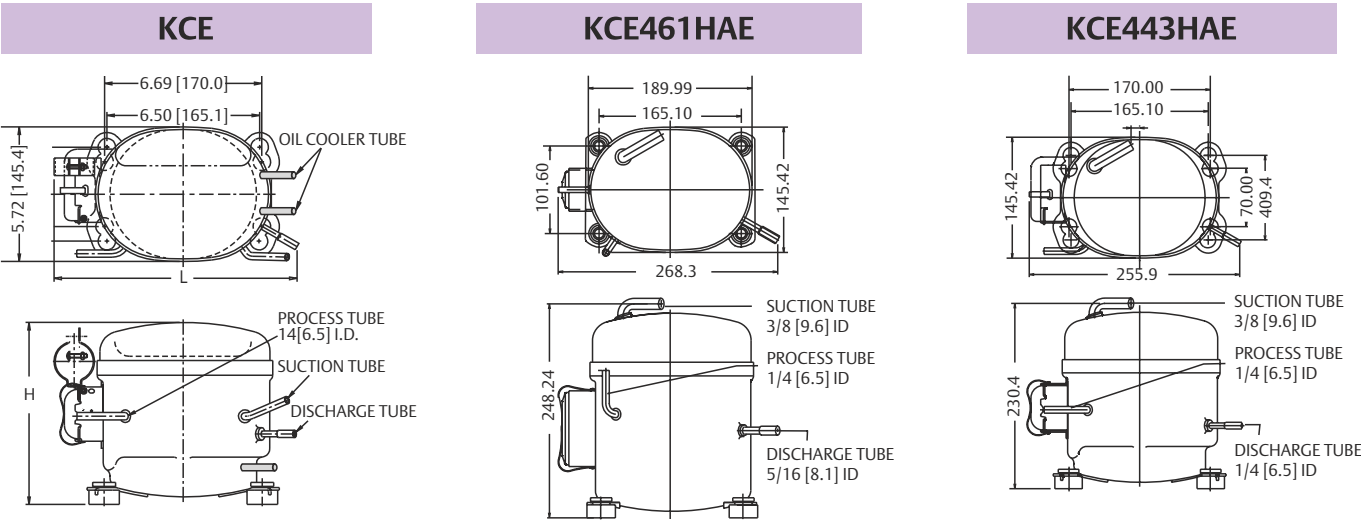
Model	Standard*	Circuit	Suction	Mounting Option
	Domestic			
KCE419HAG	V130H	RSIR	Tube	"Dual Mounting4.00 x 6.50 &2.75 x 6.69"
KCE425HAG	V230H	CSIR	Tube	
KCE432HAG	S230H	CSIR	Tube	
KCE443HAE	B330H	CSCR	Tube	
KCE444HAG	B332H, S330H	CSCR	Tube	
	V333H, V334H	CSCR	Tube	
	S430H	PSC	Tube	
KCE461HAE	V470H	PSC	Tube	"Dual Mounting4.00 x 6.50 &2.75 x 6.69"
KCN372LAG	B130H	RSIR	Tube	
KCN396LAG	B230H	CSIR	Tube	
	B230H	CSIR	Tube	
KCN411LAG	B230H	CSIR	Tube	
KCN413CAG	C230H	CSIR	Tube	
	V830H	CSCR	Tube	
KCN414LAL	B230H	CSIR	Tube	
KCN415LAG	B332H	CSCR	Tube	
KCN416CAG	V833H, B833H	CSCR	Tube	
KCN418LAL	B330H	CSCR	Tube	
KCN422LAL	B330H	CSCR	Tube	
KCN430LAL	B330H	CSCR	Tube	
KCN463HAG	U336H	CSCR	Tube	
KCJ412LAG	B220H	CSIR	Tube	
KCJ423LAG	C320H	CSCR	Tube	
KCJ430LAL	B320H	CSCR	Tube	
	B324H	CSCR	Spud	
KCJ438CAL	B220H	CSIR	Tube	4.80 x 8.00
KCJ438CAL	B222H	CSIR	Tube	
KCJ444HAG	B220H	CSIR	Tube	
KCJ450LAL	B320H	CSCR	Tube	
	B324H	CSCR	Spud	
KCJ461CAL	B320H	CSCR	Tube	
KCJ467HAG	B322H	CSCR	Spud	
	T220H	CSIR	Tube	
KCJ484CAL	B320H	CSCR	Tube	
KCJ484CAL	B322H	CSCR	Spud	
KCJ498HAG	S220H	CSIR	Tube	"Square Mount7.50 x 7.50"
KCJ511HAE	U420H	PSC	Tube	
KCJ513HAE	S420H	PSC	Tube	
KCM475LAL	C310H	CSCR	Tube	
KCM475LAL	C313H	CSCR	Spud	
KCM511CAL	B310H	CSCR	Tube	
	B313H	CSCR	Spud	
	E510H	Three Phase	Tube	
KCM514CAL	E513H	Three Phase	Spud	
	B310H	CSCR	Tube	
	B314H	CSCR	Spud	
KCM515LAL	E510H	Three Phase	Tube	
	E513H	Three Phase	Spud	
	B310H	CSCR	Tube	
KCM519CAL	B313H	CSCR	Spud	
	E510H	Three Phase	Tube	
	E513H	Three Phase	Spud	
KCM522CAL	B310H	CSCR	Tube	
	B314H	CSCR	Spud	
	E510H	Three Phase	Tube	
	E514H	Three Phase	Spud	

* Contact Emerson Climate Technologies Representative for non standard BoM.

Standard BoM Data For CR Compressor

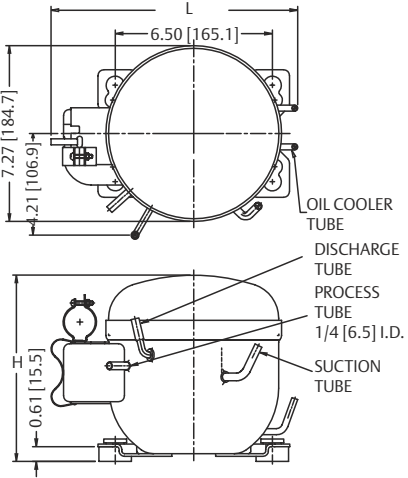
Model	Ordering BoM
CR22K6M-PF1	111DM
CR30K6M-PF1	111DE
CR22K6M-TFM	111DM
CR30K6M-TFM	
CR36K6M-PFZ	121DM
CR42K6M-PFZ	101DM
CR36K6M-TFM	121DM
CR42K6M-TFM	101DM
CRXXKQM-TFD (47,53,57,62)	233DM
CR72KQM-TFM	

Dimensional Drawings



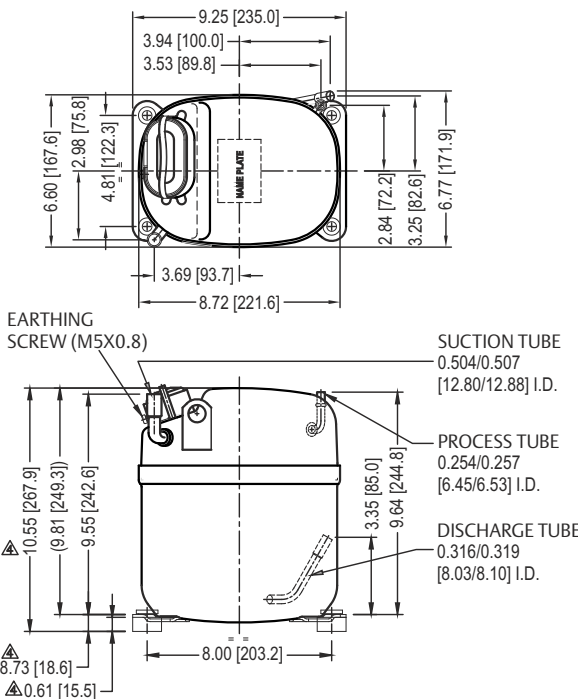
Model	Suction ID		Discharge ID		L	H	Capacitor Mounting
	Inch	mm	Inch	mm	mm	mm	
KCE419HAG	1/4	6.5	1/4	6.5	253.9	196.8	NO
KCE425HAG	1/4	6.5	1/4	6.5	262.7	196.8	YES
KCE432HAG	5/16	8.0	1/4	6.5	265.7	191.2	YES
KCE444HAG	5/16	8.0	1/4	6.5	260.3	191.2	NO

KCN									
Model	Suction ID		Discharge ID		L	H	Oil Cooler Tube		Capacitor Mounting
	Inch	mm	Inch	mm			Inch	mm	
KCN372LAG	1 / 4	6.5	1 / 4	6.5	259.2	189.4	3 / 16	4.9	NO
KCN396LAG	1 / 4	6.5	1 / 4	6.5	259.2	195.8	3 / 16	4.9	YES
KCN411LAG	5 / 16	8.0	5 / 16	8.0	250.8	202.1	—	—	YES
KCN415LAG	5 / 16	8.0	5 / 16	8.0	250.8	202	—	—	YES
KCN463HAG	5 / 16	8.0	5 / 16	8.0	250.8	202	—	—	YES
KCN413CAG	1 / 4	6.5	1 / 4	6.5	250.8	189.4	—	—	YES
KCN416CAG	1 / 4	6.5	1 / 4	6.5	244	189	—	—	YES
KCN414LAL	5/16+	8.0	5/16	7.93	250.8	202.1	—	—	YES
KCN418LAL	5/16+	8.0	5/16	7.93	250.8	202.8	—	—	YES
KCN422LAL	5/16+	8.0	5/16	7.93	250.8	202.8	—	—	YES
KCN430LAL	5/16+	8.0	5/16	7.93	250.8	215.4	—	—	YES

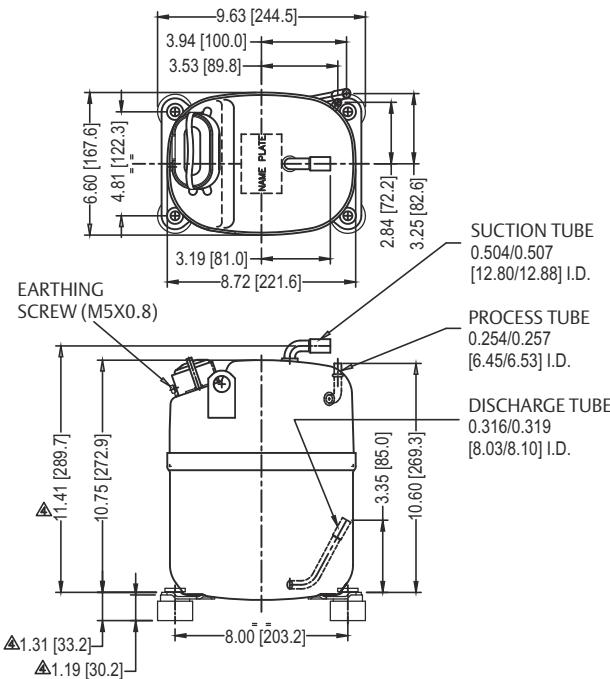


Dimensional Drawings

KCJ412LAG

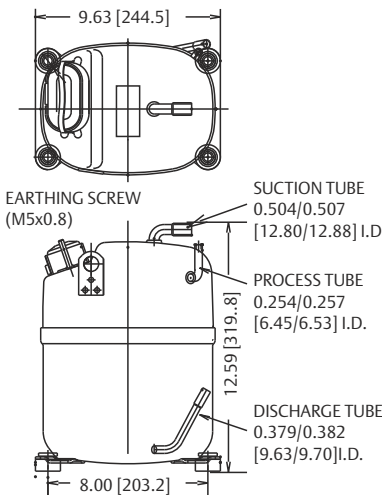


KCJ423LAG

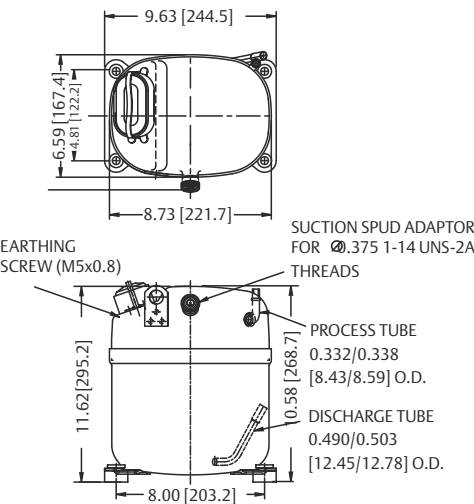


Dimensional Drawings

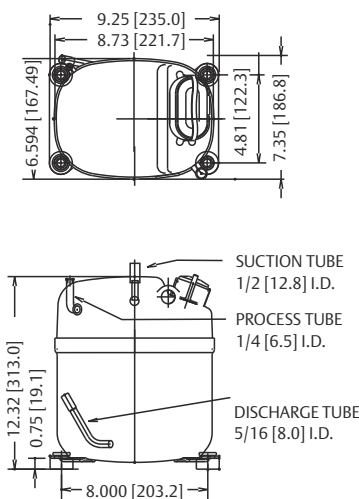
KCJ450LAL with Suction Tube



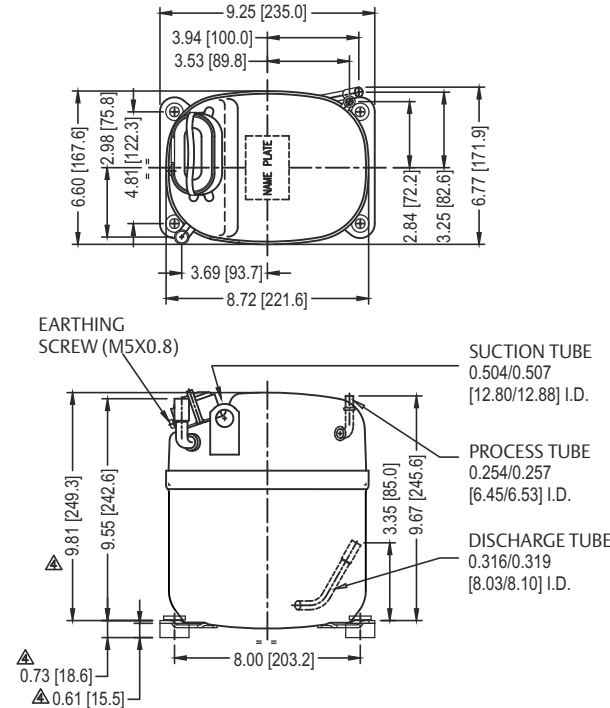
KCJ450LAL with Suction Spud



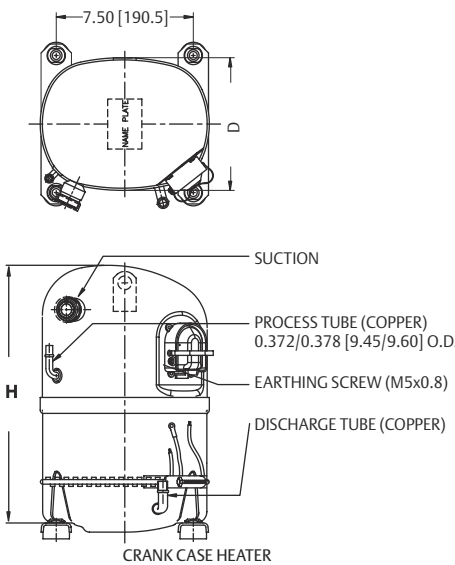
KCJ430LAL



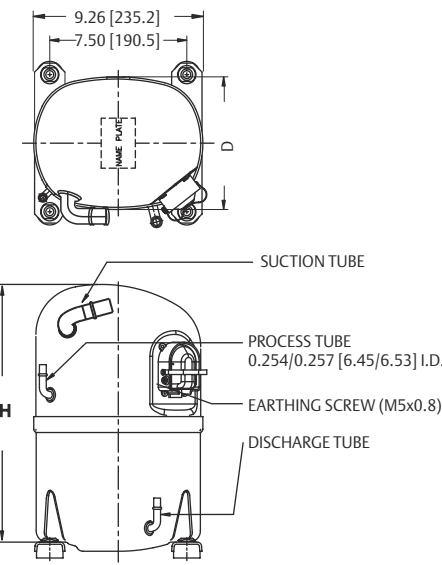
KCJ444HAG



KCM475LAL/KCM511CAL/514CAL with Spud

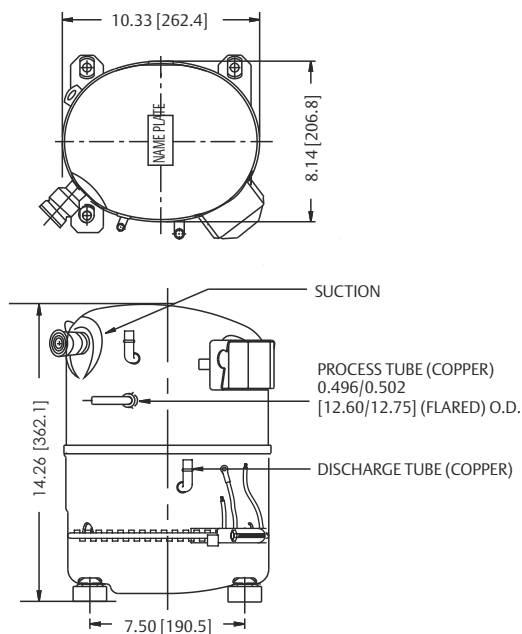


KCM475LAL/KCM511CAL/514CAL with Suction Tube

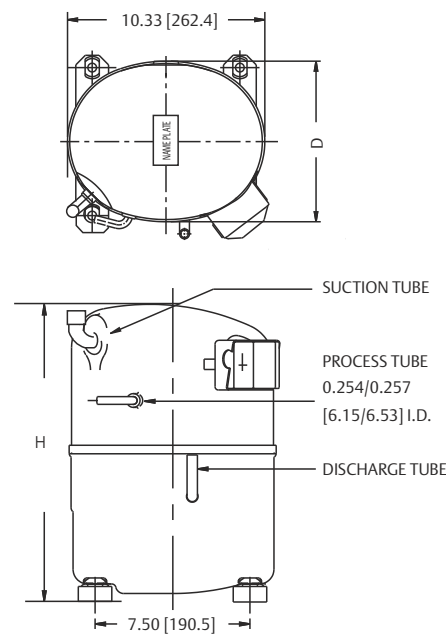


Dimensional Drawings

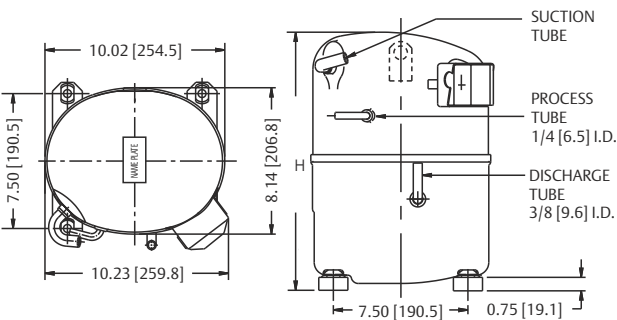
KCM519CAL/522CAL with Spud



KCM522CAL with Suction Tube

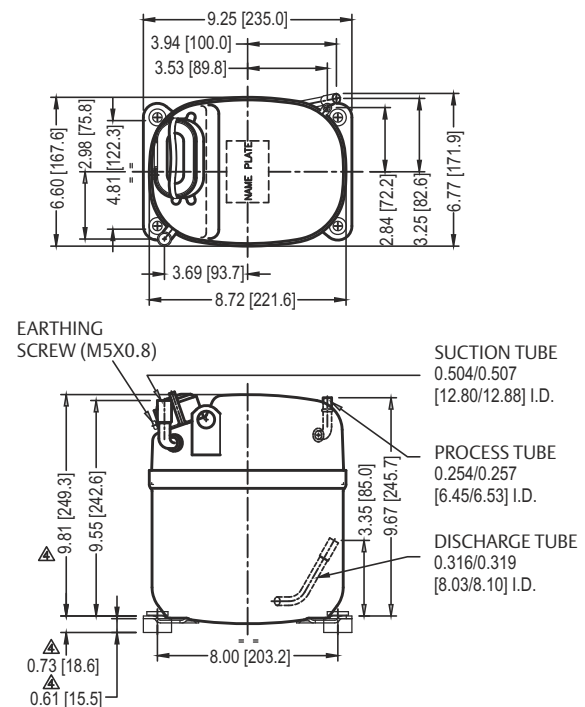


KCM519CAL

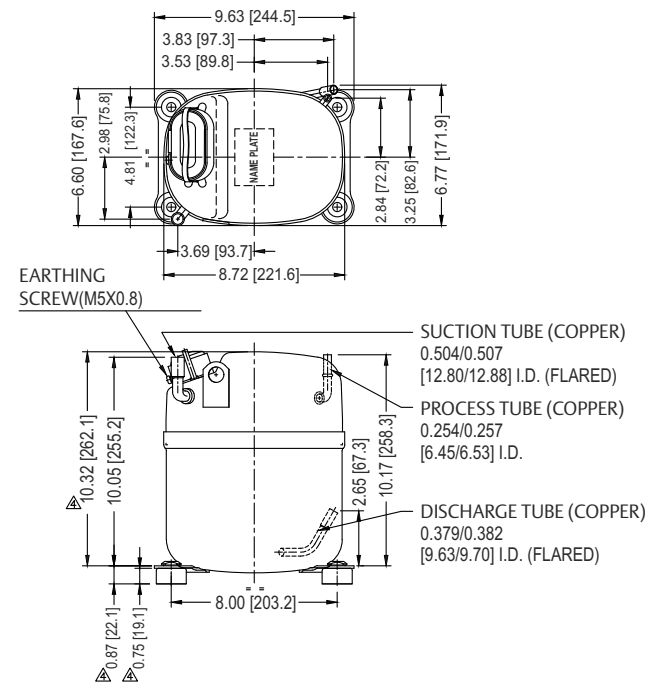


Model	Suction Spud	Suction Tube	Discharge Tube	Height, H (mm)	Depth, D (mm)
KCM511CAL	1.1/412UNF-2A Threads	5/8"	3/8"	361	184.4
KCM514CAL	1.1/412UNF-2A Threads	7/8"	3/8"	367	184.4
KCM519CAL	Ø0.625 11/4-12UNF Rolled Threads	7/8"	3/8"	371.5	206.8
KCM522CAL	Ø0.625 11/4-12UNF Rolled Threads	7/8"	3/8"	384.2	206.8

KCJ467HAG

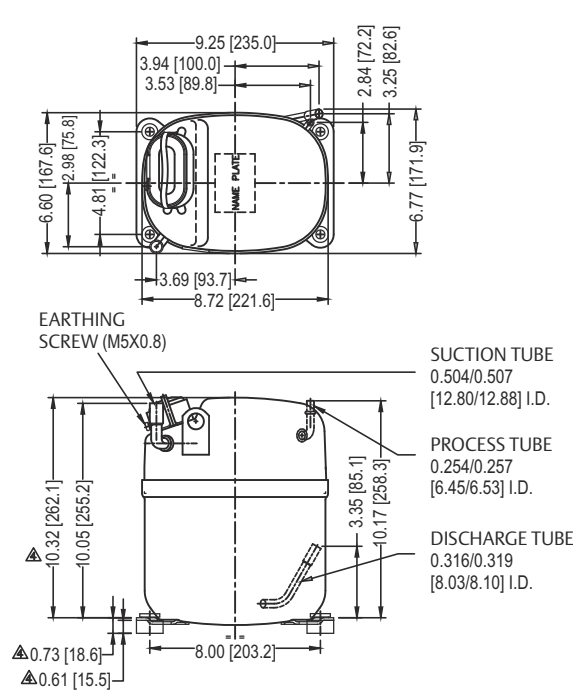


KCJ482HAG

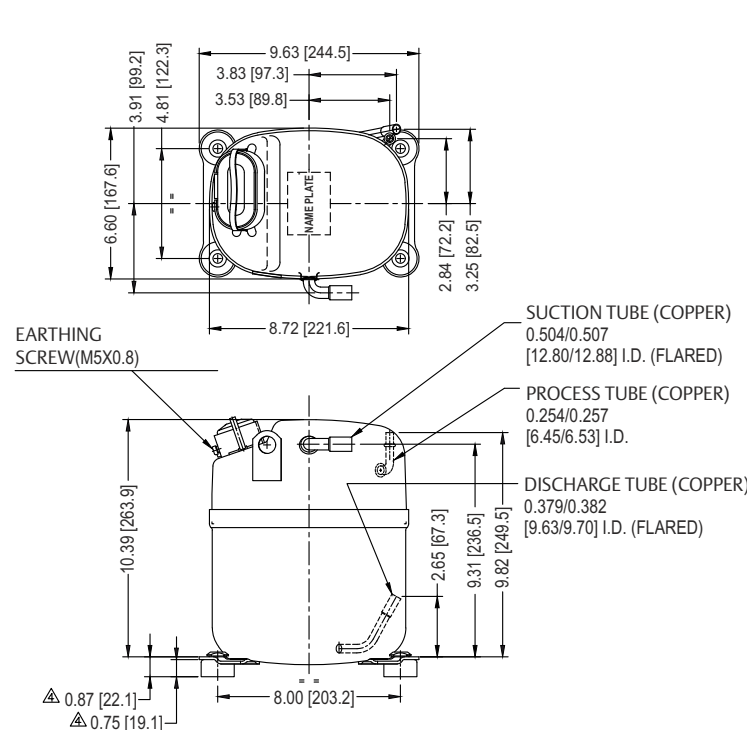


Dimensional Drawings

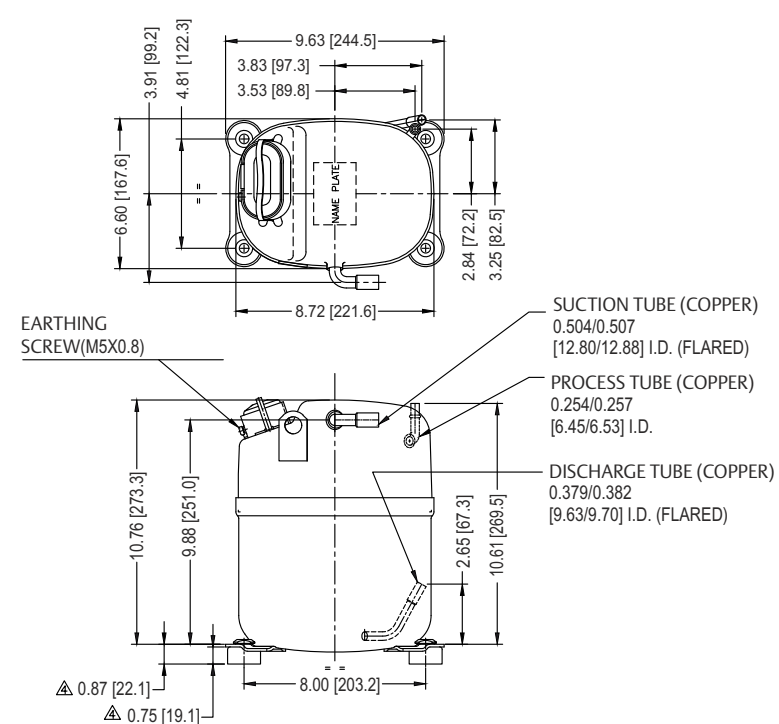
KCJ498HAG



KCJ511HAG

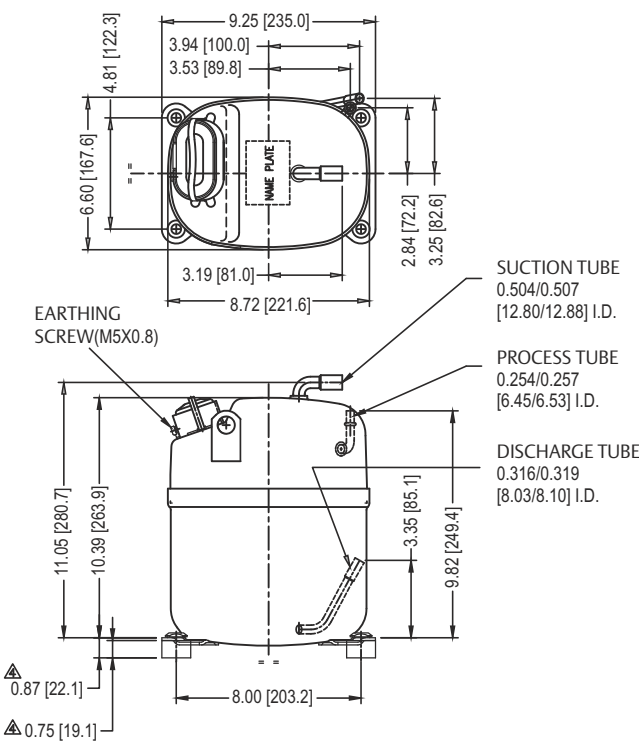


KCJ513HAG

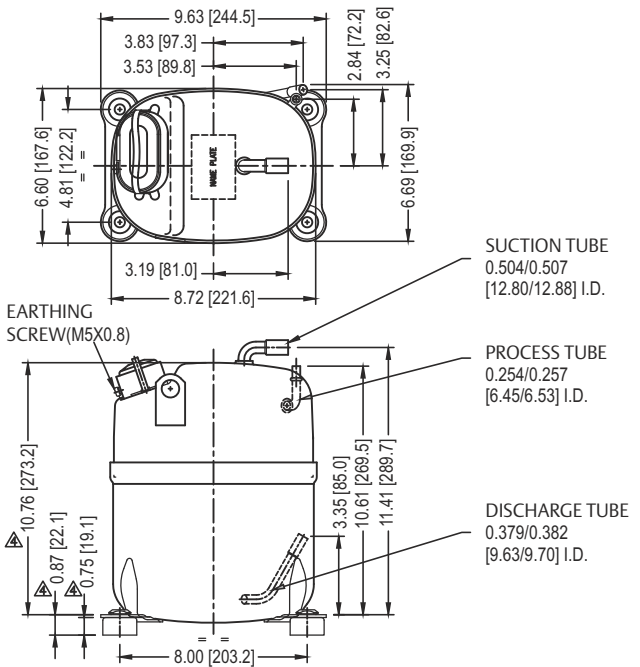


Dimensional Drawings

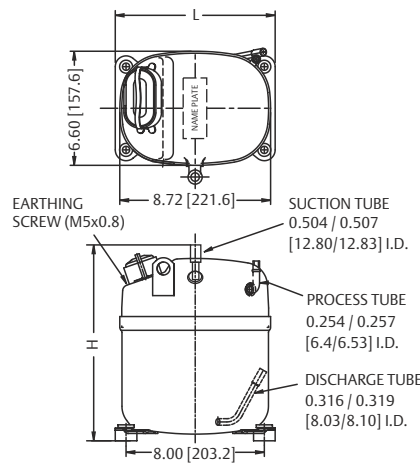
KCJ511HAE



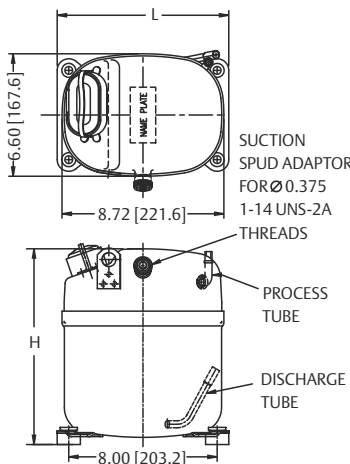
KCJ513HAE



KCJ***CAL with Suction Tube



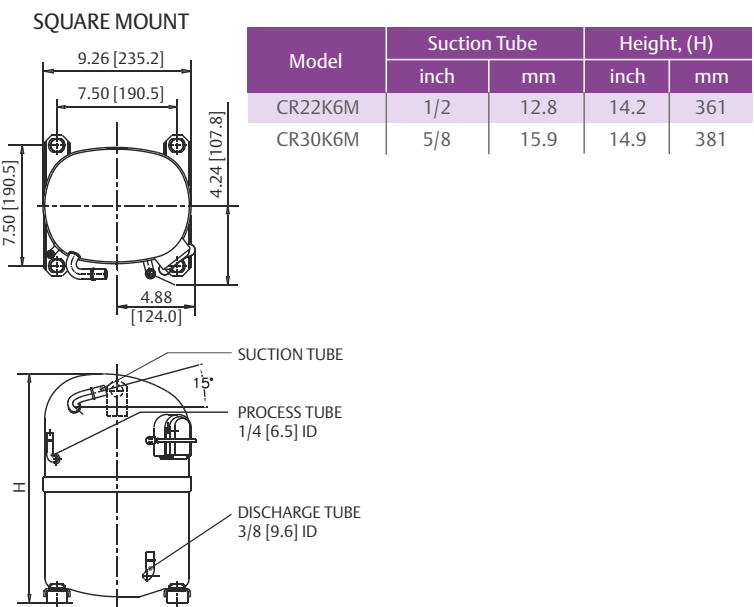
KCJ***CAL with Suction Spud



Model	With Suction Spud	With Suction Tube	L
	Height,(H) (mm)		(mm)
KCJ438CAL	274.9	290	235
KCJ461CAL	286	308	235
KCJ484CAL	317.2	295.2	244.5

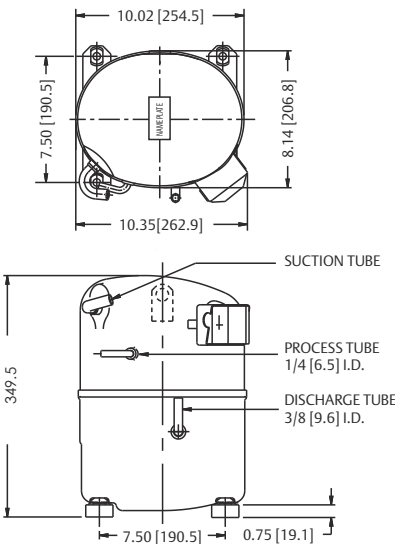
Dimensional Drawings

CR22K6M / CR30K6M

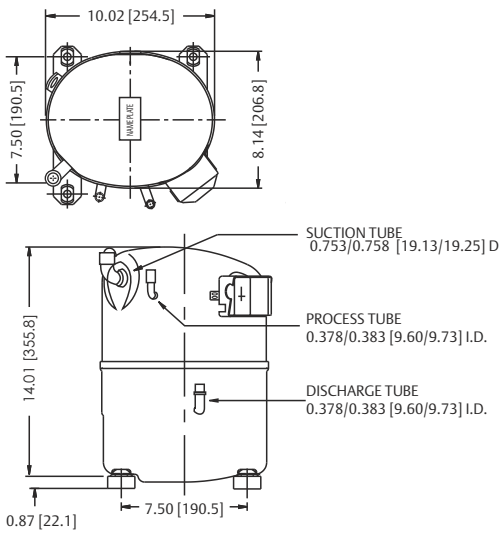


Model	Suction Tube		Height, (H)	
	inch	mm	inch	mm
CR22K6M	1/2	12.8	14.2	361
CR30K6M	5/8	15.9	14.9	381

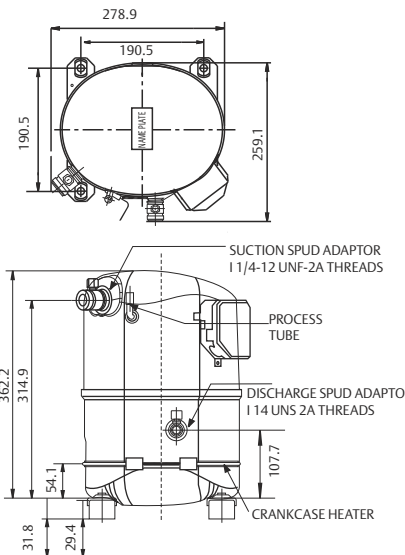
CR36K6M



CR42K6M



CR47, 53, 57, 62, 72 KQM



Wiring Diagrams

PERMANENT SPLIT CAPACITOR (PSC)

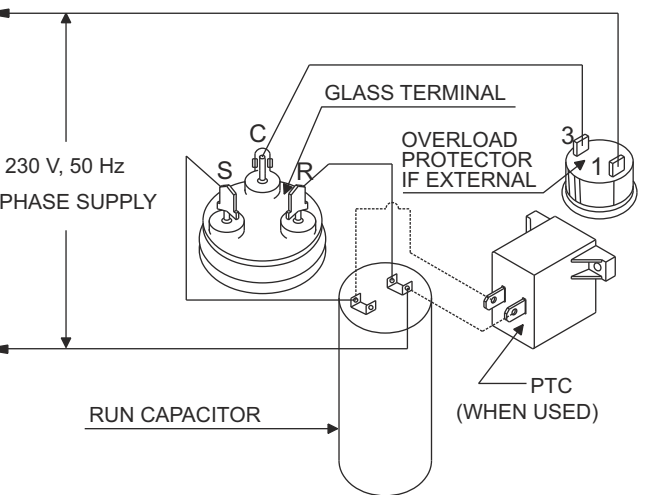


Fig. 1

CAPACITOR START INDUCTION RUN (CSIR) WITH PLUG-IN START RELAY

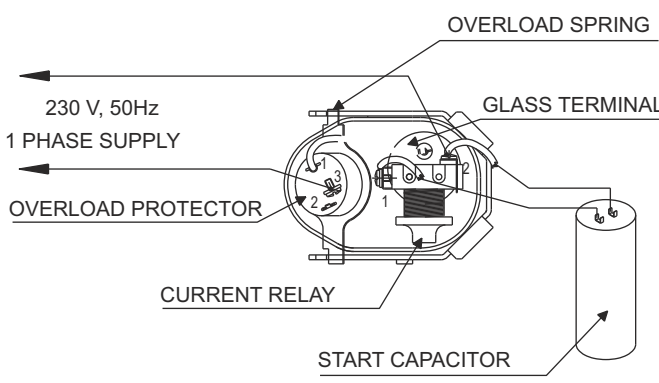


Fig. 2

RESISTANCE START INDUCTION RUN (RSIR) WITH PLUG-IN START RELAY

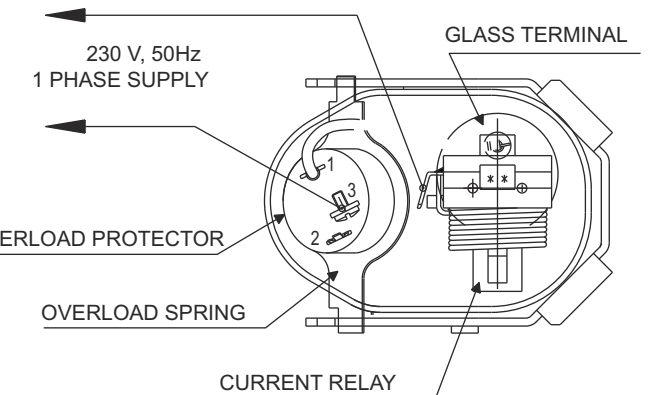


Fig. 3

CAPACITOR START CAPACITOR RUN (CSCR)

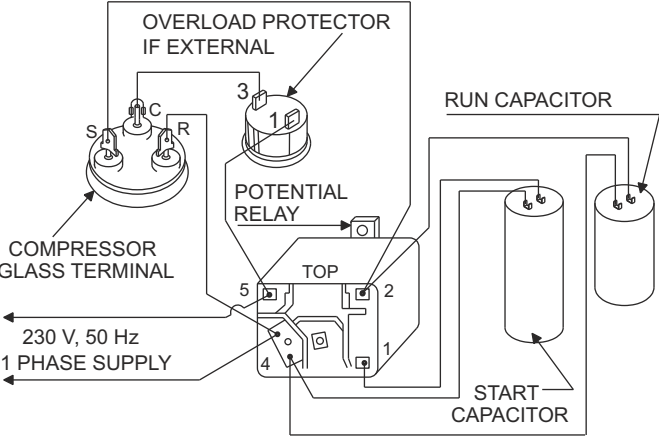


Fig. 4

Wiring Diagrams

CAPACITOR START INDUCTION RUN (CSIR)

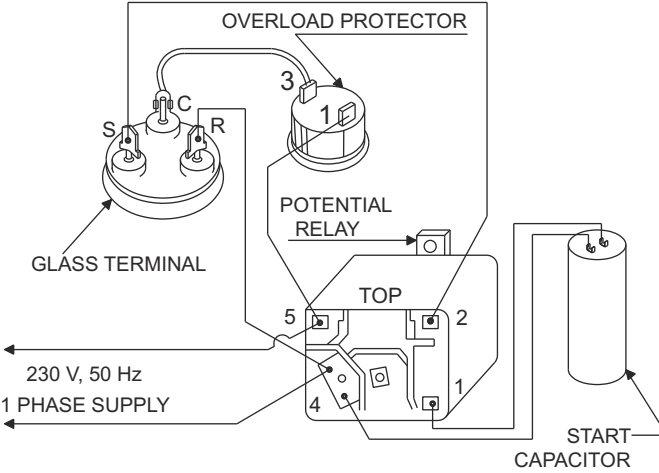


Fig. 5

CAPACITOR START INDUCTION RUN (CSIR) WITH CURRENT RELAY

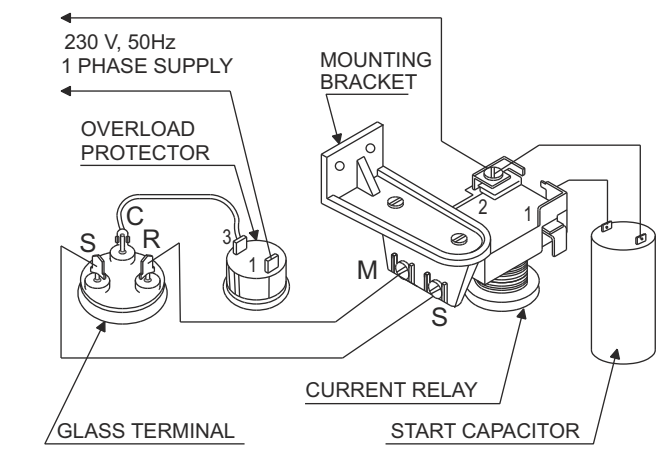


Fig. 6

CAPACITOR START CAPACITOR RUN (CSCR) WITH PTC

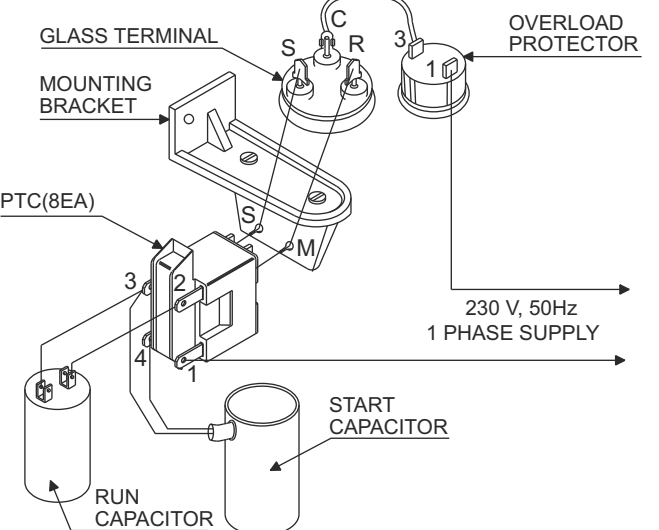


Fig. 7

CAPACITOR START CAPACITOR RUN (CSCR) WITH NTC

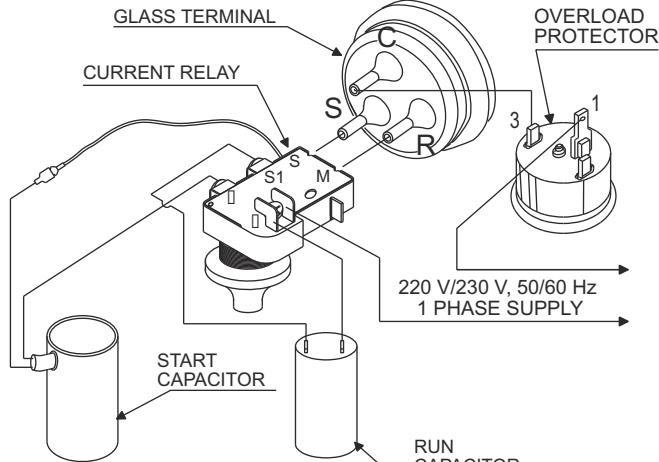


Fig. 8

Applications

Low Temperature

- Deep Freezer
- Refrigerator
- Ice Cube machine
- Walk-in Freezer
- Laboratory Appliance

Medium Temperature

- Bottle Cooler
- Visi-Cooler
- Display Cabinet
- Pastry Cabinet
- Softy Icecream

High Temperature

- Water Cooler
- Oil Coolers / Panel Cooler
- Water Chiller
- Refrigerated Air Dryer
- Walk-in Cooler
- Milk Cooler



Model Selection Guide *

Deep Freezer		
Hard Top (Ltr)	Glass Top (Ltr)	Model
300	200	KCN372LAG
400	300	KCN396LAG
450	300	KCN411LAG
450	300	KCJ412LAG
500	400	KCN415LAG
800	-	KCJ423LAG
1100	-	KCJ430LAL
1800	-	KCJ450LAL

Cold Room (+4° C Room Temperature)			
Room Size (cft)	R22	R134a	R404A
500	KCJ513HAE	KCM511CAL	KCJ484CAL
800	CR22K6M	KCM511CAL	KCM511CAL
1200	CR30K6M	KCM514CAL	KCM514CAL
1600	CR30K6M	KCM519CAL	KCM514CAL
2000	CR36K6M	KCM522CAL	KCM519CAL
2500	CR42K6M	-	KCM522CAL
-	CR53KQM	-	-
-	CR62KQM	-	-

Water Cooler		
Capacity (Ltr/Hr)	R22	R134a
20	-	KCE419HAG
40	-	KCE444HAG/ KCJ444HAG
60	KCE461HAE	KCN463HAG/ KCJ467HAG
100	KCJ511HAE	KCJ498HAG/KCJ511HAG
150	KCJ513HAE	KCJ513HAG
200	CR22K6M	KCM514CAL
300	CR30K6M	KCM522CAL



Water Chiller			
Flow Rate (Ltr/Hr)	R22	R134a	R404A
600	KCJ513HAE	KCM514CAL	KCJ484CAL
800	CR22K6M	KCM519CAL	KCM511CAL
1000	CR30K6M	KCM522CAL	KCM514CAL
1400	CR36K6	-	KCM519CAL
1600	CR42K6	-	KCM522CAL
-	CR53KQM	-	-
-	CR62KQM	-	-

Water inlet temperature : 10°C
Water outlet temperature: 5°C

Bottle Cooler		
Capacity(Ltr)	R22	R134a
100-120	-	KCE419HAG
150-200	-	KCE425HAG/ KCN413CAG
220-250	-	KCE432HAG/KCN416CAG
260-350	KCE443HAE	KCE444HAG/KCJ444HAG
350-500	KCE461HAE	KCN463HAG/KCJ467HAG
600-800	KCJ511HAE	KCJ498HAG

Visi-Cooler	
Case	Model
2 (110 ltr)	KCE419HAG
4 (150 ltr)	KCE425HAG/ KCN413CAG
7 (250 ltr)	KCE432HAG/KCN416CAG
9 (400 ltr)	KCE444HAG/KCJ444HAG
12(650 ltr)	KCN463HAG

Softy Machine	
Capacity (Ltr)	R404A
15	KCM511CAL
20	KCM514CAL
30	KCM519CAL
40	KCM522CAL

* These are preliminary guidelines. The actual compressor selection may differ from the guidelines. Please check the system details before selecting compressor model.

System Practice Guide

System Cleanliness

- It is absolutely necessary that all impurities / contamination like moisture, burr, cleaning agent and chemicals are removed from the system before operation in order to avoid compressor failures.
- All system components have to be de-hydrated and should be Nitrogen charged till they are taken for assembly. Use bright annealed refrigeration grade Copper tubes.
- Use Try-chloro Ethylene for flushing followed by dry air or Nitrogen to remove the trace of Try-chloro Ethylene.

Brazing

- While brazing all the joints purge low pressure Nitrogen through the tube. This will avoid internal oxidation and formation of contamination. Use adequate amount of flux while brazing.
- The joints have to be free from oil and grease before brazing. For Copper to Copper joints use phosphorous Copper as brazing alloy and Copper - Silver for Copper to Steel joints. Oxy Acetylene is best suited for brazing.

Leak Testing

- The system has to be adequately pressurized with dry air or Nitrogen.
- Use of electronic leak detectors is the best way to detect leaks.
- Conventional methods of checking the leaks can also be used.
- Do not pressurize the system with air and R134a.

Evacuation

Effective evacuation of the system ensures removal of moisture. For achieving desired vacuum level of 200 microns:

- Pull vacuum from both sides
- Heat the system with bulbs or infra red lamps
- Use Copper tubes to connect the vacuum pump and the system
- The connecting Copper tubes have to be short in length and bigger in diameter
- Use adequately sized two stage rotary vacuum pump having anti-suckback provision
- Use electronic vacuum gauge to measure the vacuum level
- Never use a hermetic compressor for evacuation. It is not meant for evacuation and cannot achieve desired vacuum level

Refrigerant Charging

- Quality and quantity of refrigerant immensely influences the performance and reliability of any refrigeration system.
- Refrigerant should be procured from genuine source. Use digital weigh balance during refrigerant charging.
- Maintain a separate set of hoses, tubes, valves for different refrigerants. Do not use anti-choke as it damages the compressor.
- Use pressure temperature chart of refrigerant for achieving optimum system performance.

Compressor Mounting

- Torque the nut adequately and ensure that the washer / bolt head rest on the sleeve and not on the rubber grommet.
- The suction and discharge piping should be properly looped to avoid vibrations and refrigerant leakages. The compressor should not be held rigidly by any means.
- These compressors are not suitable for mobile applications.

Electricals

- Always check the voltage across C & R terminals. Voltage at this point should fall within the prescribed operating voltage range. If the supply voltage conditions are poor, use appropriately sized voltage stabilizer with low, high voltage cutout and On-delay timer.
- Always use genuine electrical accessories supplied by Emerson.
- Earthing the appliance is necessary from the safety stand point.
- All electrical joints have to be firm and properly insulated.

Attending The Field Complaints

- Verify the field complaint based on facts and observations made through use of proper tools and equipment. Rule out all the possibilities before replacing the compressor. Analyze the compressor independently for its proper functioning.
- Removing of compressor from the system without understanding the root cause will lead to another compressor failure.

Disclaimer

Technical data given was correct at the time of printing. Updates may occur, and should you need confirmation of a specific value, please contact Emerson stating clearly the information required. Emerson cannot be held responsible for errors in capacities, dimensions, etc., stated herein. Products, specifications and data in this literature are subject to change without notice. The information given herein is based on data and tests which Emerson believes to be reliable and which are in accordance with today's technical knowledge. It is intended for use by persons having the appropriate technical knowledge and skill, at their own discretion and risk. Our products are designed and adapted for fixed locations. For mobile applications, failures may occur. The suitability for this has to be assured from the plant manufacturer, which may include making appropriate tests.

Note

The components listed in this catalogue are not released for use with caustic, poisonous or flammable substances. Emerson cannot be held responsible for any damage caused by using these substances.

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