

# Commercial refrigeration compressors





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## *Copeland at-a-glance.*

### About Copeland

Copeland, a global provider of sustainable climate solutions, combines category-leading brands in compression, controls, software, and monitoring for heating, cooling, and refrigeration. With best-in-class engineering and design and the broadest portfolio of modulated solutions, we're not just setting the standard for compressor leadership; we're pioneering its evolution.

Our technology integrates seamlessly with our smart energy management solutions, enabling us to regulate, track, and optimize conditions to safeguard temperature-sensitive goods over land and sea while ensuring comfort in any environment. Our commitment to quality is demonstrated through rigorous testing in India, where our state-of-the-art facility in Atit, Maharashtra, validates the performance of our products in ambient conditions of up to 46°C.

Through energy-efficient products, regulation-ready solutions, and our expertise, we're revolutionizing the next generation of climate technology for the better.



Psychrometric Lab Facility at Karad, India



Manufacturing Plant at Atit, India





## Copeland reciprocating compressors

*Partner for all your cooling needs with energy efficient and rugged designs*

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



Visi cooler



KCE

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



CRK6



Split AC



Cold room

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



KCN



Deep freezer

KCJ 1 to 1 1/4 HP R22, R404A



Display Cabinet



KCJ

CRKQM 4 to 6HP R22



Bulk milk cooler



CRKQM

KCJ 1 1/4 to 1 HP R22, R134A, R404A



KCJ



Water cooler



*Comprehensive product range serves your high, medium, and low-temperature applications*

**FHP applications**

**Low back pressure**

- Chest freezers
- Softy Machines
- Ice Cube Machine
- Centrifuge, Low Temp. Baths
- Blood / Plasma Storage
- Freezer on Wheels

**Commercial Back Pressure**

- Chest Coolers
- Display Cabinets
- Visi-Coolers

**High Back Pressure**

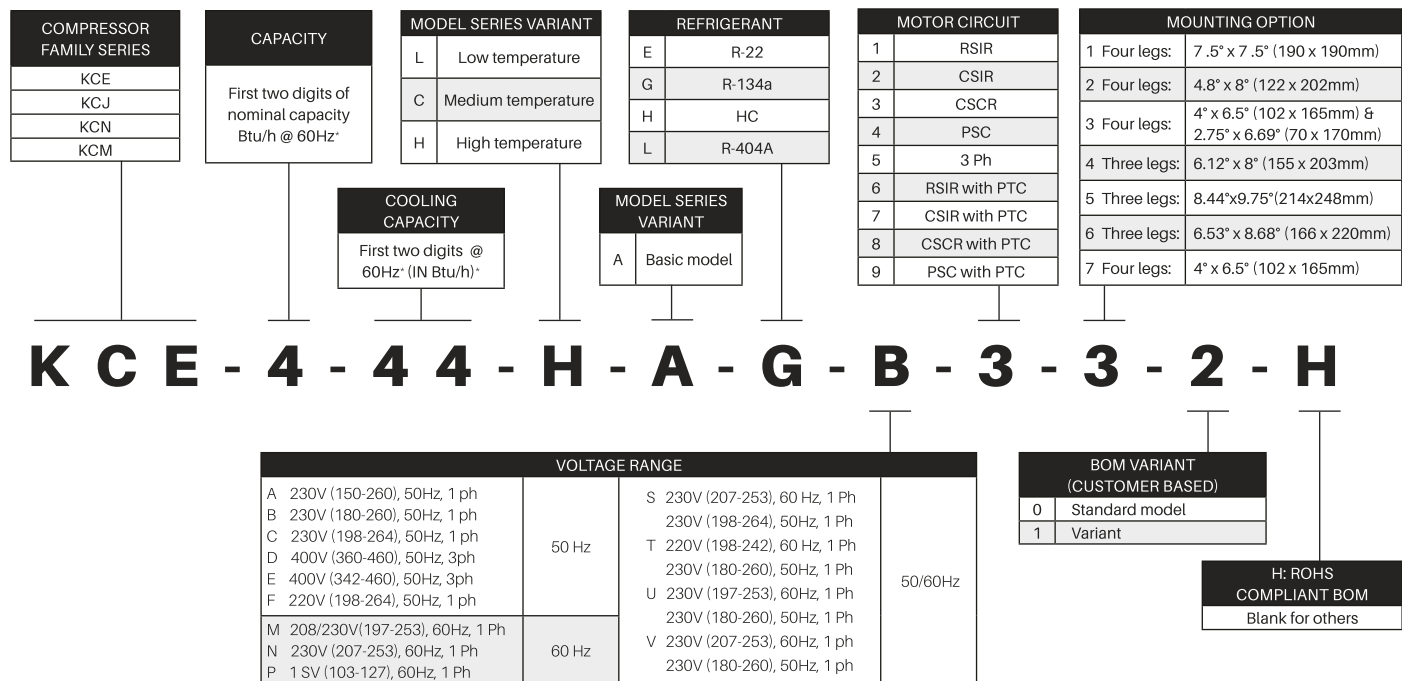
- Water-Coolers
- Air Dryers, Panel Coolers
- Oil-Coolers

**IHP applications**

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

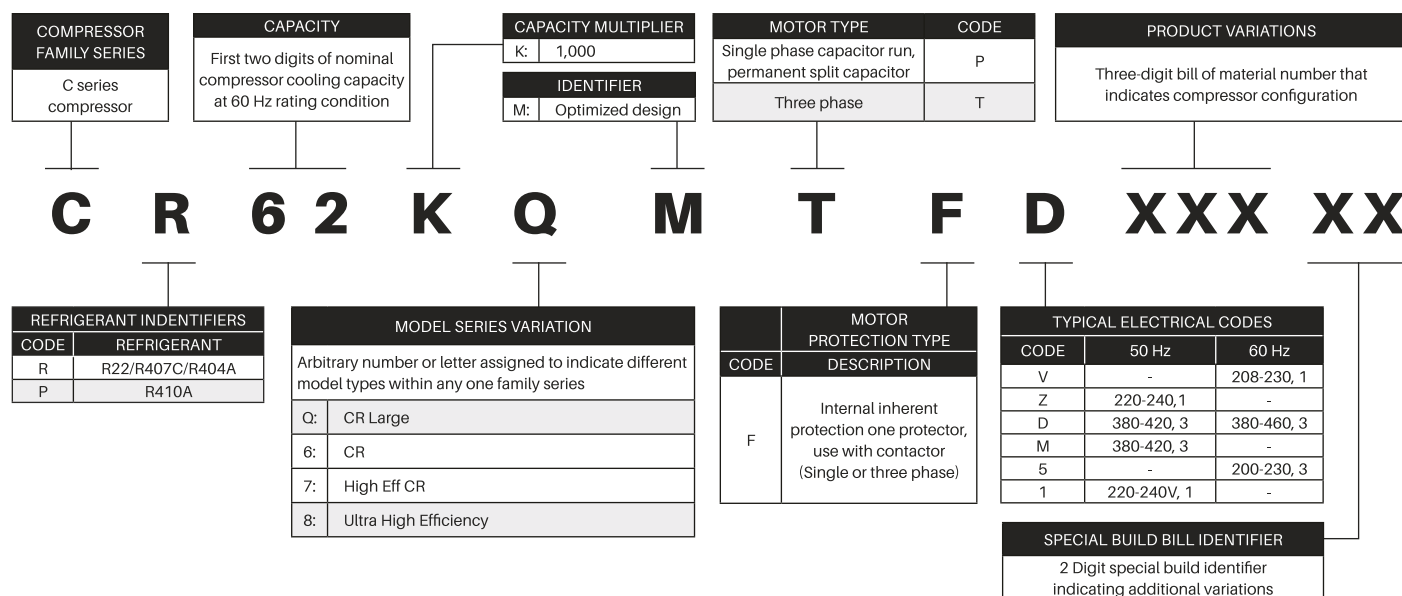
# Nomenclature

## KCX series compressor



Does not indicate whether the compressor is suitable for a 60 Hz power supply.  
For more details, please refer to the compressor specifications

## CR series compressor



# Performance nominals and specifications

## High temperature

### R22

Model	Hz	Displacement (CC/rev)	Performance				Refrigeration capacity (Watts) #						
			Capacity		Power	Current	Evap.Temp. / Cond.Temp (°C)	-17.8	-15	-10	-5	0	5
			Btu/hr	W	W	A							
R22, 1 phase													
KCE443HAE	50	8.0	3600	1055	460	2.10	43.3	-	-	-	692	894	1125
							54.4	-	-	-	543	731	919
KCE461HAE	50	11.5	5100	1494	625	2.9	43.3	-	-	-	1047	1323	1649
							54.4	-	-	-	840	1082	1347
	60		6100	1788	740	3.3	43.3	-	-	-	1246	1574	1964
							54.4	-	-	-	1001	1289	1605
KCJ511HAE	50	18.3	9150	2680	1020	4.70	43.3	-	-	-	1647	2025	2807
							54.4	-	-	-	1293	1593	2286
	60		10500	3077	1175	5.30	43.3	-	-	-	1911	2348	3256
							54.4	-	-	-	1500	1847	2652
KCJ513HAE	50	38.0	12300	3604	1374	6.2	43.3	1605	1732	1981	2422	3065	3772
							54.4	1306	1419	1681	2067	2573	3220
	60		14300	4109	1682	7.4	43.3	1830	2001	2258	2761	3494	4301
							54.4	1489	1618	1917	2357	2933	3671
CR17K9M-PFV	60	33.4	17000	4982	1510	6.9	43.3	1147	1598	2574	3742	5017	5808
							54.4	-	-	1727	2819	4017	4732
CR18K8M-PFV	60	34.1	17800	5217	1595	7.5	43.3	1230	1714	2760	4013	4642	5786
							54.4	-	-	1852	3023	3604	4684
CR19K8M-PFV	60	35.8	18800	5509	1685	7.7	43.3	1289	1802	2913	4230	4891	6106
							54.4	-	-	1946	3201	3821	4954
CR20K6M-PFV	60	39.4	20000	5861	2001	9	43.3	1526	2054	3213	4466	5093	6370
							54.4	-	-	2779	3558	4629	5765
CR21K8M-PFZ	50	39.3	17500	4410	1605	7.5	43.3	1201	1597	2555	3767	4402	5647
							54.4	-	-	1834	2892	3428	4502
CR22K6M-PF1	50	40.8	19,000	5,563	1,750	8.4	43.3	1421	1909	2803	3740	4783	6017
							54.4	-	-	2065	2912	3822	4881
CR23K8M-PF1	50	42.6	19500	5715	1772	8.5	43.3	1406	1806	2922	4338	5040	6392
							54.4	-	-	2215	3395	3985	5090
CR24K6M-PFZ	50	44.3	19800	5803	1950	9.5	43.3	1523	1992	3129	4463	5134	6458
							54.4	-	-	2338	3501	4079	5200
CR28K6ME-PFV	60	49.6	28500	8352	2650	12	43.3	2727	3242	4569	6324	7244	9066
							54.4	-	-	3456	5006	5837	7524
CR28K8M-PFV	50	49.7	27800	8147	2530	11.6	43.3	2432	3033	4478	6163	7052	8905
							54.4	-	-	3559	5024	5791	7360
CR30K6M-PF1	50	51.5	25000	7327	2315	11	43.3	2080	2637	5538	5565	6394	8021
							54.4	-	-	3012	4417	5298	7341
CR32K6M-PFZ	50	57.7	27200	7972	2720	13.4	43.3	2930	3590	5084	6580	7262	8531
							54.4	-	-	4097	5712	6385	7358
CR34K6M-PFZ	50	59.7	28700	8411	2850	14	43.3	2375	3107	4664	6354	7237	9008
							54.4	-	-	3556	5166	5940	7510
CR36K6M-PFZ	50	59.7	30100	8814	2720	13.6	43.3	2740	3330	4480	5770	7220	8870
							54.4	-	-	3510	4700	6000	7460
CR37K6M-PFZ	50	63.5	30600	8968	3060	16	43.3	2493	3252	4661	6193	7890	9794
							54.4	-	-	3394	4860	6413	8151
CR42K6M-PFZ	50	72.1	36100	10570	3240	15.4	43.3	3470	4050	5300	6820	8610	10650
							54.4	-	-	4330	5640	7180	8950
CR47KQM-PFZ	50	82.7	41725	12228	3950	20.00	43.3	2842	3992	6091	8285	10560	12932
							54.4	-	-	4700	6729	8772	10866
CR47KQM-PFV	60		47500	13921	4650	22.00	43.3	4248	5406	7489	9732	12311	15179
							54.4	-	-	6004	8034	10261	12720



## #Note

Model	Return gas temperature (°C)	Subcooled liquid temperature (°C)
KCE, KCN, KCJ	35	46.1
CR, KCM,	18.3	46.1
KCM475LAL, 515LAL	32	46.1

		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 (Mid)	Run capacitor (Mfd)	Relay		OLP	
											Potential / PTC	Current		
R22, 1 phase														
1503	1706	310	Fan 350	11.80	13	180/260	CSCR		40/60	10	LT85002 or HLR3800-4I3C-2	-	KAT0072-K3 or MRA-12309-12103	
1222	1441													
2016	2250													
1693	1912	510	Fan 350	13.40	17	180/260	CSCR		60/80	15	LT85003 or HLR3800-4L3C-3	-	KAT0159/B2	
2399	2678													
2025	2275													
3750	4265	905	Fan 350	21.50	25	180/260	PSC		80/100	35	LT85002 or HLR3800-4I3C-2	-	Internal	
3135	3618													
4350	4947													
3636	4196	890	Fan 350	22.7	39	198/264	PSC		80/100	36	AC85001 or HLR3800-6H3C-1	-	Internal	
4869	5435													
4337	4858													
5551	6195	1035	Fan 400	31.97	53	208/230	CSCR		150/200	40	HLR3800-2AE3C	-	Internal	
4944	5538													
6668	7379													
5520	6204	1200	Fan 400	31.50	61	197/253	PSC		150/200	40	LT85002	-	Internal	
7150	7912													
5920	6652													
7561	836	1100	Fan 400	31.50	61	197/253	PSC		150/200	40	AC85004*	-	Internal	
6242	7033													
8205	9114													
7455	8362	1330	Fan 400	29.8	60	197/253	PSC		150/200	36	AC85004*	-	Internal	
7092	8118													
5714	6528													
7501	8529	1330	Fan 400	29.80	54.00	180/260	*PSC/ **CSCR		80/100	36	AC85004	-	Internal	
6182	7059													
7971	8967													
6491	7268	1200	Fan 400	31.5	64	180/260	PSC		150/200	40	AC85004	-	Internal	
7883	8880													
6564	7385													
11273	12559	1330	Fan 400	33	80	197/253	PSC		150/200	45	AC85004		Internal	
9438	11490													
10990	12308													
9231	10347	1200	Fan 400	31.5	80	197/253	PSC		150/200	45			Internal	
9788	10843													
9026	10052													
10257	11429	1330	Fan 400	32.5	85	198/264	CSCR		150/200	45	AC85004	-	Internal	
8718	9715													
11033	12292													
9286	10400	1330	Fan 400	32.5	100	198/264	CSCR		150/200	45			Internal	
10750	11900													
9100	10100													
11914	13261	1330	Fan 400	34.90	90	198/264	CSCR		150/200	50			Internal	
10076	11301													
12950	14350													
109500	12150	1330	Fan 400	35	104	198/264	CSCR		189/227	60 or 65	AC85005	-	Internal	
15763	17023													
13331	14679													
18400	20363	1330	Fan 400	36	110	198/264	CSCR		189/227	60	AC85005	-	Internal	
15617	17280													

# Performance nominals and specifications

## High temperature

### R22

R22, 3 phase													
CR22K6M-TFM	50	40.80	18350	5373	1750	3.20	43.3	1680	2030	2720	3540	4490	5600
							54.4	-	-	2090	2800	3620	4570
CR24K6M-TFD	50	44.28	19900	5832	1975	3.6	43.3	1582	2081	3212	4491	6072	7010
							54.4	-	-	1756	3224	4847	5678
	60		23900	7004	2300	3.5	43.3	1846	2462	3842	5372	7212	8371
							54.4	-	-	2737	4212	5849	6825
CR30K6M-TFM	50	51.47	24400	7144	2275	4.2	43.3	-	2840	3700	4710	5890	7290
							54.4	-	-	2950	3790	4800	6010
CR34K6M-TFD	50	59.66	28300	8294	2830	5.3	43.3	2683	3257	4654	6340	8375	9614
							54.4	-	-	3675	5154	6862	8059
	60		33800	9906	3300	5.1	43.3	3113	3831	5531	7509	9864	11299
							54.4	-	-	4324	6146	8268	9644
CR36K6M-TFM	50	59.66	29900	8755	2680	4.9	43.3	2800	3380	4490	5760	7190	8810
							54.4	-	-	3570	4730	6010	7430
CR37K6M-TFD	50	63.52	31200	9144	3000	5.6	43.3	2784	3385	4971	7035	9314	10655
							54.4	-	-	3997	5715	7713	8921
	60		37200	10902	3580	5.6	43.3	3312	4030	5926	8385	11108	12716
							54.4	-	-	4765	6818	9196	10637
CR42K6M-TFM	50	72.09	35100	10728	3300	6.1	43.3	3630	4190	5360	6780	8470	10450
							54.4	-	-	4410	5620	7070	8770
CR47KQM-TFD	50	78.78	39700	11635	3825	6.90	43.3	4583	5325	6756	8387	10227	12522
							54.4	-	-	5722	7239	8986	10791
	60		47200	13832	4550	6.80	43.3	5534	6431	8170	10148	12351	15110
							54.4	-	-	6901	8746	10883	13028
CR53KQM-TFD	50	88.28	45800	13411	4350	7.7	43.3	-	-	7436	9434	11796	15251
							54.4	-	-	7672	9617	11811	14681
	60		54300	15910	5200	7.5	43.3	-	-	8860	11237	14041	18172
							54.4	-	-	8425	10662	13136	16143
CR57KQM-TFD	50	94.61	47800	14005	4650	8.30	43.3	-	-	7596	10128	13030	16195
							54.4	-	-	7759	10149	12866	15821
	60		5700	16705	5550	8.10	43.3	-	-	9054	11981	15384	19156
							54.4	-	-	8474	10752	13838	17399
CR62KQM-TFD	50	101.92	52800	15461	5100	8.8	43.3	-	6806	8760	11129	13847	16933
							54.4	-	-	8390	10538	12970	15528
	60		62800	18400	6075	8.7	43.3	-	8234	10594	13491	16794	20534
							54.4	-	-	10142	12718	15664	18282
CR72KQM-TFM	50	115.79	61500	18024	6100	10.5	43.3	8420	9630	11600	13400	15350	17650
							54.4	-	-	10500	12150	13800	15700

R22, 3 phase													
6890	7690	1330	Fan 400	30	20	342/462	3 Ph		-	-	-	-	Internal
5670	6350												
8059	9012												
6216	6594	1330	Fan 400	29.50	28	342/462	3 Ph		-	-	-	-	Internal
9613	10755					361/506			-	-	-	-	
7883	8880												
8950	-	1330	Fan 400	30	28	342/462	3 Ph		-	-	-	-	Internal
7470	-												
11009	12265	1330	Fan 400	32.10	41	342/462	3 Ph		-	-	-	-	Internal
9265	10377				45	361/506			-	-	-	-	
12921	14392					-			-	-	-		
10979	12276					-			-	-	-		
10650	11800	1330	Fan 400	31	41	360/460	3 Ph		-	-	-	-	Internal
9030	10000												
12104	13423	1330	Fan 400	32.00	45	342/462	3 Ph		-	-	-	-	Internal
10228	11400					361/506			-	-	-	-	
14419	16002					-			-	-	-		
12191	12598					-			-	-	-		
12750	14200	1330	Fan 400	32.7	45	342/462	3 Ph		-	-	-	-	Internal
10750	12 000												
15038	16639	1330	Fan 400	36.2	60	342/462	3 Ph		-	-	-	-	Internal
13198	14630				51	361/506			-	-	-	-	
18142	20076					-			-	-	-		
15994	17723					-			-	-	-		
16570	18358	1330	Fan 400	36	61	342/462	3 Ph						Internal
15682	17245				60	361/506							
19725	21 863												
17475	19197												
18464	20399	1330	Fan 400	36.2	61	342/462	3 Ph						Internal
17028	18875				60	361/506							
21805	24150					-			-	-	-		
18625	20750					-			-	-	-		
19132	21144	1330	Fan 400	36.2		342/462	3 Ph		-	-	-	-	Internal
16939	18756					361/506			-	-	-	-	
23187	25592					-			-	-	-		
20493	22701					-			-	-	-		
20400	22300	1330	Fan 400	37.5		342/462	3 Ph		-	-	-	-	Internal
18050	19650								-	-	-	-	

# Performance nominals and specification

## High temperature

### R407C

Model	Hz	Displacement (CC/rev)	Performance				Refrigeration capacity (Watts) #						
			Capacity		Power	Current	Evap. temp. / Cond. temp (°C)	-17.8	-15	-10	-5	0	5
			Btu/hr	W	W	A							
R407C 1 phase													
CR22K6ME- PF1	50	40.8	16650	4882	1700	7.9	43.3	1275	1708	2703	3794	5079	5866
							54.4	-		2035	3008	4105	4762
CR24K6ME- PFZ	50	44.28	18600	5446	1850	9	43.3	1206	1633	2638	3863	5485	6560
							54.4			2004	3072	4417	5288
CR30K6ME- PF1	50	51.47	23500	6890	2280	10.3	43.3	1999	2523	3795	5304	7057	8102
							54.4	-		2817	4201	5785	6717
CR34K6ME- PFZ	50	59.66	27000	7913	2700	13.8	43.3	2050	2671	4176	5992	8213	9593
							54.4	-		3096	4607	6503	7692
CR36K6ME- PFZ	50	59.7	27400	8035	2715	13.4	43.3	2082	2713	4240	6084	8340	9671
							54.4	-		3143	4677	6603	7811
CR42K6ME- PFZ	50	72.08	32350	9472	3100	15	43.3	2432	3187	5006	7174	9838	11491
							54.4			3692	5513	7786	9215
CR42K6ME- PFV	60	72.08	40575	11892	3745	16.85	43.3	3090	4098	6423	9068	12272	14269
							54.4			4521	6961	9829	11577



## #Note

Model	Return gas temperature (°C)	Subcooled liquid temperature (°C)
KCE, KCN, KCJ	35	46.1
CR, KCM	18.3	46.1
KCM475LAL, 515LAL	32	46.1

		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	
R407C 1 phase													
6744	7565	1330	Fan 400	33.1	54	180-260	PSC/ CSCR		150-200	36			Internal
5527	6217												
7869	9127	1330	Fan 400	29.80	61	198/264	PSC/ CSCR		150-200	36	Potential		Internal
6367	7402												
9231	10228	1330	Fan 400	32.5	72	180-260	*PSC / **CSCR		150-200	45			Internal
7737	7180												
11176	12620	1330	Fan 400	32.5	100	198/264	CSCR		150-200	45	Potential		Internal
9075	10353												
11348	12815	1330	Fan 400	36	85	220-240	CSCR		130-156	40/45			Internal
9135	10513												
13381	15122	1330	Fan 400	34.9	104	198/264	CSCR		64/77 189/227	60,65	Potential		Internal
10872	12404												
16585	18737	1330	Fan 400	34	102	197-253	CSCR		189-253	40/45			Internal
13637	15530												

R407C 3 phase													
CR21K6ME-TFM	50	40.8	17250	5065	1610	3.2	43.3	1437	1877	3033	4027	5249	4843
							54.4	-	-		3067	4211	4926
CR24K6ME-TF5	50	44.3	18360	5379	1870	3.50	43.3	1694	2263	3551	4968	6649	7688
							54.4	-		2678	3970	5414	6267
CR24K6ME-TFD	50	44.28	18360	5379	1870	3.5	43.3	1426	1897	2958	4126	5526	6401
							54.4	-		2236	3323	4523	5247
	60		22140	6487	2170	3.45	43.3	1720	2288	3568	4976	6663	7719
							54.4	-		1616	3461	5455	6327
CR29K6ME-TFM	50	51.5	24200	7090	2260	4.2	43.3	2023	2588	3935	5499	7302	8369
							54.4	-		3246	4925	6630	7633
CR34K6ME-TFD	50	59.66	27250	7984	2600	4.93	43.3	1806	2447	3962	5800	8188	9747
							54.4	-		2857	4428	6432	7740
	60		32720	9587	3100	5.00	43.3	2168	2937	4758	6963	9832	11704
							54.4			3431	5317	7722	9293
CR35K6ME-TFM	50	59.7	29350	8599	2650	4.8	43.3	2229	2903	4537	6509	8925	10426
							54.4	-		3742	5752	8003	9403
CR37K6ME-TFD	50	63.52	30900	9045	2900	5.4	43.3	2352	3123	4895	6904	9339	10861
							54.4			3486	5307	7465	8806
	60		36090	10574	3430	5.33	43.3	2747	3648	5718	8064	10908	12686
							54.4			4072	6199	8718	10285
CR41K6ME-TFM	50	72.1	33200	9809	3070	5.9	43.3	2493	3270	4774	7376	10111	11800
							54.4	-		3801	5665	8000	9464
CR47KQME-TFD	50	78.8	37400	10960	3580	6.9	43.3	2815	3717	5864	8404	11484	13387
							54.4	-		4218	6399	9056	10671
	60		43600	12775	4150	3.63	43.3	3277	4370	6424	9791	13240	15357
							54.4	-		4850	7439	10529	12434
CR53KQME-TFD	50	88.3	42200	13365	4110	7.6	43.3	3138	4150	6573	9424	12876	15003
							54.4	-		4738	7192	10173	12031
	60		48700	14269	4740	8.1	43.3	3673	4901	7743	10974	14834	17214
							54.4	-		5433	8325	11786	13894
CR57KQME-TFD	50	94.6	46100	13509	4450	8.2	43.3	3431	4538	7180	10302	14091	16418
							54.4	-		5183	7865	11126	13146
	60		53300	15617	5150	8	43.3	4018	5352	8455	11992	16211	18803
							54.4	-		5938	9108	12891	15205
CR62KQME-TFD	50	101.9	50700	14857	4890	8.9	43.3	3783	5000	7897	11325	15487	18041
							54.4	-		5689	8648	12238	14457
	60		59200	17346	5690	8.8	43.3	4457	5938	9390	13318	18000	20888
							54.4	-		6584	10095	14293	16882
CR72KQME-TFD	50	115.79	58500	17140	5700	10	43.3	4245	5614	8879	12735	17410	20292
							54.4	-		6407	9728	13760	16254

R407C 3 phase													
7067	8006	1330	Fan 400	29.5	20	342-460	3 Ph		-	-	-	-	Internal
5748	6540												
8889	10002	1330	Fan 400	29.5	55	180-253	3 Ph		-	-	-	-	Internal
7272	8185												
7422	8379	1330	Fan 400	29.50	28	342-462	3 Ph		-	-	-	-	Internal
6073	6839												
8950	10103					361/506			-	-	-	-	
7323	8248												
9531	10572	1330	Fan 400	30	28	342-460	3 Ph						Internal
8739	9707												
11619	13405	1330	Fan 400	31.0	41	342-462	3 Ph						Internal
9311	10823												
13951	16096				45	361/506							
11180	12995												
12141	13710	1330	Fan 400	31	41	360-460	3 Ph						Internal
11012	12493												
12632	14283	1330	Fan 400	32	45	342-462	3 Ph						Internal
10358	11809												
14754	16682					361/506							
12098	13792												
13754	15528	1330	Fan 400	32.7	45	342-462	3 Ph		-	-	-	-	Internal
11173	12742												
15557	17544	1330	Fan 400	36	60	342-462	3 Ph		-	-	-	-	Internal
12588	14326												
17786	20007	1330	Fan 400	36	60	342-462	3 Ph		-	-	-	-	Internal
14619	16635												
17434	19655	1330	Fan 400	36	61	342-462	3 Ph		-	-	-	-	Internal
14128	16070												
19927	22427	1330	Fan 400	36	61	342-462	3 Ph		-	-	-	-	Internal
16378	18636												
19076	21496	1330	Fan 400	36	61	342-462	3 Ph		-	-	-	-	Internal
15455	17581												
21774	24501	1330	Fan 400	36	61	342-462	3 Ph		-	-	-	-	Internal
17896	20367												
20964	23636	1330	Fan 400	36	55	342-462	3 Ph		-	-	-	-	Internal
16994	19326												
24179	27185	1330	Fan 400	36	55	342-462	3 Ph		-	-	-	-	Internal
19839	22581												
23582	26616	1330	Fan 400	37.5	69	360-460	3 Ph		-	-	-	-	Internal
19116	21765												

# Performance nominals and specification

## High temperature

### R134a

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													
KCE419HAG	50	5.79	1588	465	245	1.4	43.3	340	400	490	620	810	1120
	60		1860	545	282	1.5	54.4	260	320	410	500	640	860
							43.3	215	257	317	384	476	608
KCE425HAG	50	7.58	21 45	629	360	2.3	43.3	-	270	320	390	480	620
	60		2438	716	380	2.2	54.4	-	220	260	310	390	500
							43.3	294	329	395	474	588	761
KCE432HAG	50	9.42	2690	788	375	2.75	43.3	200	300	410	500	610	780
	60		3225	944	470	2.75	54.4	130	210	310	380	480	630
							43.3	256	344	500	656	810	997
KCE444HAG	50	12.05	3675	1 077	450	2	43.3	-	450	550	670	840	1090
	60		4276	1 252	535	2.2	54.4	-	340	440	540	680	880
							43.3	479	558	694	858	1084	1368
KCJ444HAG	50	12.58	3700	1064	450	2.8	43.3	340	400	490	620	810	1120
	60		54.4	260	320	410	500	640	860				
										43.3	620	690	820
KCN463HAG	50	15.33	5200	1 538	61 5	2.7	54.4	450	550	710	880	1060	1300
	60		6300	1845	81 0	3.65	43.3	-	-	-	1111	1343	1644
							54.4	-	-	-	966	1175	1424
KCJ467HAG	50	18.27	5600	1640	675	3.85	43.3	490	600	8100	1050	1320	1650
	60		6704	1964	820	4.1	54.4	380	470	640	840	1080	1360
							43.3	627	759	1029	1347	1702	2119
KCJ482HAG	50	22.01	7000	2051	778	3.60	54.4	492	592	811	1083	1393	1765
	60		8250	241 8	923	4.30	43.3	-	950	1100	1350	1700	2110
							54.4	-	710	850	1080	1380	1740
KCJ498HAG	50	25.91	8200	2403	975	5.9	43.3	1125	1164	1348	1660	2081	2590
	60		9250	271 0	1120	6.1	54.4	847	885	1054	1336	1710	2157
							43.3	1040	1090	1260	1530	1910	2390
KCJ511HAG	50	29.3	91 50	2680	1020	4.7	54.4	1267	1347	1540	1849	2328	2917
	60		10500	3077	1 175	5.3	43.3	1025	1103	1251	1515	1918	2442
							54.4	-	1260	1460	1780	2220	2750
KCJ513HAG	50	38.04	12300	3604	1374	6.2	54.4	960	1130	1430	1820	2290	
	60		14300	4190	1682	7.4	43.3	1503	1549	1785	2192	2734	3378
							54.4	1139	1184	1405	1778	2269	2844
KCM511CAL	50	40.8	10660	3124	1138	5.6	43.3	1480	1540	1800	2240	2830	3540
	60		12300	3604	1374	6.2	54.4	1220	1240	1440	1800	2320	2960
							43.3	1768	1842	2156	2679	3399	4256
KCM514CAL	50	51.47	14395	4219	1487	7.4	54.4	1459	1488	1719	2158	2776	3544
	60		10660	3124	1138	5.6	43.3	-	1200	1660	2200	2840	3620
							54.4	-	820	1230	1690	2230	2860
KCM519CAL	50	59.65	17100	5010	1800	9.2	43.3	-	1520	2120	2870	3780	4860
	60		14395	4219	1487	7.4	54.4	-	1030	1570	2200	2950	3830
							43.3	1392	1840	2658	3546	4581	5838
KCM522CAL	50	72.08	20500	6008	2061	10.2	54.4	1216	1530	2128	2828	3701	4824
	60		20500	6008	2061	10.2	43.3	1720	2151	3030	4065	5284	6714
							54.4	1342	1691	2415	3285	4332	5586
R134a, 3 phase													
KCM511CAL	50	40.8	10777	31 58	1093	22	43.3	958	1178	1632	2163	2784	3514
	60		12777	37 18	1293	26	54.4	771	932	1281	1714	2248	2893
KCM514CAL	50	51.47	14500	4250	1450	3.2	43.3	1152	1480	2119	2849	3704	4727
	60		17100	5010	1800	4	54.4	926	1169	1662	2251	2978	3874
KCM519CAL	50	59.65	171 00	5010	1735	4	43.3	1448	1861	2638	3511	4543	5791
	60		20500	6008	2061	10.2	54.4	1257	1536	2095	2778	3649	4768
KCM522CAL	50	72.08	20700	6067	1970	4.6	43.3	1679	2101	2960	3968	5158	6556
	60		24700	7267	2370	5.6	54.4	1310	1650	2359	3209	4249	5454
KCM530CAL	50	88.28	141 67	41 52	1953	5.34	43.3				4226	5769	6443
	60		171 67	50 52	2353	6.34	54.4					4596	5263
KCM536CAL	50	101.92	16395	4805	2172	4.7	43.3			4788	6796	9231	9946
	60		19395	5805	2672	5.7	54.4				5361	7458	8089



## #Note

Model	Return gas temperature (°C)	Subcooled liquid temperature (°C)
KCE, KCN, KCJ	35	46.1
CR, KCM.	18.3	46.1
KCM475LAL, 515LAL	32	46.1

		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	
R134a, 1 phase													
1570	1900	310	Fan 350	10.2	12	180-260	CSIR		-	-		KARP 3627	TAE 19/H3
1200	1460												
792	936												
652	774												
840	-	310	Fan 350	10.8	13	180-260	CSIR		40-60	-		KARP 4241	KAT0072/ H3 OR MRA12309-12101
690	-												
1013	1204												
843	1014												
1060	1280	310	Fan 350	11.8	12.5	180-260	CSIR		40-60	-		KARP 4241/ MTRP 4241	KAT0072/ H3 OR MRA12309-12101
890	1100												
1388	1664												
1180	1424												
1460	-	310	Fan 350	11.8	13	180-260	CSCR		40-60	10	KARPN4241	-	KAT0072/H3
1180	-												
1830	2183												
1493	1786												
1570	1900	890	Fan 350	20.2	17	180-260	CSIR		80-100	-	-	KARP4841 /MTRP4841	KATO159/B2
1200	1460												
1860	-	380	Fan 350	11.5	14	180-260	CSCR		80-100	15	-	KARPN-5041	Internal
1590	-												
2027	2312												
1749	1974												
2040	2290	890	Fan 350	21	23	180-260	CSIR		80-100	-	-	KARPN5041	KATO463/ B2/ MRA12308-12102
1720	1950												
2626	2968												
2247	2569												
2570	-	890	Fan 350	21.5	32	198-264	PSC		80-100	25	HLR3800-3F3C-4*	-	Internal
2130	-												
3167	3512												
2656	2951												
2980	3360	890	Fan 350	21.5	32	180-260	CSIR		80-100	-	-	KARP-5641 /MTRP-5641 MTRP5941	KATO167/B2
2520	2870												
3616	4086												
3077	3518												
3320	-	890	Fan 350	21.5	25	180-260	PSC		80-100	25	HLR3800-3F3C-4*	-	Internal
2790	-												
4090	4509												
3469	3829												
4350	4840	890	Fan 350	22.7	39	198-264	PSC		-	36	HLR3800-6H3C-1	-	Internal
3700	4140												
5235	5827												
4435	4977												
4540	-	1330	Fan 400	29.8	54	180-260	CSCR		80-100	36	AC85004	-	Internal
3610	-												
6130	-	1330	Fan 400	32.5	72	180-260	CSCR		150-200	45	AC85001/HLR3800-6H3C-1	-	Internal
4850	-												
7388	8408	1330	Fan 400	34.9	85	180-260	CSCR		120-150	45	AC85004/3AR-R3CT3P5/RVA-3F6D	-	Internal
6272	7242												
8391	9440	1330	Fan 400	34.9	104	180-260	CSCR		150-200	60	AC85005/3AR-R3CT24S5/RVA-3F6D	-	Internal
7075	8015												
R134a, 3 phase													
4358	4883	1330	Fan 400	29.5	27.5	342-460	3 Ph		-	-	-	-	Internal
3660	4147												
5946	6726	1330	Fan 400	30	40	342-460	3 Ph		-	-	-	-	Internal
4979	5697												
7324	8320	1330	Fan 400	32.7	45	342-460	3 Ph		-	-	-	-	Internal
6201	7154												
8194	9217	1330	Fan 400	32.7	45	342-460	3 Ph		-	-	-	-	Internal
6908	7828												
9127	10598	1330	Fan 400	36.2	61	342-460	3 Ph		-	-	-	-	Internal
7468	8535												
12157	13419	1330	Fan 400	36.2	55	342-460	3 Ph		-	-	-	-	Internal
10094	11261												

# Performance nominals and specification

## Medium temperature

### R134a/ R404A

Model	Hz	Displacement (CC/rev)	Performance				Refrigeration capacity (Watts)#						
			Capacity		Power	Current	Evap. temp. / Cond. temp ( °C)	-17.8	-15	-10	-5	0	5
			Btu/hr	W	W	A							
R404A, 1 phase													
KCN438CAL	50	9.66	3200	937	552	2.70	43.3	691	806	1080	1413	1838	2110
							54.4	529	627	853	1148	1530	1774
KCN448CAL	50	13.40	4250	1245	720	3.3	43.3	908	967	1335	1834	1962	2483
							54.4	695	824	1129	1502	1613	2077
KCN458CAL	50	15.32	5000	1465	880	4.7	43.3	1070	1243	1655	2156	2801	3218
							54.4	818	967	1326	1761	2332	2707
KCJ422CAL	50	8	1800	527	400	2.4	43.3	403	474	630	827	1033	1206
							54.4	289	347	478	652	831	969
KCJ438CAL	50	11.5	3200	937	625	3.70	43.3	600	720	920	1140	1390	1720
							54.4	450	540	710	890	1120	1390
KCJ461CAL	50	18.27	5100	1494	925	4.10	43.3	-	1200	1550	1920	2360	2870
							54.4	-	840	1120	1440	1800	2250
KCJ484CAL	50	25.91	7000	2051	1250	6.20	43.3	-	1680	2130	2620	3210	3930
							54.4	-	1200	1560	1960	2460	3090
KCJ498CAL	50	32.62	9250	2710	1650	8.3	43.3	1977	2301	3051	3934	5063	5793
							54.4	1501	1785	2455	3222	4220	4878
KCM511CAL	50	40.80	9000	2638	1385	6.7	43.3	-	1200	1660	2200	2840	3620
							54.4	-	820	1230	1690	2230	2860
KCM514CAL	50	51.87	12000	3517	1840	9.1	43.3	-	3130	3970	5110	6460	7980
							54.4	-	-	3090	4000	5120	6390
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	-	2230	3120	4100	5110	6050
							54.4	-	-	2330	3090	3950	4830
KCM514CAL	50	51.47	13100	3839	1865	3.5	43.3	-	3230	4550	5800	7030	8310
							54.4	-	-	3310	4340	5410	6590
KCM519CAL	50	59.65	16100	4717	2360	4.7	43.3	-	3728	4839	6342	8147	10167
							54.4	-	-	3681	4909	6433	8165
KCM522CAL	50	72.08	18300	5360	2600	5.2	43.3	-	4683	5905	7561	9604	11984
							54.4	-	-	4417	5832	7593	9651
KCM530CAL	50	88.28	26000	7620	3714	7	43.3	-	-	7490	9861	12562	14162
							54.4	-	-	5523	7411	9580	10875
KCM536CAL	50	101.92	31500	9232	4430	7.3	43.3	-	-	9077	11898	15168	17107
							54.4	-	-	6669	8902	11561	13163

## #Note

Model	Return gas temperature (°C)	Subcooled liquid temperature (°C)
KCE, KCN, KCJ	35	46.1
CR, KCM	18.3	46.1
KCM475LAL, 515LAL	32	46.1

		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	
R404A, 1 phase													
2434		340	Fan 350	11.79	17	220-230 V	CSCR		-	-	HLR3800-4L3C-3	-	KAT0164/B2
206													
2799	3155	340	Fan 350	12.70	18	220-230 V	CSCR		-	-	HLR3800-4L3C-3	-	KAT0733/ B2
2362	2685												
3713		340	Fan 350	12.70	26	220-230 V	CSCR		-	-	HLR3800-4L3C-3	-	KAT0733/ B2
3158													
1386		890	Fan 350	20	16	180-260	CSIR		80/100	-		KARP4741	KAT0463 / B2
1147													
2120	2390	890	Fan 350	21.50	24	180- 260	CSIR		80/100	-	-	KARP5641/ MTRP5641	T0732/B9
1750	2000												
3510	-	890	Fan 350	21.50	25	180- 260	CSCR		80/100	25	LT85002 or HLR3800-413C-2	-	Internal
2830	-												
4850	-	890	Fan 350	22.50	37	180- 260	CSCR		80/100	25	AC85001 OR HLR3800-6H3C-1	-	Internal
3910	-												
6675		890	Fan 350	24.94	50	220-230 V	CSCR		-	-	HLR3800-3F3C-4	-	5DN-0349-78
5680													
4540	-	1330	Fan 350	29.80	54	180- 260	CSCR		80/100	36	AC85004	-	Internal
3610	-												
9590	1050	1330	Fan 350	32.50	72	180- 260	CSCR		150/100	45	AC85001 OR HLR3800-6H3C-1	-	Internal
7730	8480												
12435	13683	1330	Fan 350	34.90	85	180- 260	CSCR		120/150	45	AC85004 OR 3ARP3CT3P5 OR RVA-3F6	-	Internal
10131	11207												
14501	16040	1330	Fan 350	34.90	104	180- 260	CSCR		120/150	60	AC85005 OR 3AR-R3CT24S5 OR RVA-3AG 6D	-	Internal
11817	13147												
R404A, 3 phase													
6830	7190	1330	Fan 400	29.5	20	342-462	3 Ph	-	-	-	-	-	Internal
5640	6030												
9730	-	1330	Fan 400	30	28	342-462	3 Ph	-	-	-	-	-	Internal
7950	-												
12309	13516	1330	Fan 400	31	41	342-462	3 Ph	-	-	-	-	-	Internal
10014	11058												
14651	16236	1330	Fan 400	32.7	45	342-462	3 Ph	-	-	-	-	-	Internal
11954	13323												
15933	17512	1330	Fan 400	36.2	61	342-460	3 Ph		-	-	-	-	Internal
12321	13621												
19244	21134	1330	Fan 400	36.2	55	342-460	3 Ph		-	-	-	-	Internal
14948	16552												

# Performance nominals and specification

## Low temperature

### R134a / R404A

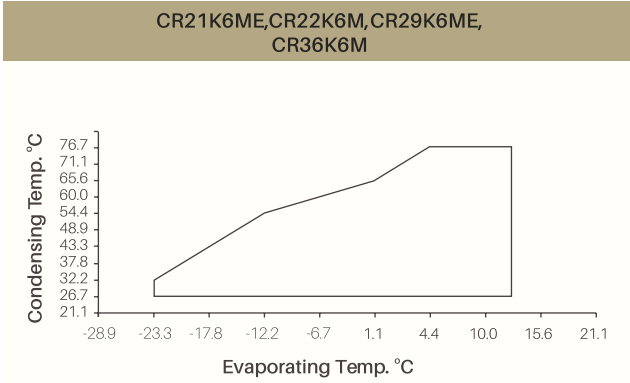
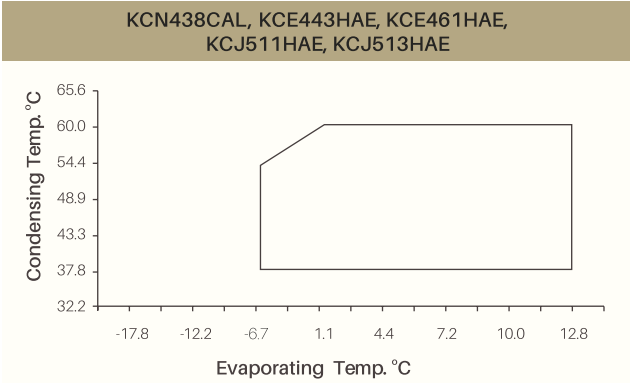
Model	Hz	Displacement (CC/rev)	Performance				Refrigeration capacity (Watts) #						
			Capacity		Power	Current	Evap.Temp. / Cond.Temp (°C)	-37.2	-35	-30	-25	-20	-15
			Btu/hr	W	W	A							
R134a, 1 phase													
KCN372LAG	50	7.31	600	176	159	1.34	43.3	70	80	110	150	200	270
							54.4	60	70	90	130	180	240
KCN396LAG	50	9	800	234	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	-	-	170	250	330	430
							54.4	-	-	140	210	290	380
KCN415LAG	50	15.33	1260	371	325	1.80	43.3	-	-	210	310	430	560
							54.4	-	-	170	270	380	510
KCJ412LAG	50	16.35	1025	300	280	2.80	43.3	-	-	-	358	500	683
							54.4	-	-	-	260	405	583
KCJ423LAG	50	32.61	1925	564	485	3	43.3	-	-	-	550	780	1040
							54.4	-	-	-	410	610	830
R404A, 1 phase													
KCN414LAL	50	7.31	1150	337	325	2.3	43.3	166	198	263	354	458	578
							54.4	137	159	222	307	399	506
KCN418LAL	50	9	1500	439	375	2	43.3	180	210	290	390	490	620
							54.4	140	160	220	300	390	500
KCN422LAL	50	11.1	1825	535	455	2.2	43.3	220	260	360	480	620	780
							54.4	180	200	280	370	490	620
KCN426LAL	50	13.98	2350	688	537	2.6	43.3	332	351	459	671	918	1212
							54.4	275	290	380	560	776	1036
KCN430LAL	50	15.33	2575	754	580	2.6	43.3	365	389	519	740	1023	1348
							54.4	318	329	402	593	852	1133
KCN434LAL	50	16.66	3000	879	700	3.8	43.3	444	468	611	887	1210	1600
							54.4	370	389	499	722	997	1345
KCJ430LAL	50	16.35	2425	710	580	3.2	43.3	304	327	448	657	926	1234
							54.4	222	241	350	564	816	1127
KCJ443LAL	50	25.92	3825	879	850	4.27	43.3	378	439	622	1051	1532	2046
							54.4	260	289	465	999	1305	1815
KCJ450LAL	50	32.64	4100	1201	1000	5.50	43.3	416	453	678	1150	1673	2238
							54.4	296	234	714	919	1508	1986
KCJ452LAL	50	34.10	5050	1480	1170	6.8	43.3	509	556	838	1412	2061	2753
							54.4	352	390	625	1130	1741	2442
KCM475LAL	50	49.62	5700	1670	1250	6.8	43.3	876	1068	1490	1880	2514	3298
							54.4	-	-	1114	1529	2205	2974
R404A, 3 phase													
KCM475LAL	50	49.62	5700	1670	1230	3	43.3	877	1070	1242	1365	2335	3270
							54.4	-		909	1029	1974	2867
KCM512LAL	50	82.74	11500	3370	2255	4.6	43.3	1124	1551	2922	3130	1582	4969
							54.4	-	-	1924	2270	2479	3509
KCM515LAL	50	89.68	12965	3800	2530	5.3	43.3	1330	1834	3329	3420	4111	5542
							54.4	-	-	2265	2500	2863	3953
KCM517LAL	50	94.61	15000	4396	3000	6	43.3	1373	2013	3749	3960	4607	6157
							54.4	-	-	2476	3070	3135	4331
KCM520LAL	50	101.92	17000	4982	3172	5.8	43.3	1553	2150	4025	4260	5001	6701
							54.4	-		2530	3590	4740	6020

## #Note

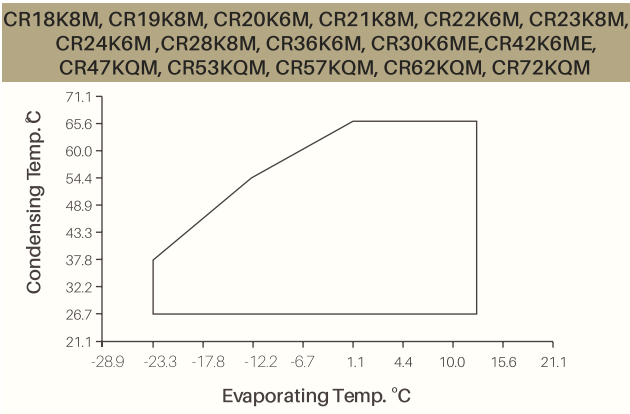
Model	Return gas temperature (°C)	Subcooled liquid temperature (°C)
KCE, KCN, KCJ	35	46.1
CR, KCM.	18.3	46.1
KCM475LAL, 515LAL	32	46.1

		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 7/ PTC	Current	
R134a, 1 phase													
340	380	340	Oil/Fan 260	10.20	10	180/260	CSIR		40/60	-	-	KARP-3141/MTRP-3141	TAE15/H3 OR MTRP-3141
310	360												
488	547	340	tOil/Fan 260	10.20	10	180/260	CSIR		40/60	-	-	KARP-4141/MTRP-4141	TAE5M/H3
418	471												
540	630	380	Fan 350	11.50	10	180/260	CSIR		40/60	-	-	KARP-4241/MTRP-4241	KAT0071/H3 OR MRA12309-12101
490	570												
720	840	380	Fan 350	11.50	14	180/260	CSCR		80/100	10	LT85002 OR HLR3800-413C-2	-	KAT0071/H3 OR MRA12309-12101
650	760												
907	1068	890	Fan 350	20.2	22	180/260	CSIR		80/100	-	-	MTRP 4841/KARP4841	KAT0159/BR
802	968												
1380	1660	890	Fan 350	22.5	30	198/264	CSCR		150/200	10	LT85003	-	T0732/BR OR KAT0732/BR
1120	1370												
R404A, 1 phase													
727	838	300	Fan 350	11.2	11	180/260	CSCR		40/60	6	-	KARPN3741	5TM739LFBYY-53
640	738												
760	870	380	Fan 350	11.5	14	180/260	CSCR		80/100	10	LT85002 OR HLR3800-413C-2	-	KAT0072/H3 OR MRA12309-12101 OR T0072/B2
620	720												
960	1100	380	Fan 350	11.5	17	180/260	CSCR		80/100	15	LT85003/HLR3800-4L3C-3	-	KAT0164/B2 or T0164/B9
780	910												
1566	1705	420	Fan 350	12.49	18	220/230	CSCR		-	-	HLR3800-4L3C-3	-	KAT0733/ B2
1359	1487												
1730	1884	420	Fan 350	12.5	18	180/260	CSCR		80/100	15	LT85003/HLR3800-4L3C-3	-	KAT0733/ B2
1506	1662												
2071	2258	420	Fan 350	12.49	18	220/230	CSCR		-	-	HLR3800-4L3C-3	-	KAT0733/ B2
1780	1955												
1515	1607	890	Fan 350	22.5	30	180/260	CSCR		150/200	10	LT85002 OR HLR3800-413C-2	-	Internal
1424	1519												
2562	2749	890	Fan 350	24.94	42	180/260	CSCR		-	-	HLR3800-3F3C-4	-	3HM-215-26
2348	2544												
2791	2994	890	Fan 350	25	50	180/260	CSCR		150/200	25	AC85005	-	Internal
2469	2780												
3445	3699	890	Fan 350	24.94	50	180/260	CSCR		-	-	HLR3800-3F3C-4	-	Internal
3160	3427												
4236	4966	1300	Fan 350	32.5	72	198/264	CSCR		150/200	25	AC85004	-	Internal
3785	4386												
R404A, 3 phase													
4412	4862	1300	Fan 350	32.5	28	342-462	3 Ph		-	-	-	-	-
3943	4367												
6483	7071	1330	Fan 350	32.7	45	342-460	3 Ph		-	-	-	-	
4730	5209												
7292	7989	1330	Fan 350	32.7	45	342-460	3 Ph		-	-	-	-	
5303	5844												
8093	8872	1330	Fan 350	36.2	61	342-462	3 Ph		-	-	-	-	
5864	6488												
8598	9324	1330	Fan 350	36.2	55	342-462	3 Ph		-	-	-	-	
7490	8560												

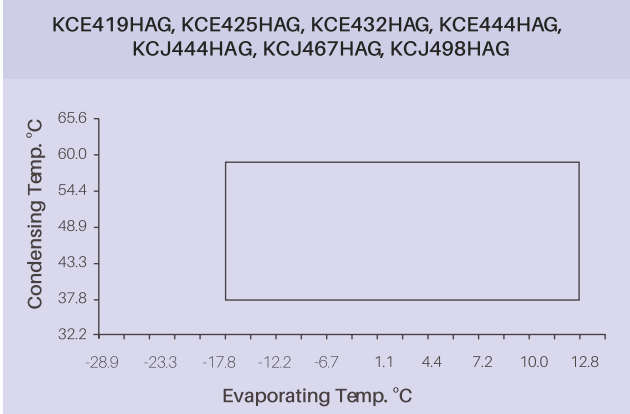
High temperature (R22/R407C)



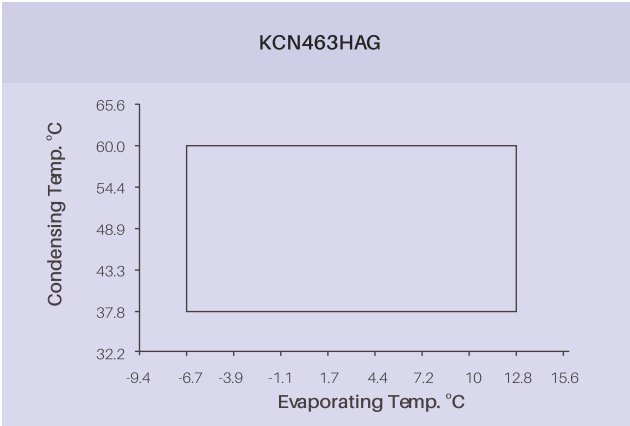
High temperature (R22/R407C)



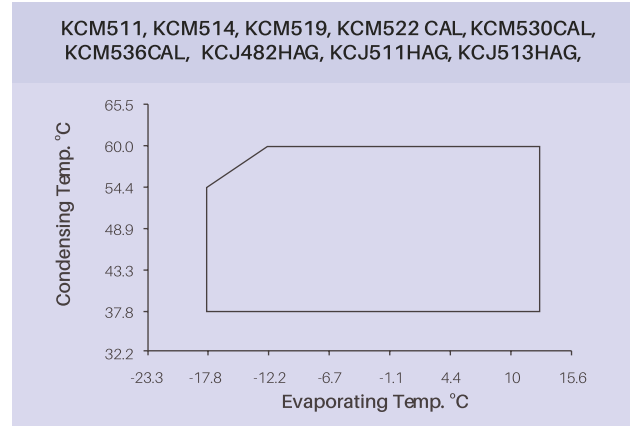
High temperature (R134a)



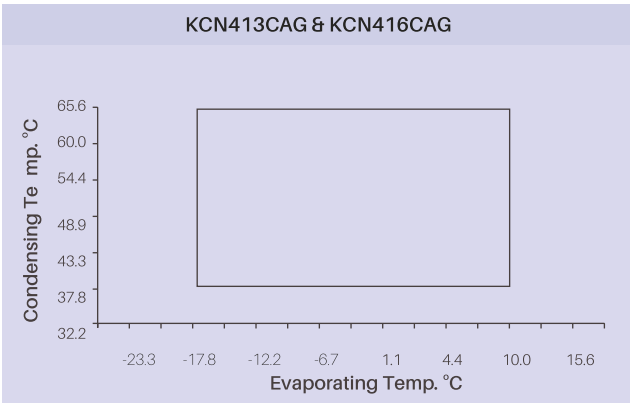
High temperature (R134a)



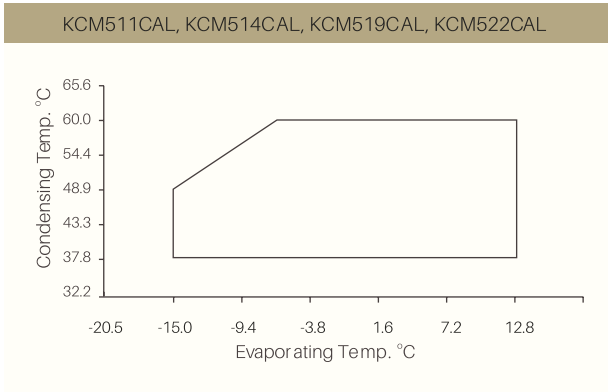
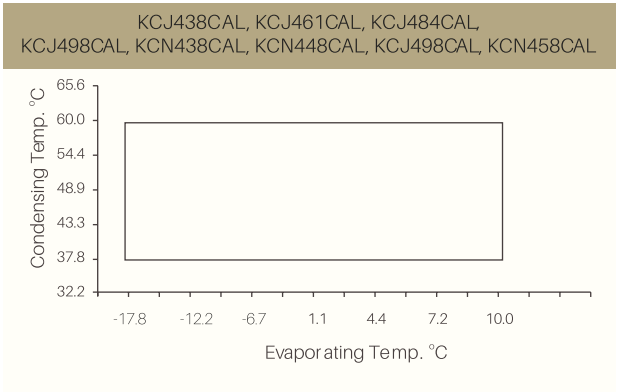
High temperature (R134a)



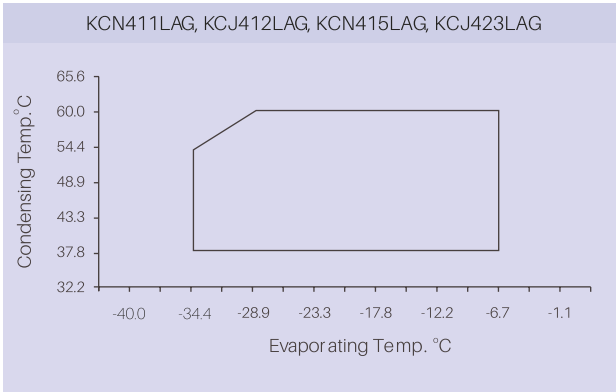
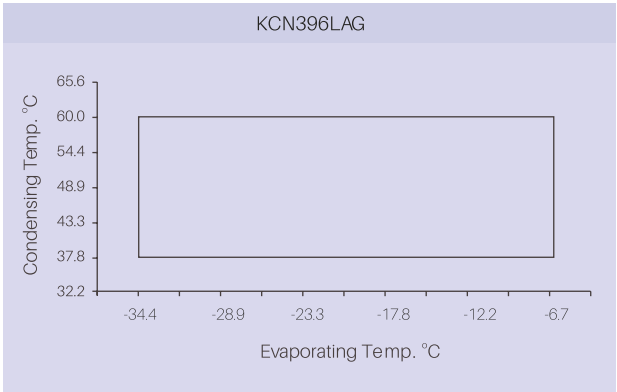
Medium temperature (R134a)



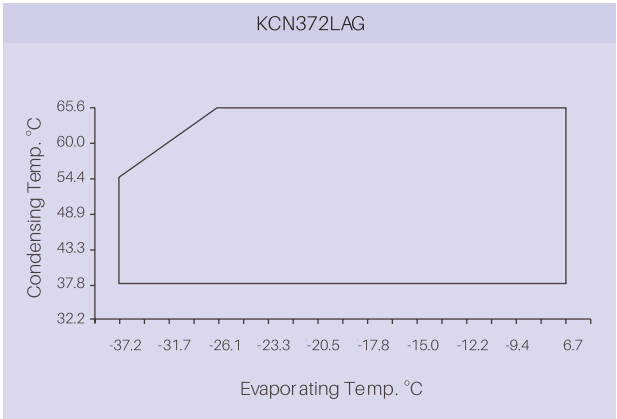
Medium temperature (R404A)



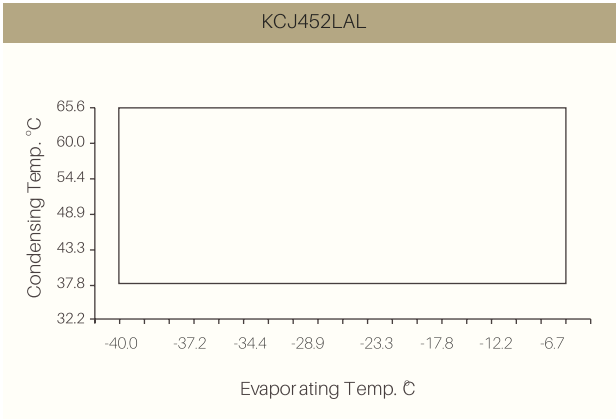
Low temperature (R134a)



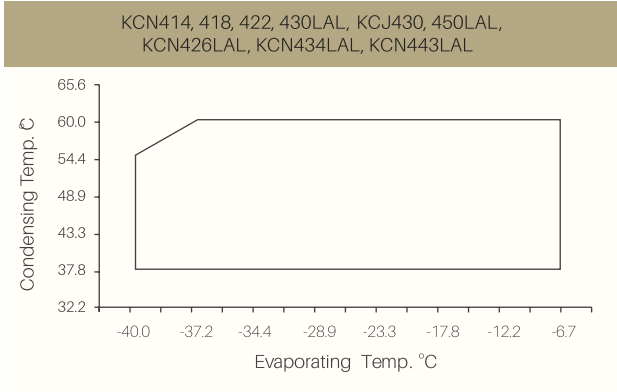
Low temperature (R134a)



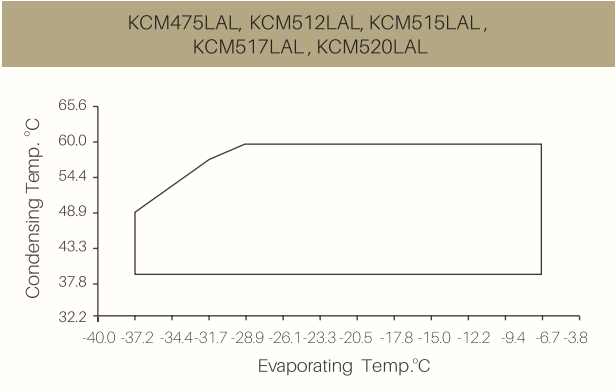
Low temperature (R404A)



Low temperature (R404A)



Low temperature (R404A)



## TABLE

## STANDARD BOM DATA

Model	Standard*	Circuit	Suction	Mounting Option	Electrical Accessories Yes / No	
	Domestic					
KCE419HAG	V130H, V134H	RSIR	Tube	Dual Mounting 4.00° x 6.50° & 2.75° x 6.69°	Yes	
KCE425HAG	V230H	CSIR	Tube		Yes	
KCE432HAG	S230H	CSIR	Tube		Yes	
KCE443HAE	B330H	CSCR	Tube		No	
KCE444HAG	B332H, S330H	CSCR	Tube		Yes	
	V333H, V334H	CSCR	Tube		Not Supplied With Compressor	
	S430H	PSC	Tube		Not Supplied With Compressor	
KCE461HAE	V470H	PSC	Tube	Dual Mounting 4.00° x 6.50° & 2.7° x 6.69°	Yes	
KCN372LAG	B130H	RSIR	Tube		Yes	
KCN396LAG	B230H	CSIR	Tube		Yes	
	B230H	CSIR	Tube		Yes	
KCN411LAG	B230H	CSIR	Tube		Yes	
KCN413CAG	C230H	CSIR	Tube		Yes	
	V830H	CSCR	Tube		Yes	
KCN414LAL	B230H	CSIR	Tube		Yes	
KCN415LAG	B332H	CSCR	Tube		Yes	
KCN416CAG	V833H, B833H	CSCR	Tube		Yes	
KCN418LAL	B330H	CSCR	Tube		Yes	
KCN422LAL	B330H	CSCR	Tube		Yes	
KCN430LAL	B330H	CSCR	Tube		Yes	
KCN463HAG	U336H	CSCR	Tube		Yes	
KCJ412LAG	B220H	CSIR	Tube		4.80°x 8.00 "	Yes
KCJ423LAG	C320H	CSCR	Tube			Yes
KCJ430LAL	B320H	CSCR	Tube			Yes
	B324H	CSCR	Spud			Yes
KCJ438CAL	B220H	CSIR	Tube			Yes
KCJ438CAL	B222H	CSIR	Tube			Yes
KCJ444HAG	B220H	CSIR	Tube	Yes		
KCJ450LAL	B320H	CSCR	Tube	Yes		
	B324H	CSCR	Spud	Yes		
KCJ461CAL	B320H	CSCR	Tube	Yes		
	B322H	CSCR	Spud	Yes		
KCJ467HAG	T220H	CSIR	Tube	Yes		
KCJ482HAG	S420H	PSC	Tube	Yes		
KCJ484CAL	B320H	CSCR	Tube	Yes		
	B322H	CSCR	Spud	Yes		
KCJ498HAG	S220H	CSIR	Tube	Yes		
KCJ511HAE	U420H	PSC	Tube	No		
KCJ511HAG	U420H	PSC	Tube	No		
KCJ513HAE	S420H	PSC	Tube	No		
KCJ513HAG	B420H	PSC	Tube	Yes		
KCJ498CAL	B320H	CSCR	Tube	Yes		
KCJ443LAL	B320H	CSCR	Tube	Yes		
KCJ452LAL	B320H	CSCR	Tube	Yes		
KCM475LAL	C310H	CSCR	Tube	Square Mount 7.50° x 7.50°	Yes	
	C313H	CSCR	Tube		Yes	
KCM511CAL	B310H,B314H	CSCR	Tube		Yes	
	B313H,B314H	CSCR	Spud		No	
	E510H,E514H	Three phase	Tube		No	
	E513H,E514H	Three phase	Spud		Yes	
KCM514CAL	B310H,B314H	CSCR	Tube		Yes	
	E510H,E514H	Three phase	Tube		No	
	E513H,E514H	Three phase	Spud		No	
KCM515LAL	E510H	Three phase	Tube		No	
	E513H	Three phase	Spud		No	
KCM519CAL	B310H	CSCR	Tube		Yes	
	B313H	CSCR	Spud		Yes	
	E510H,E514H	Three phase	Tube		No	
	E513H,E514H	Three phase	Spud		No	
KCM522CAL	B310H	CSCR	Tube		Yes	
	B314H	CSCR	Spud		Yes	
	E510H, E514H	Three phase	Tube		No	
KCM512LAL	E510H,E516H	Three phase	Tube		No	
			Spud		No	
KCM515LAL	E510H,E513H,E516H	Three phase	Spud		No	
Tube			No			
KCM517LAL	E512H,E504H	Three phase	Tube		No	
Spud			No			
KCM520LAL	E512H,E504H	Three phase	Tube	No		
Spud			No			
KCM530CAL	E512H	Three phase	Spud	Square Mount 7.50° x 7.50°	No	
KCM536CAL	E512H	Three phase	Spud		No	
					No	

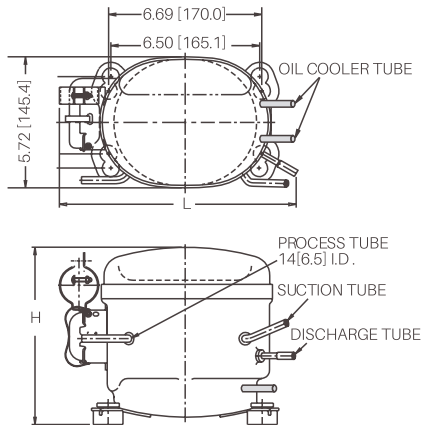
Note: Contact a Copeland representative for non-standard Bills of Materials (BoM)



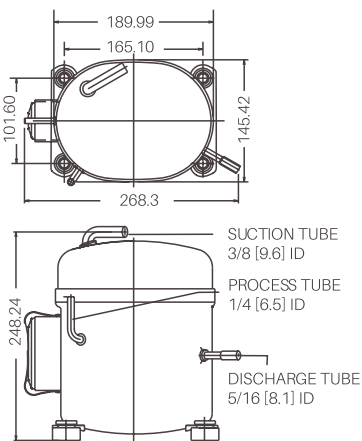
## Dimensional drawings

## Standard BOM data for CR Compressor

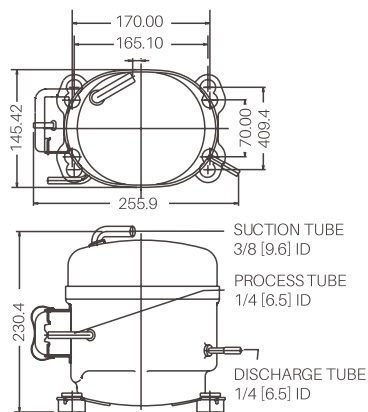
### KCE



### KCE461HAE

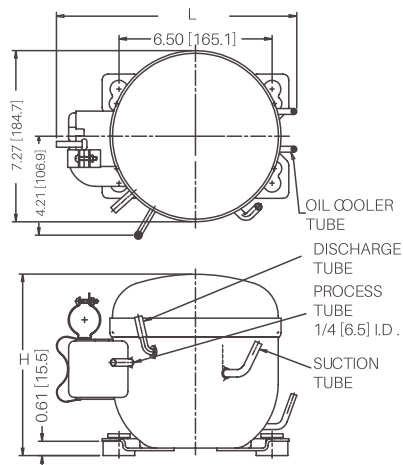


### KCE443HAE



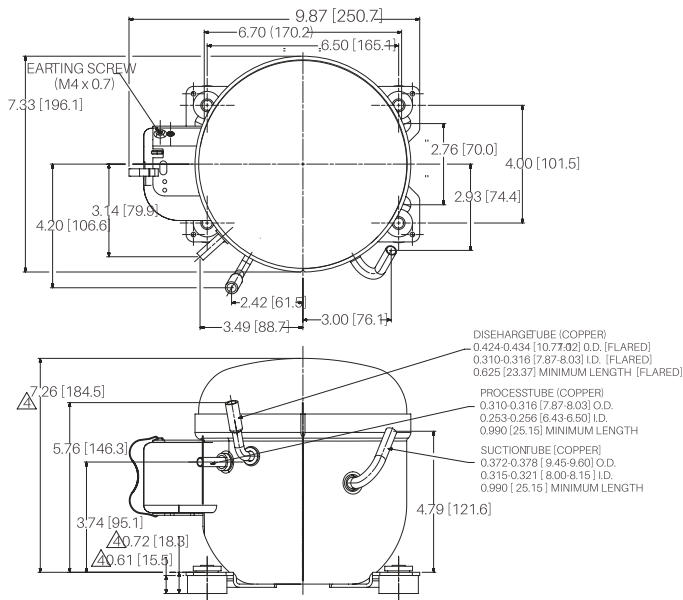
Model	Suction ID		Discharge ID		L	H	Capacitor mounting
	Inch	mm	Inch	mm			
KCE419HAG	1/4	6.5	1/4	6.5	253.9	196.8	NO
KCE425HAG	1/4	6.5	1/4	6.5	262.7	196.8	YES
KCE432HAG	5/16	8.0	1/4	6.5	265.7	191.2	YES
KCE444HAG	5/16	8.0	1/4	6.5	260.3	191.2	NO

### KCN

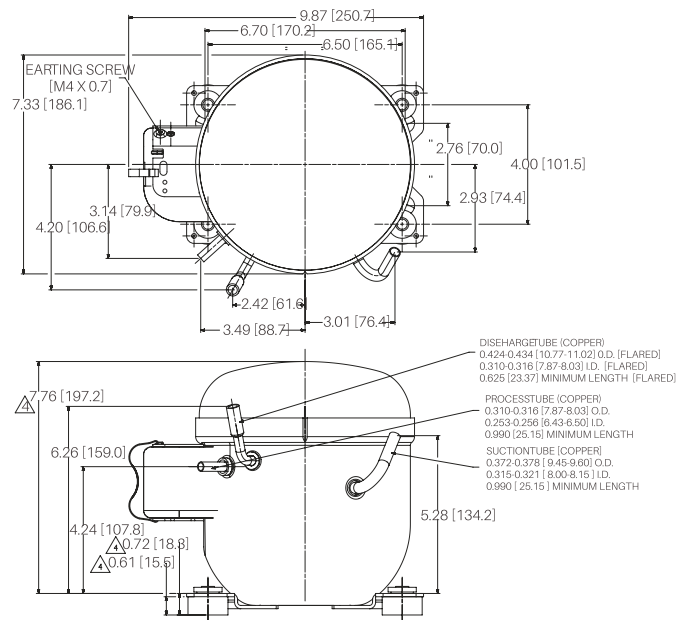


Model	Suction ID		Discharge ID		L	H	Oil cooler tube		Capacitor mounting
	Inch	mm	Inch	mm			Inch	mm	
KCN372LAG	1/4	6.5	1/4	6.5	259.2	189.4	3/16	4.9	NO
KCN396LAG	1/4	6.5	1/4	6.5	259.2	195.8	3/16	4.9	YES
KCN411LAG	5/16	8.0	5/16	8.0	250.8	202.1	-	-	YES
KCN415LAG	5/16	8.0	5/16	8.0	250.8	202	-	-	YES
KCN463HAG	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
KCN426LAL	5/16	8.0	5/16	7.93	250.8	197.1	-	-	YES
KCN430LAL	5/16+	8.0	5/16	7.93	250.8	215.4	-	-	YES
KCN434LAL	5/16	8.0	5/16	7.93	250.8	197.1	-	-	YES
KCN438CAL	5/16	8.0	5/16	7.93	250.8	184.4	-	-	YES
KCN448CAL	5/16	8.0	5/16	7.93	250.8	197.1	-	-	YES
KCN458CAL	5/16	8.0	5/16	7.93	250.8	197.1	-	-	YES

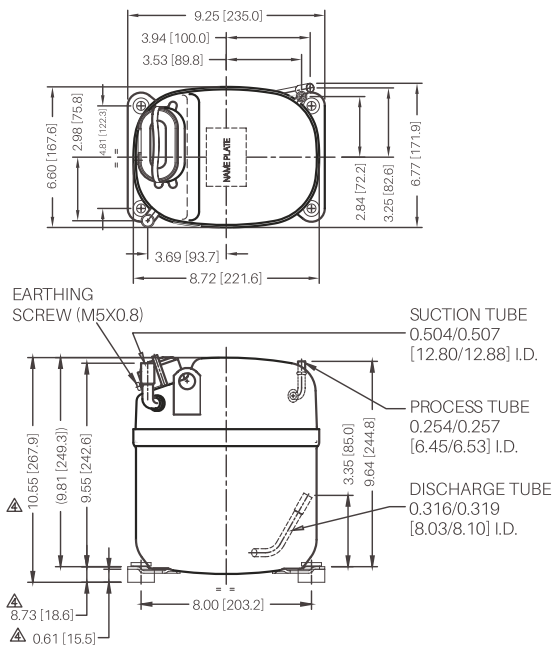
## KCN438CAL



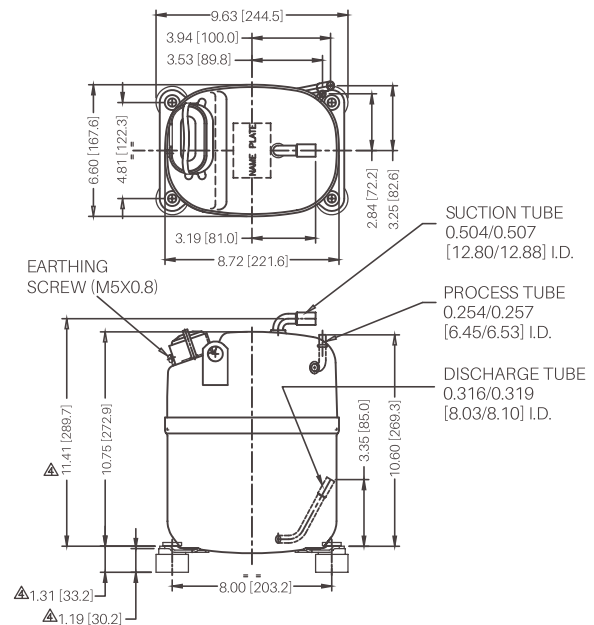
## KCN458LAL OR KCN448CAL



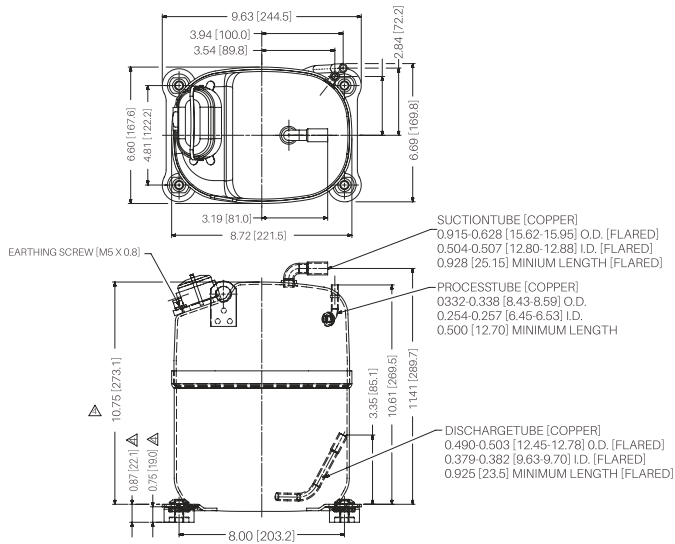
## KCJ412LAG



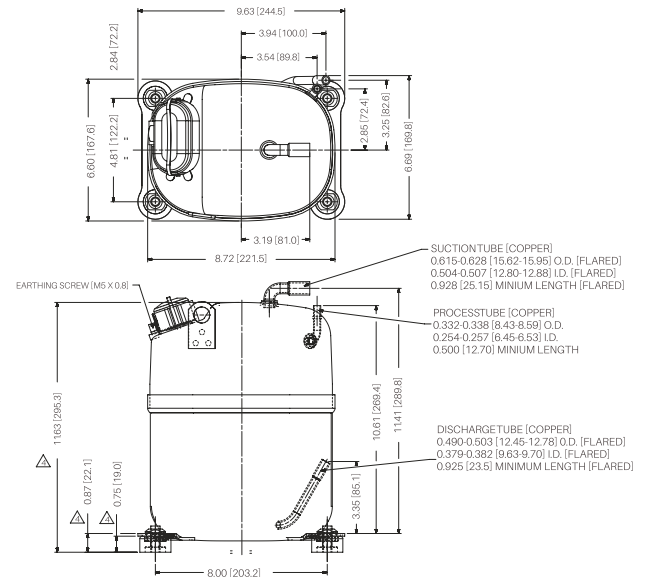
## KCJ423LAG



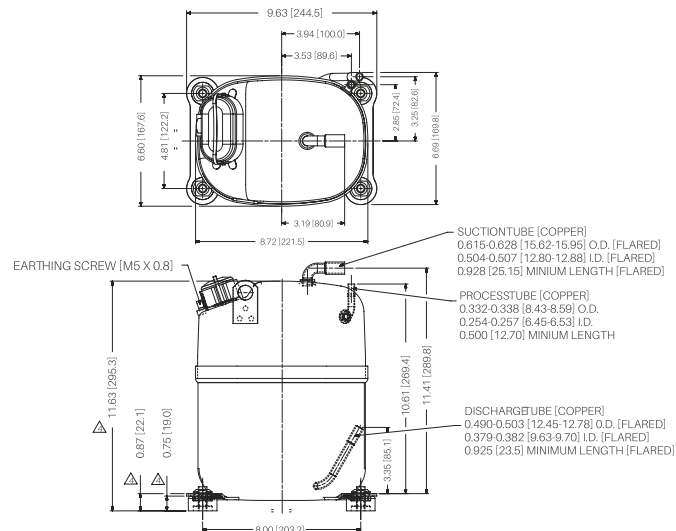
## KCJ443LAL



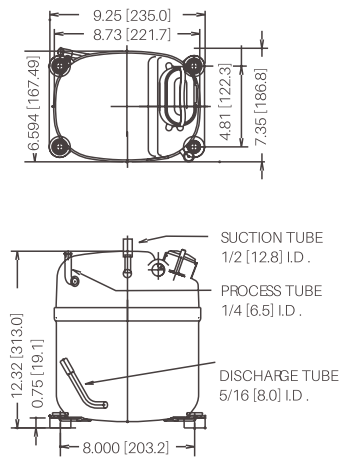
## KCJ452LAL



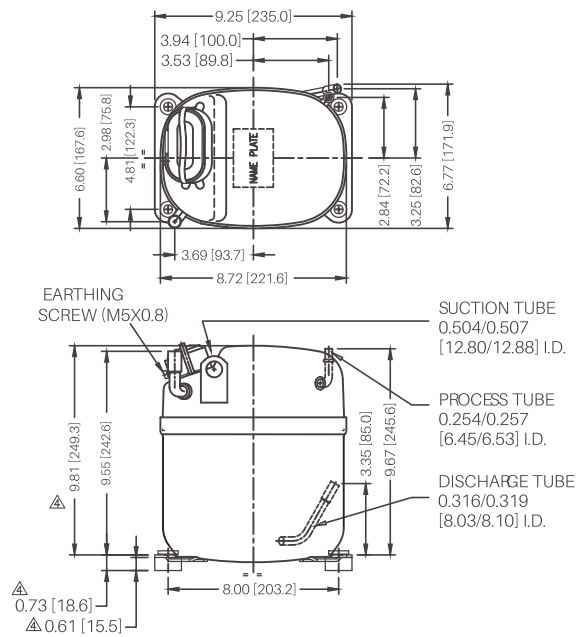
## KCJ498CAL



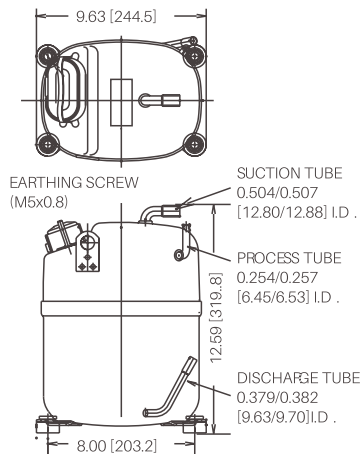
## KCJ430LAL



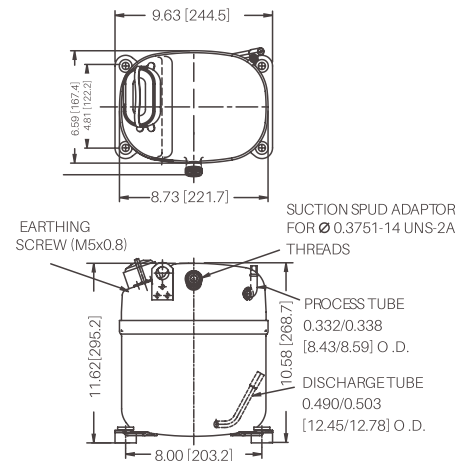
## KCJ444HAG



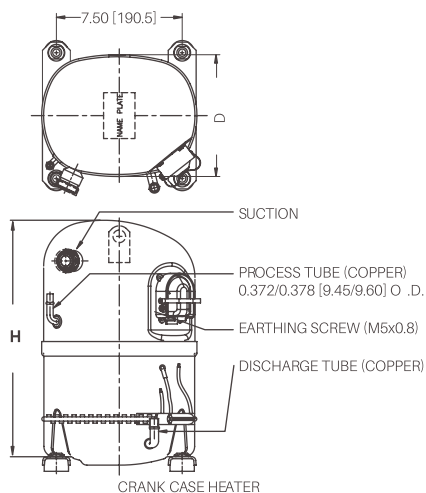
## KCJ450LAL with Suction Tube



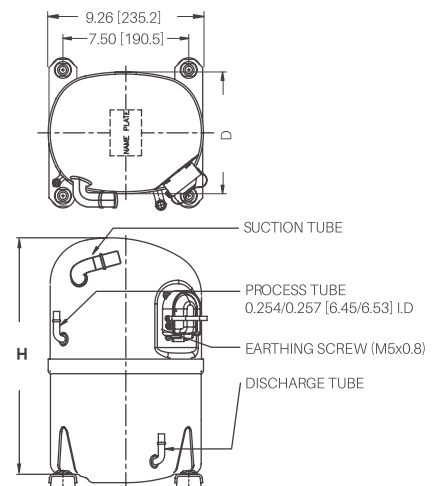
## KCJ450LAL with Suction Spud



## KCM475LAL/KCM511CAL/514CAL with Spud

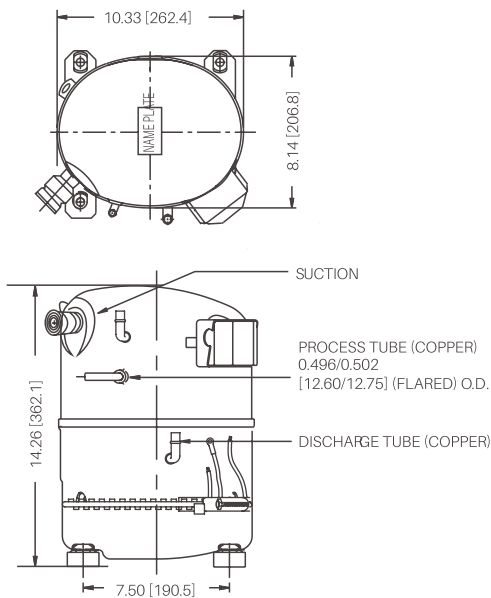


## KCM475LAL/KCM511CAL/514CAL with Suction Tube

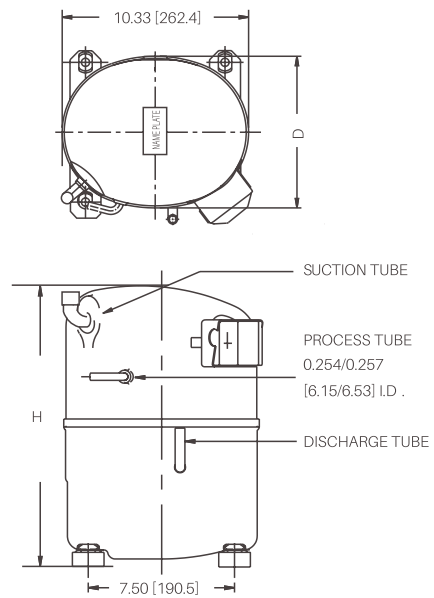


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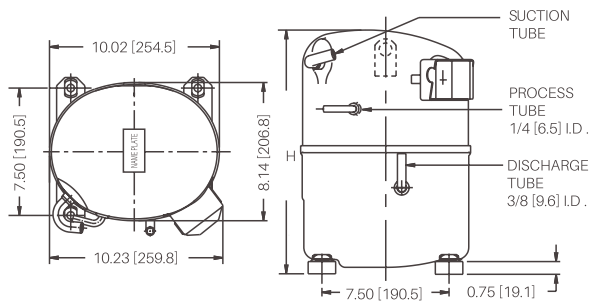
## KCM519CAL/522CAL with Spud



## KCM522CAL with Suction Tube

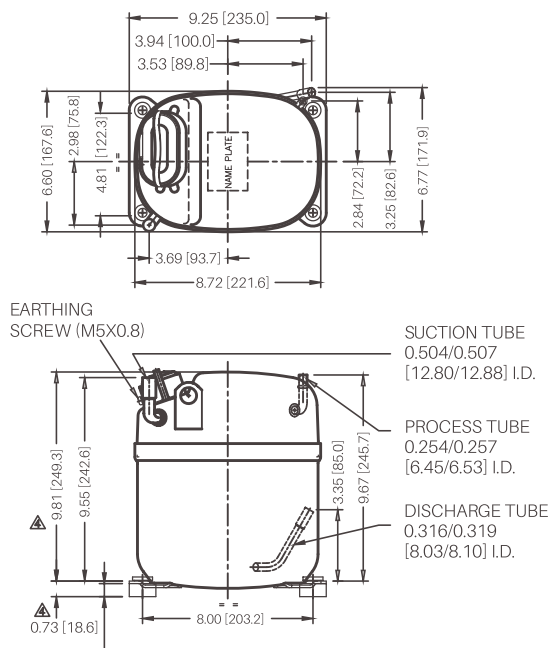


## KCM519CAL with Suction Tube

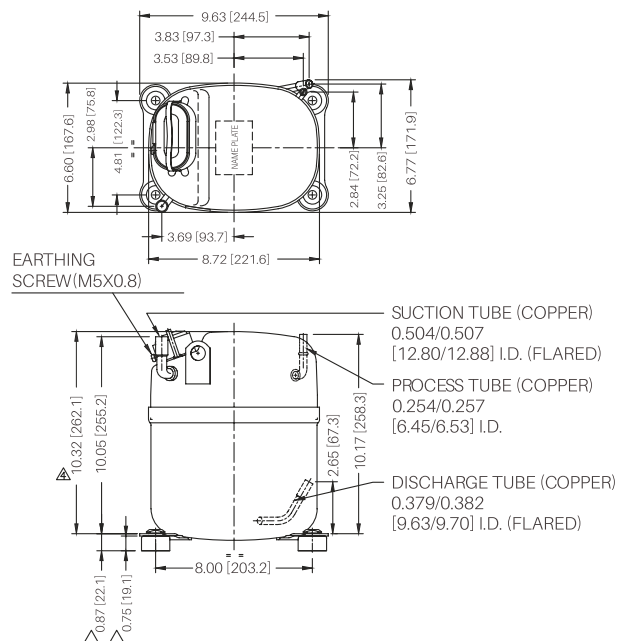


Model	Suction Spud	Suction Tube	Discharge Tube	Height, H (mm)	Depth, D (mm)
KCM475CAL	Ø0.625 11/4-12UNF Rolled Threads	5/8"	3/8"	358.2	184.4
KCM511CAL	1.1/412UNF-2A Threads	5/8"	3/8"	339	184.4
KCM514CAL	1.1/412UNF-2A Threads	7/8"	3/8"	358	184.4
KCM519CAL	Ø0.625 11/4-12UNF Rolled Threads	7/8"	3/8"	349.4	206.8
KCM522CAL	Ø0.625 11/4-12UNF Rolled Threads	7/8"	3/8"	362.1	206.8

## KCJ467HAG

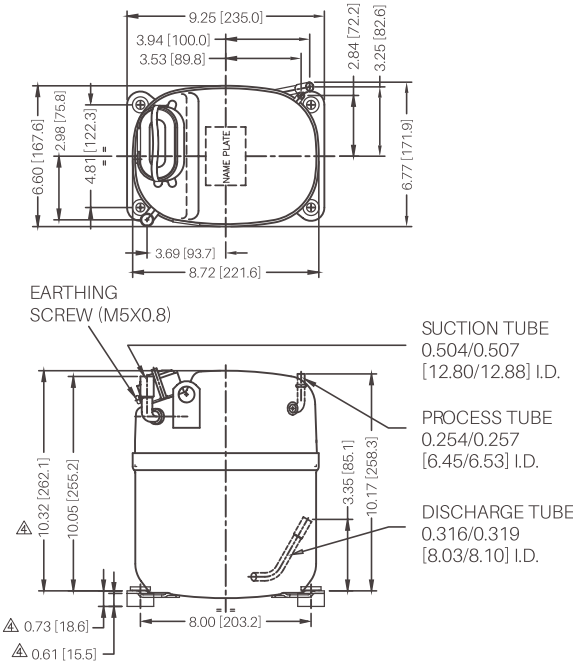


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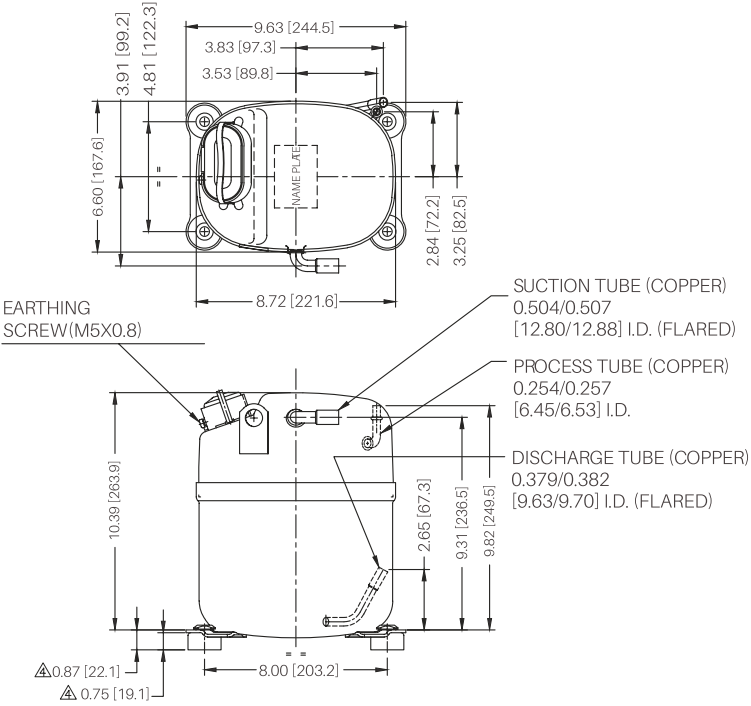




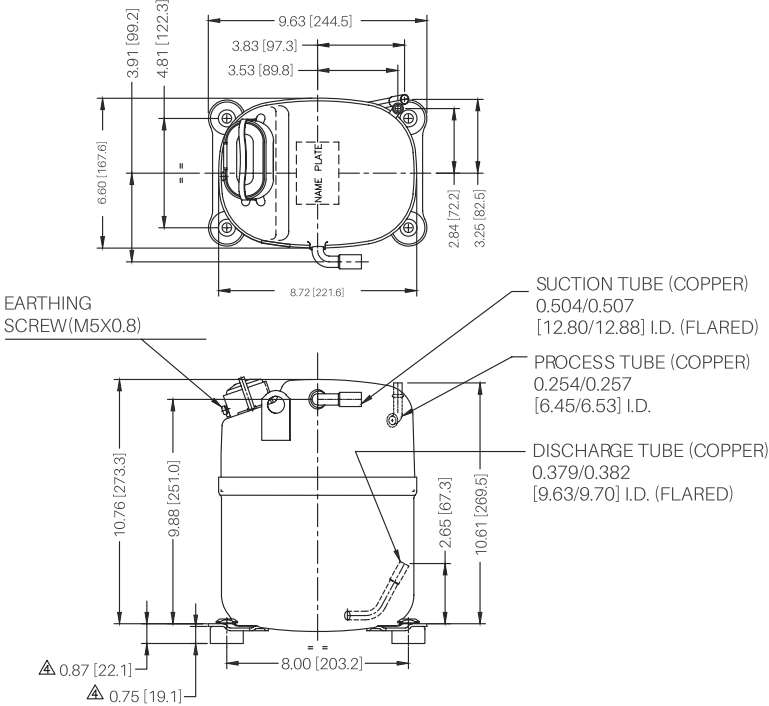
**KCJ498HAG**



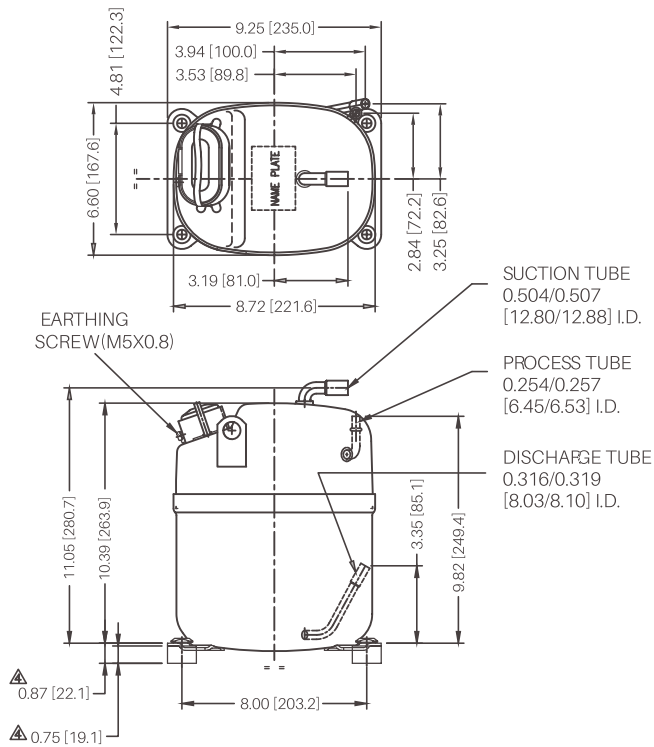
**KCJ511HAG**



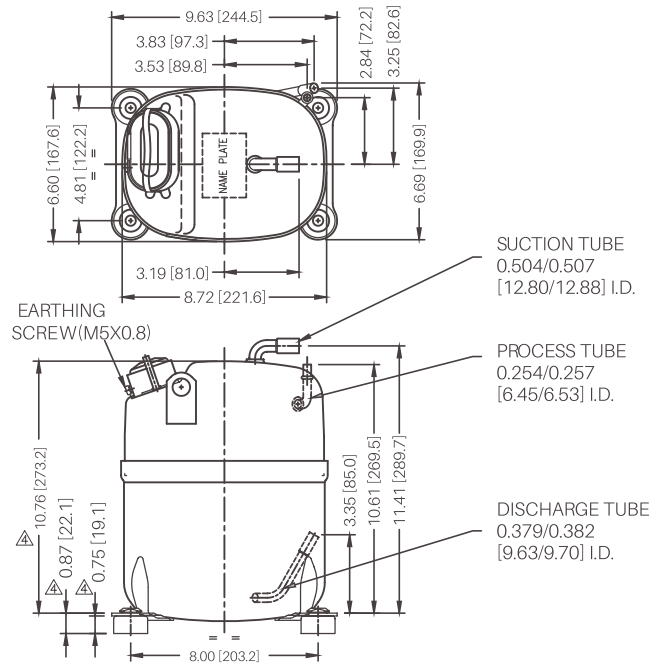
**KCJ513HAG**



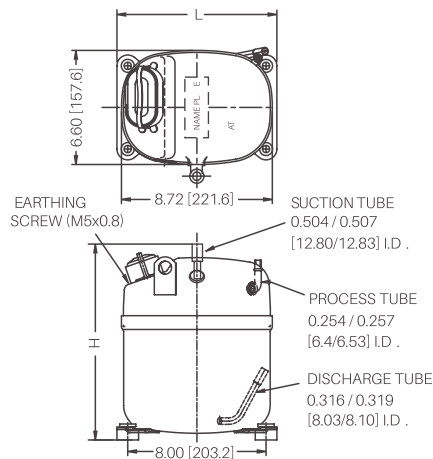
**KCJ511HAE**



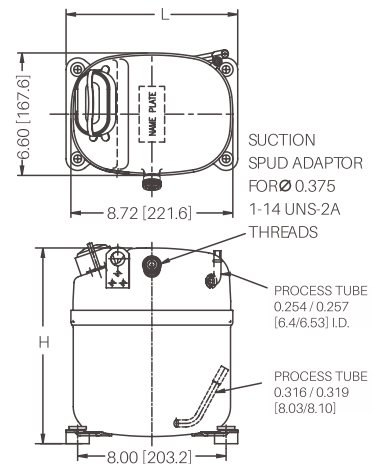
**KCJ513HAE**



**KCJ\*\*\*CAL with suction tube**



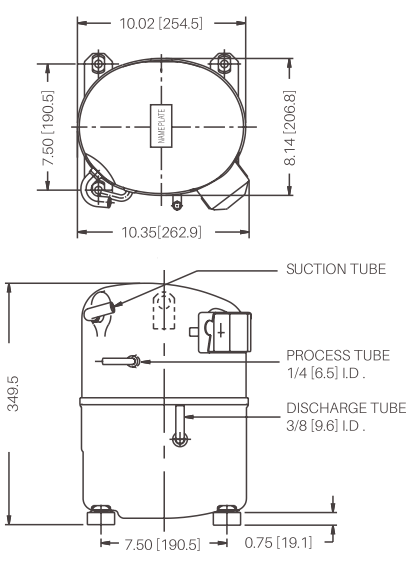
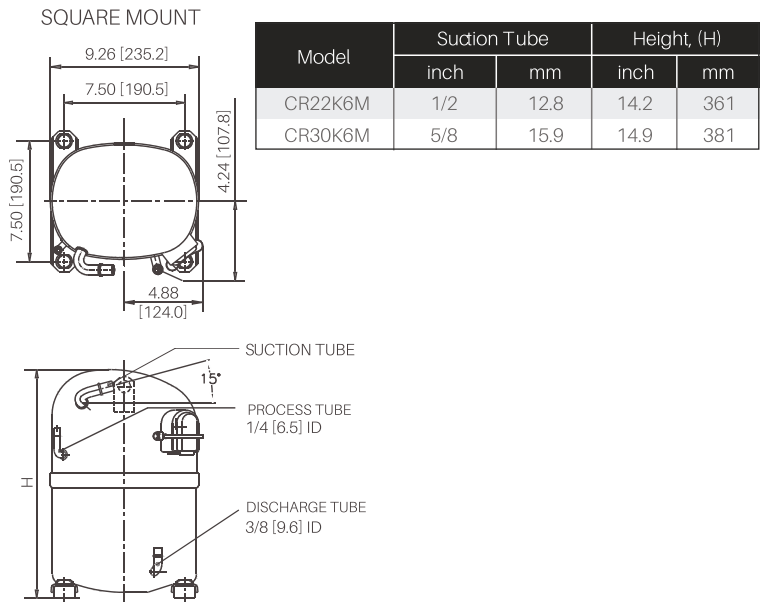
**KCJ\*\*\*CAL with suction tube**



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

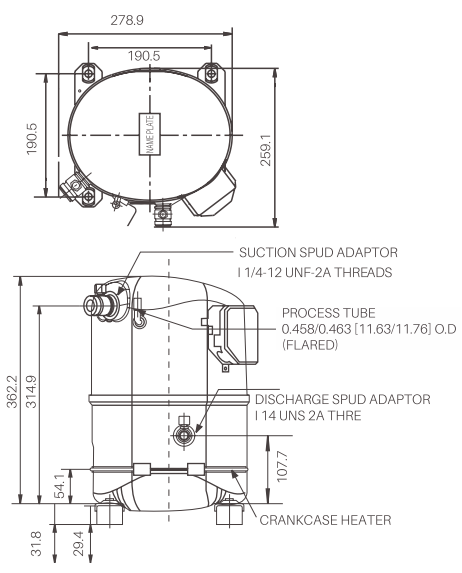
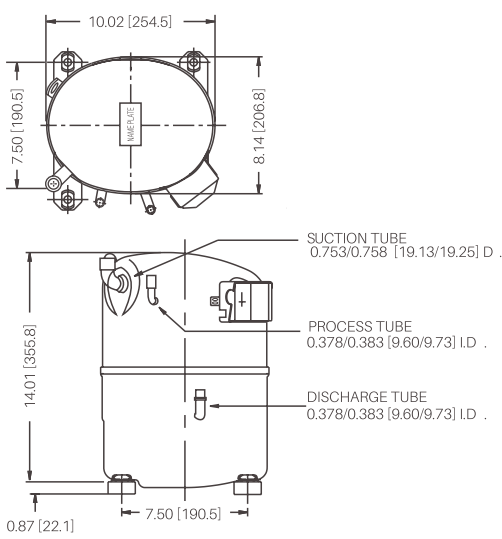
CR22K6M / CR30K6M

CR36K6M

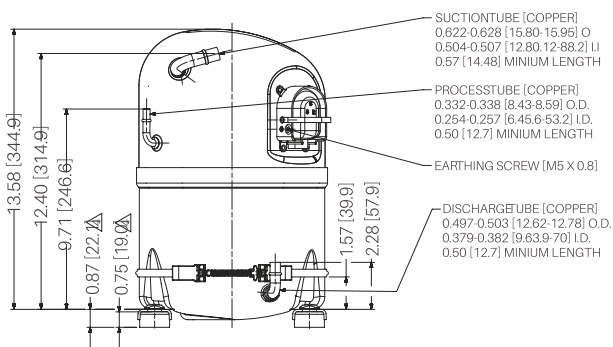
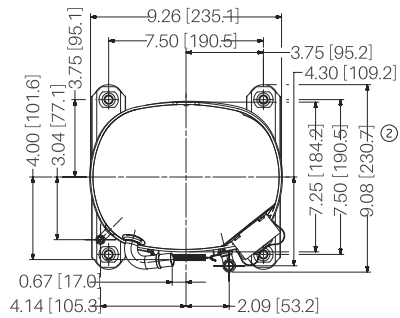


CR42K6M

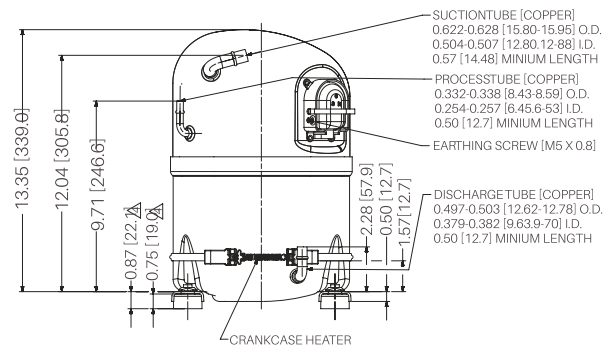
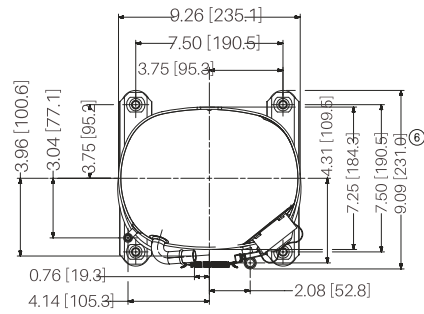
CR47, 53, 57, 62, 72 KQM



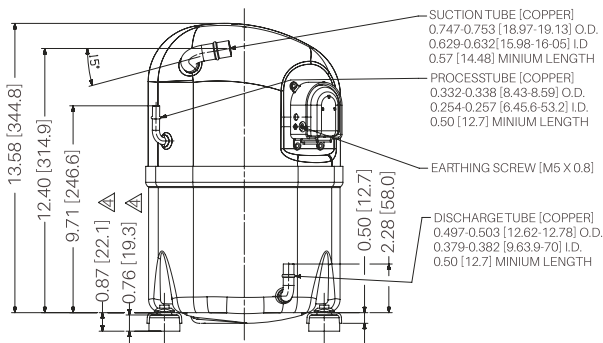
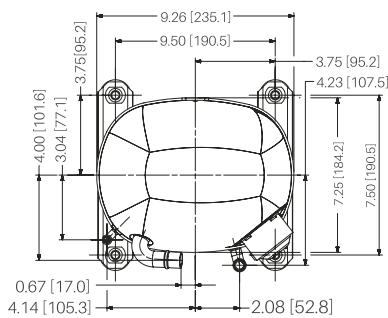
## CR 21,24 K6ME



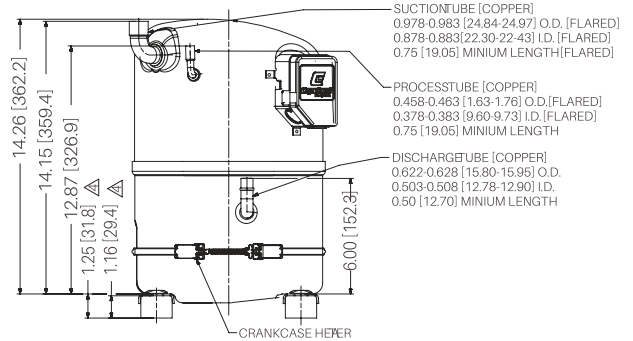
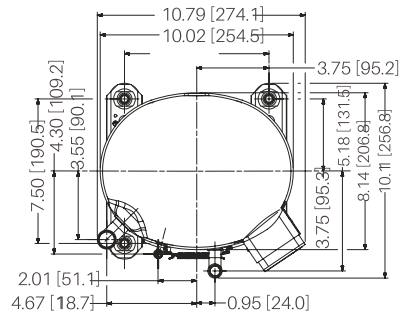
## CR22K6ME



## CR 30,29 K6ME



## CR 47,53,57,72 KQME







## PERMANENT SPLIT CAPACITOR (PSC)

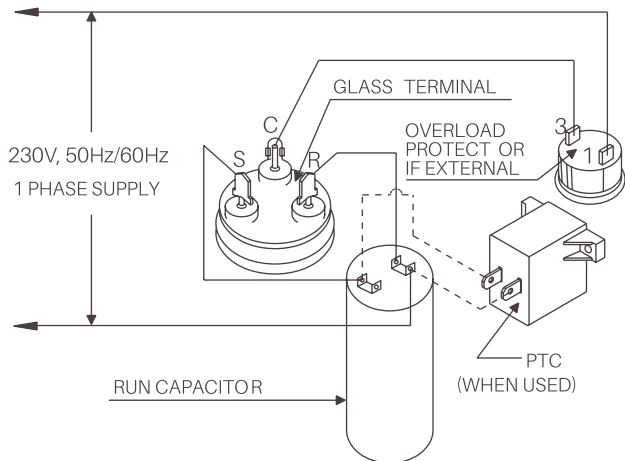
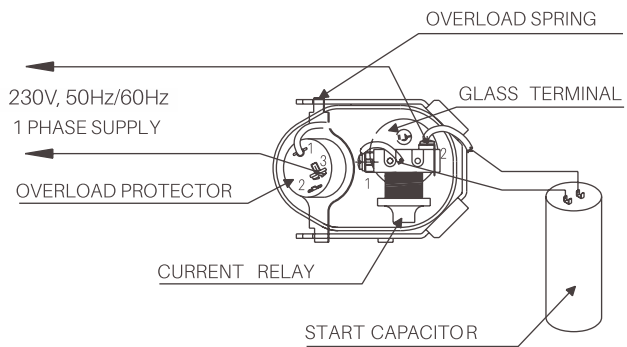


Fig. 1 F

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



ig. 2

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

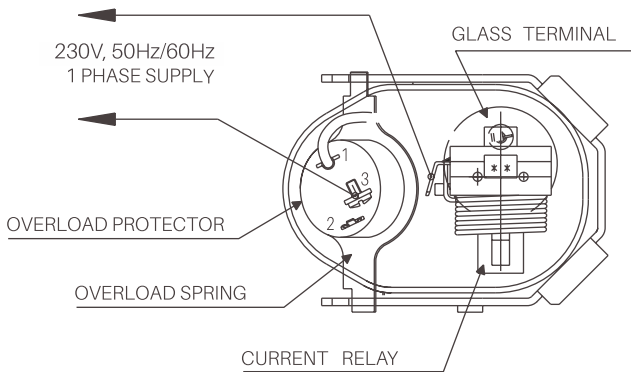


Fig. 3

## CAPACITOR START CAPACITOR RUN (CSCR)

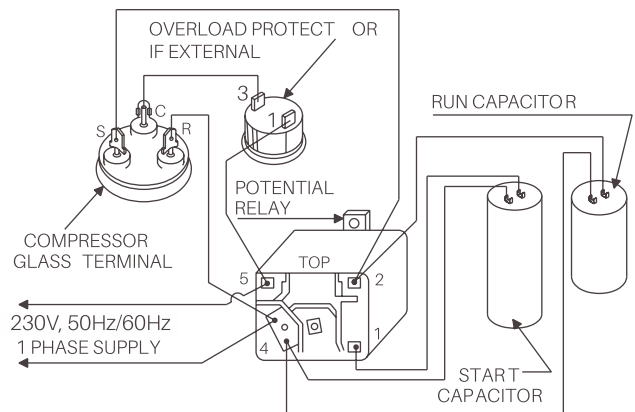


Fig. 4



CAPACITOR START INDUCTION RUN (CSIR)

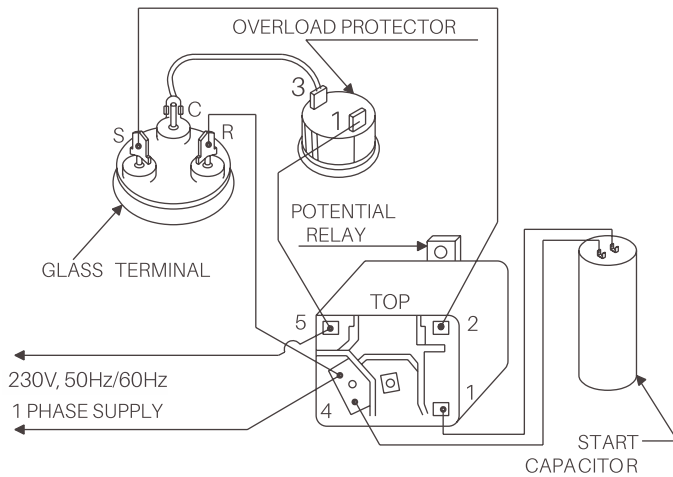


Fig. 5

CAPACITOR START INDUCTION RUN (CSIR) WITH CURRENT RELAY

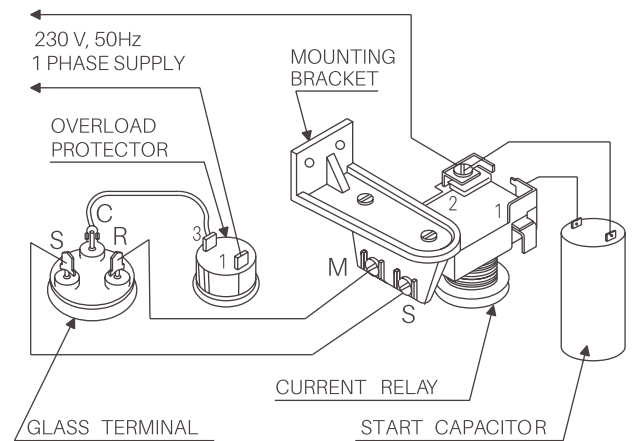


Fig. 6

CAPACITOR START CAPACITOR RUN (CSCR) WITH PTC

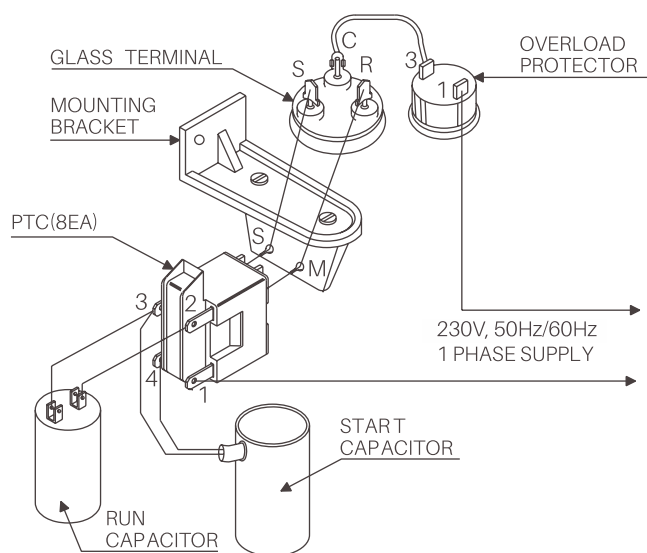


Fig. 7

CAPACITOR START CAPACITOR RUN (CSCR) WITH NTC

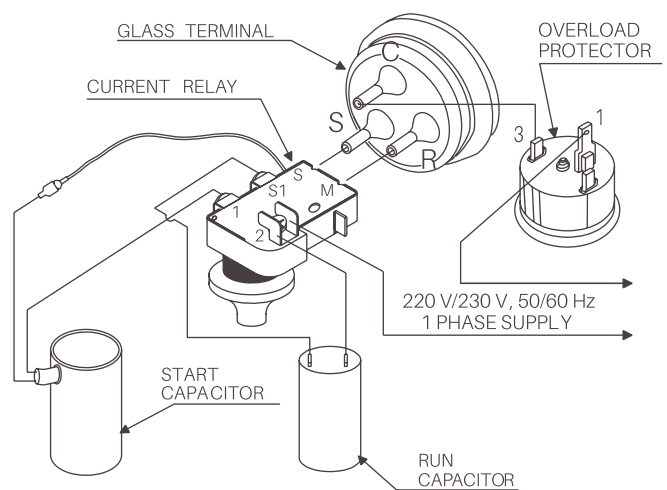


Fig. 8

## Low temperature

- Deep freezer
- Refrigerator
- Ice cube machine
- Walk-in freezer
- Laboratory appliance
- Freezer on wheels

## Medium temperature

- Bottle cooler
- Visi-cooler
- Display cabinet
- Pastry cabinet
- Softy ice cream

## High temperature

- Water cooler
- Oil coolers / panel cooler
- Water chiller
- Refrigerated air dryer
- Walk-in cooler
- Milk cooler

## Model selection guide\*



Low temperature		
Hard top (Ltr)	Glass top (Ltr)	Model
600	500	KCN418LAL-B330H
800	700	KCN422LAL-B330H
950	850	KCN426LAL-B330H
1100	1000	KCN430LAL-B330H
		KCJ430LAL-B320H
1250	1100	KCN434LAL-B330H
1500	1400	KCJ443LAL-B320H
1800	1700	KCJ450LAL-B320H
		KCJ452LAL-B320H



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
3200	-	-	KCM530CAL
4480	-	-	KCM536CAL

Negative temperature cold room (-20)	
Room size (cft)	R404A
1.8*1.2*2.4	KCM475LAL * 2
2.4*3.0*2.4	KCM512LAL * 2
3.0*3.7*2.4	KCM515LAL * 2
4.3*4.9*2.4	KCM517LAL * 2
4.3*6.1*2.4	KCM520LAL * 2



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

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



Water chiller			
Flow rate (Ltr/Hr)	R22	R134a	R404A
600	KCJ513HAE	KCM514CAL	KCJ484CAL
800	CR22K6M	KCM519CAL	KCM511CAL
1000	CR30K6M	KCM522CAL	KCM514CAL
1400	CR36K6M	-	KCM519CAL
1600	CR42K6M	-	KCM522CAL
-	CR53KQM	-	KCM530CAL
-	CR62KQM	-	KCM536CAL

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





# 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 Copeland.
- 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.

### Note

[illegible]



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### ***About Copeland***

Copeland, a global provider of sustainable climate solutions, combines category-leading brands in compression, controls, software and monitoring for heating, cooling and refrigeration. With best-in-class engineering and design and the broadest portfolio of modulated solutions, we're not just setting the standard for compressor leadership; we're pioneering its evolution. Combining our technology with our smart energy management solutions, we can regulate, track and optimize conditions to help protect temperature-sensitive goods over land and sea, while delivering comfort in any space. Through energy-efficient products, regulation-ready solutions and expertise, we're revolutionizing the next generation of climate technology for the better. For more information, visit [copeland.com](https://copeland.com).

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