

# KCM Low Temperature Reciprocating Compressors



2 To 5 HP For Frozen Food Applications

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Emerson's Commercial & Residential Solutions India platform offers 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 with the compressor performance optimized using CAE facilities. The components are sourced internationally and are subject to stringent Emerson qualification standards. The performance of compressors is validated by testing in 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.

## KCM Low Temperature Reciprocating Compressors

Emerson offers low temperature KCM Integral Horse Power compressors. They come in a 2 To 5 HP range with R404A. This new series comprises of 5 models with an envelope which goes up to -37°C. It caters to a wide range of low temperature refrigeration applications like freezer cold rooms, continuous ice cream freezers, ice machines, frozen food storage etc. The KCM series is built on decades of experience in developing industry's best-selling reciprocating compressor; trusted by contractors and

manufacturers for its proven track record of efficiency and reliability.

This high efficiency series comes with optimized motor design and gas suction path to make it suitable for low temperature applications. It also offers industry leading levels of reliability, especially at higher ambient temperatures, which is a critical factor in warmer global climates. With the release of the new R-404A based KCM series, customers have several technology choices to meet their ongoing refrigeration needs.

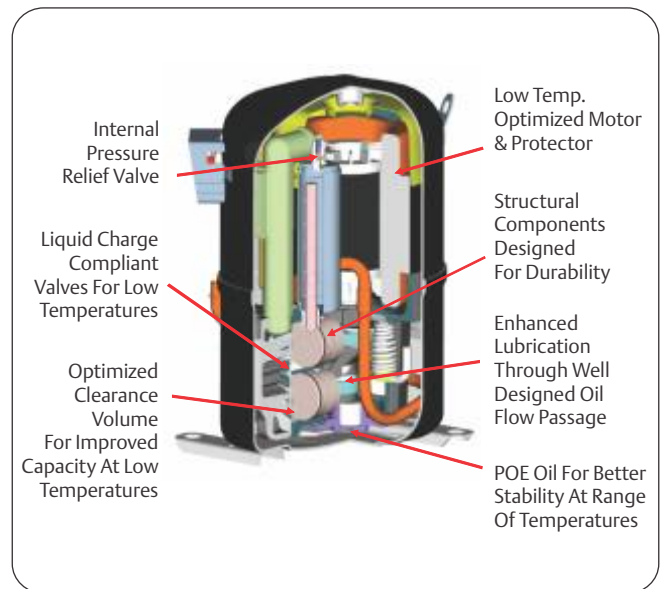
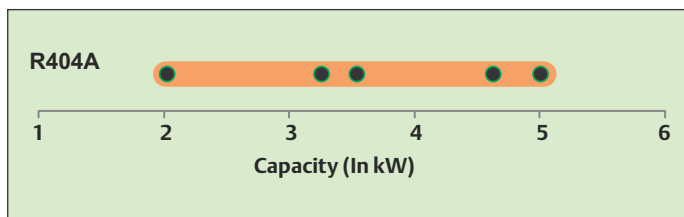




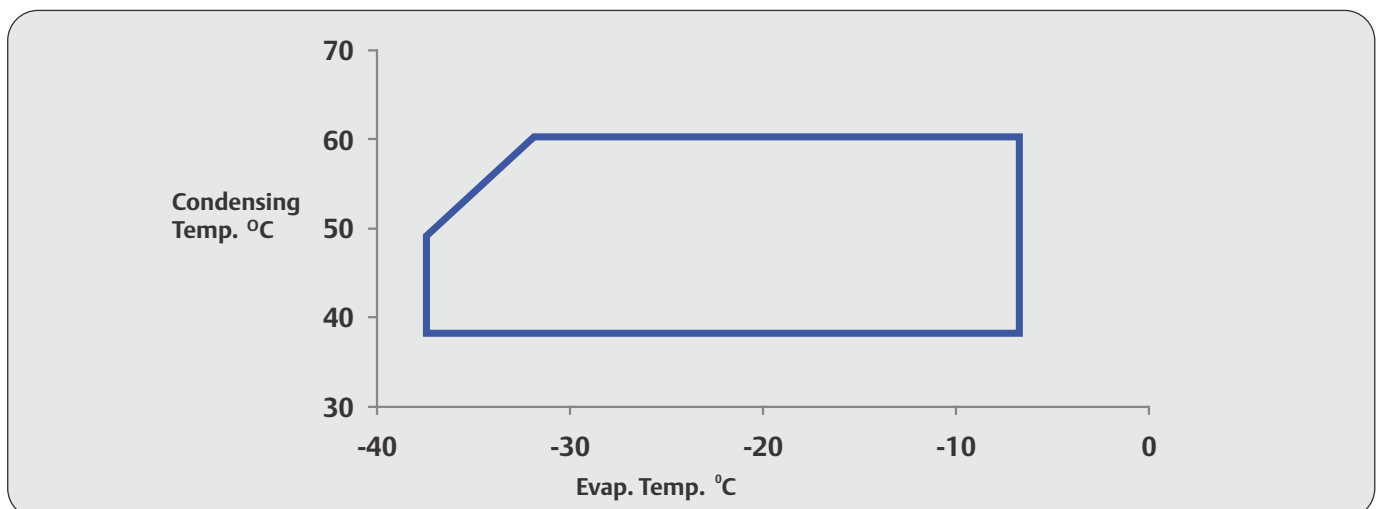
## Features and Benefits

- Best-in-class energy efficiency
- Dedicated design for low temperature; optimized motor & gas suction path
- Proven reliability; designed for high ambient climate
- Wide line up in R404A

## Product Range



## R404A Operating Envelope



## Performance Data - R404A, 50Hz

			R404A Performance Data						
Model	Nominal HP		Evap. Temp. / Condensing Temp. (°C)	-37.2	-31.7	-23.3	-17.8	-12.2	-6.7
KCM475LAL-EX	2	Refrigeration Capacity (W)	38	721	1150	2016	2762	3660	4724
			43	553	932	1713	2396	3226	4217
			49	-	707	1369	1967	2707	3603
			54	-	554	1064	1554	2182	2961
			60	-	-	875	1235	1728	2368
		Power Consumption (W)	38	760	860	950	1060	1256	1650
			43	860	970	1060	1175	1450	1890
			49	-	1100	1160	1310	1645	2070
			54	-	1189	1230	1470	1760	2180
			60	-	-	1410	1580	1910	2256
KCM512LAL-EX	3	Refrigeration Capacity (W)	38	1204	2252	3273	4078	5373	7494
			43	679	1565	2731	3389	4457	6271
			49	-	1401	2370	2938	3838	5403
			54	-	961	2034	2572	3360	4735
			60	-	-	1569	2135	2871	4113
		Power Consumption (W)	38	1256	1421	2020	2503	2934	3211
			43	1387	1508	2085	2583	3051	3389
			49	-	1615	2157	2661	3159	3549
			54	-	1747	2255	2743	3262	3696
			60	-	-	2342	2833	3364	3833
KCM515LAL-EX	3.75	Refrigeration Capacity (W)	38	1313	2454	3568	4445	5856	8169
			43	1130	2212	2880	3633	4571	6810
			49	-	1875	2479	3179	4058	5912
			54	-	1310	2107	2731	3531	5128
			60	-	-	1690	2262	2959	4416
		Power Consumption (W)	38	1410	1897	2535	2899	3213	3475
			43	1301	1741	2449	2951	3476	4023
			49	-	1744	2348	2873	3494	4211
			54	-	2089	2460	2848	3450	4221
			60	-	-	2834	3058	3525	4236
KCM517LAL-EX	4	Refrigeration Capacity (W)	38	1683	2806	4641	6058	7704	9641
			43	1483	2396	3976	5263	6811	8682
			49	-	1944	3370	4578	6088	7954
			54	-	1385	2726	3935	5468	7389
			60	-	-	2005	3266	4883	6919
		Power Consumption (W)	38	1680	2185	2862	3259	3610	3912
			43	1688	2194	2928	3390	3826	4233
			49	-	2195	2950	3455	3953	4444
			54	-	2251	2996	3517	4054	4605
			60	-	-	3122	3638	4192	4780

			R404A Performance Data						
Model	Nominal HP		Evap. Temp. / Condensing Temp. (°C)	-37.2	-31.7	-23.3	-17.8	-12.2	-6.7
KCM520LAL-EX	5	Refrigeration Capacity (W)	38	1787	2929	5033	6639	8364	10167
			43	1691	2568	4344	5776	7365	9068
			49	-	2161	3809	5141	6701	8415
			54	-	1502	3111	4525	6168	7999
			60	-	-	2158	3727	5560	7618
		Power Consumption (W)	38	1802	2199	3119	3673	3960	3790
			43	1843	2174	3048	3606	3925	3814
			49	-	2414	3250	3959	4371	4382
			54	-	2446	3507	4259	4827	5022
			60	-	-	3092	4034	4819	5259

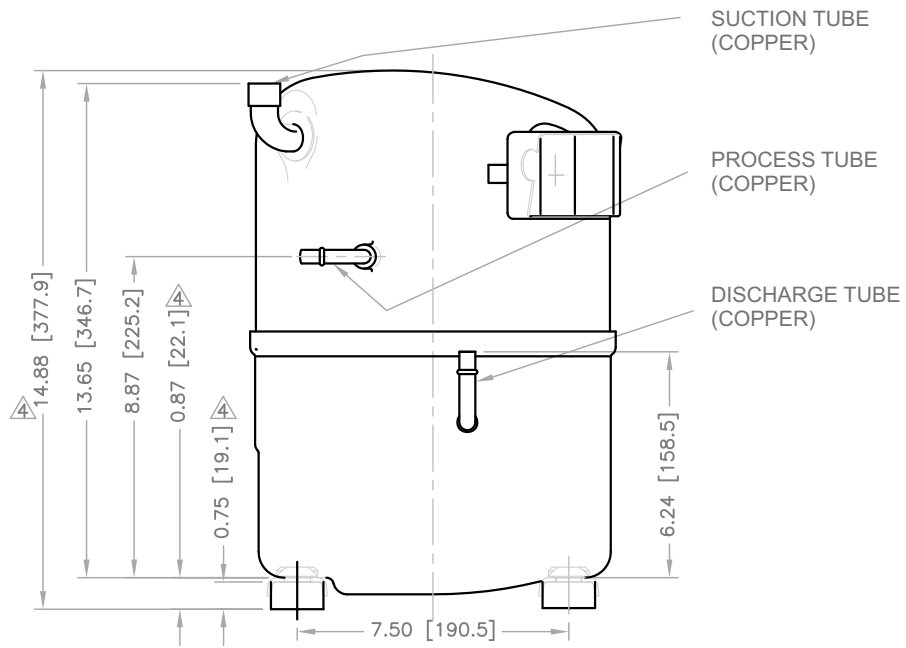
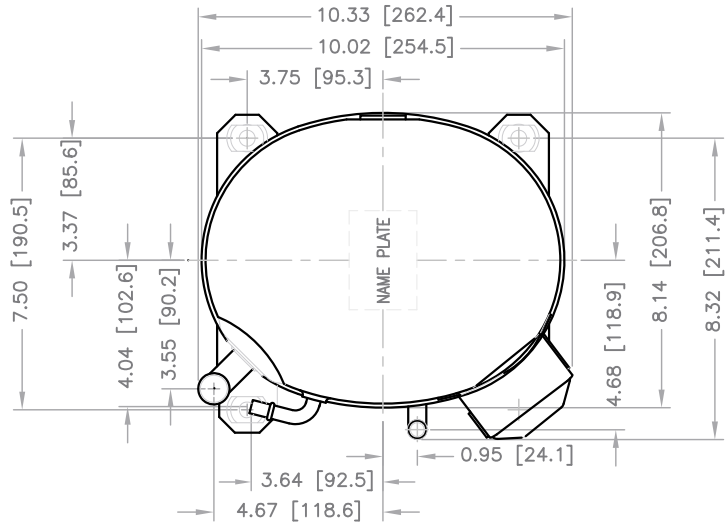
Capacity Data At 4°C Return Gas Temperature, 0K Subcooling

## Technical Data

Product Specifications @ EN12900*						
* Evap -35°C, Cond 40°C, RGT +20°C, SC 0K						
Model	Units	KCM475	KCM512	KCM515	KCM517	KCM520
<b>R404A Performance @50Hz</b>						
Capacity	W	733	1553	1788	2272	2491
Power	W	820	1425	1550	1900	2050
EER	W/W	0.9	1.1	1.2	1.2	1.2
Current	Amp	2.5	4.6	4	4.6	4.3
<b>Mechanical Specifications</b>						
Displacement	cm <sup>3</sup>	51.47	82.27	89.68	94.61	101.9
Oil Charge	cm <sup>3</sup>	1330	1330	1330	1330	1330
Oil Type		POE	POE	POE	POE	POE
Cooling Type	CFM	350	350	350	350	350
Internal Pressure Relief Valve (Pressure Differential)	psig	450/550	450/550	450/550	450/550	450/550
Suction Connection	in	0.747/0.753	0.863/0.880	0.863/0.880	1 ¼ - 12 UNF-2A Threads	1 ¼ - 12 UNF-2A Threads
Discharge Connection	in	0.497/0.503	0.497/0.503	0.497/0.503	1 - 14 UNS -2A threads	1 - 14 UNS -2A threads
Height (H)	mm	367.2	377.9	377.9	394	394
Length (L)	mm	190.5	206.8	206.8	206.8	206.8
Width (W)	mm	235.2	254.5	254.5	254.5	254.5
Net Weight	kg	32.5	32.7	32.7	36.2	36.2
<b>Electrical Specifications</b>						
Motor Type		3- Phase	3- Phase	3- Phase	3- Phase	3- Phase
Voltage Range @50Hz	V	342-460	342-460	342-460	342-460	342-460
Lock Rotor Ampere	Amp	28	45	45	61	65
Maximum Continuous Current	Amp	6.1	8	8	14.2	16
Overload Protector		Internal	Internal	Internal	Internal	Internal

Capacity Data At EN12900 Condition

# Dimensional Drawing



## **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.

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