CHILL GATE

Auth. Dealer: EMERSON Climate Technologies (India) Ltd.
Door No. 39/1603, Kannanthodath lane, Kochi-682016
Mob: 9388618095, 9605067770 Tel: 0484-3196373
Email : chillgate@gmail.com

PRODUCT SPECIFICATION

Copeland®
brand products

EMERSON™
Climate Technologies(I) ltd.

CHILL GATE

Door No. 39/1603
Elavanal Enclave, Kannanthodath Lane
Valanjambalam, Kochi - 16
Ph : 0484 - 3196373. Mob.: 93886 18095, 96050 67770
E-mail : chillgate@gmail.com

AUTHORISED DEALER OF

EMERSON™

Climate Technologies (I) Ltd.

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	KCJ484 CAL
800	CR22K6M	KCM511CAL	KCM511CAL
1200	CR30K6M	KCM514CAL	KCM514CAL
1600	CR30K6M	KCM519CAL	KCM514CAL
2000	CR36K6	KCM522CAL	KCM519CAL
2500	CR42K6	-	KCM522CAL
3000	CR53KQM	-	-
5000	CR62KQM	-	-

Water Cooler		
Capacity (Ltr/Hr)	R22	R134a
20	-	KCE419HAG
40	-	KCE/KCJ444HAG
60	KCE461HAE	KCN463HAG KCJ467HAG
100	KCJ511HAE	KCJ498HAG
150	KCJ513HAE	KCM511CAL
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
2000	CR53KQM	-	-
2400	CR62KQM	-	-
2800	CR72KQM	-	-

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

Visicooler	
Case	Model
2 (110 Ltr)	KCE419HAG
4 (150 Ltr)	KCE425HAG/KCN413CAG
7 (250 Ltr)	KCE432HAG/KCN416CAG
9 (400Ltr)	KCE444HAG/KCJ444HAG
12 (650Ltr)	KCN463HAG

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

Performance Nominals and Specifications

R134a High Temperature

Model	HP	Performance at ASRE/T Rated Conditions				Electrical Accessories				LRA
		Capacity		Power	Current	St. Cap. (Mfd)	Run Cap. (Mfd)	Relay	OLP	
		Btu/hr	W	W	A					
R134a, 50Hz, 1 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCE419HAG	1/6	1588	465	245	1.40	-	-	KARP3627	TAE19/H3	12
KCE425HAG	1/5	2145	628	360	2.30	40/60	-	KARP4241	KAT0072/H3 or MRA 12309-12101	13
KCE432HAG	1/4	2691	788	375	2.75	40/60	-	KARP/MRTP 4241	KAT0072/H3 or MRA12309-12101	12.5
KCE444HAG	3/8	3678	1077	450	2.00	40/60	10	85002 or HLR3800-413C2	KAT0072/H3	13
KCJ444HAG	3/8	3702	1084	450	2.80	80/100	-	KARP4841/MTRP 4841	KAT0159/B2	17
KCN463HAG	1/2	5252	1538	615	2.70	80/100	15	LT85002 or HLR3800- 4L3C-2	KAT0463/B2 MRA12308- 12102	14
KCJ467HAG	1/2	5604	1641	675	3.90	80/100	-	KARP/ MRTP 5641/ MRTP5941	KAT0733/B2	23
KCJ498HAG	¾+	8203	2402	975	5.90	80/100	-	AC85001 or HLR 3800-6H3C	KAT0163/B2 KAT0167/B2	32
KCM511CAL	1 3/8	11275	3302	1125	5.30	80/100	36	AC85004	Internal	54
KCM514CAL	1 ¾	15273	4472	1515	7.50	150/200	45	AC85001 HLR3800- 6H3c-1	Internal	72
KCM519CAL	2 3/8	18655	5463	1800	9.75	130/156	40	AC85004 3ARR3 CT3P5/ RVA3F6D	Internal	85
KCM522CAL	2 3/4	21320	6243	2030	9.80	189/227	60	AC85005/ 3ARR3C T2455/ RVA3AG6D	Internal	104
R134a, 50Hz, 3 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCM519CAL	2 3/8	18655	5463	1800	9.75	-	-	-	-	41
KCM522CAL	2 ¾	21320	6243	2030	9.80	-	-	-	-	45

Permitted Evaporating Temperature Range in °C

Model	Refrigerant	High Temp.	Medium Temp.	Low Temp.
KCJ, KCE, KCN,KCM	R134a	-17.8 to 12.8*	-17.8 to 12.9	-28.8 to -6.7**
KCG,CR, KCJ, KCE	R22	-6.7 to 12.8	NA	NA
KCN,KCJ,KCM	R404a	NA	-17.8 to 10.0	-40.0 to -6.7

* Except KCN463HAG / KCJ498HAG : -6.7 °C to 12.8°C   ** Except KCN : -37 °C to -6.7 °C

Note: Condensing temperature range for all models except CR = 37.8 °C to 60 °C and for CR please refer individual model specifications.

Performance Nominals and Specifications

R22 High Temperature

Model	HP	Performance at ASRE/T Rated Conditions				Electrical Accessories				LRA
		Capacity		Power	Current	St. Cap. (Mfd)	Run Cap. (Mfd)	Relay	OLP	
		Btu/hr	W	W	A					
R22, 50Hz, 1 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCE443HAE	1/3	3603	1055	460	2.10	40/60	10	LT85002 or HLR3800-4L3C-2	KAT0072/K3 or MRA12309-12103	13
KCE461HAE	1/2	5102	1494	625	2.90	60/80	15	LT85003 or HLR3800-4L3C-3	KAT0733/B2 or KAT159/B2	17
KCJ511HAE	1	9150	2681	1020	4.70	80/100	25	LT85002 or HLR3800-4L3C-2	Internal	25
KCJ513HAE	1 1/4	12806	3750	1440	6.80	80/100	36	AC85001 or HRL3800-6H3C-1	Internal	30
CR22K6M-PF1	1 1/2	18963	5553	1750	7.80	80/100	36	AC85004	Internal	54
CR30K6M-PF1	2 1/2	24870	7283	2350	11.00	150/200	45	AC85001	Internal	72
CR36K6-PFZ	3	30051	8800	2720	13.60	130/156	40/45	AC85004	Internal	85
CR42K6-PFZ	3 1/2	36103	10572	3240	15.40	189/227	60/65	AC85005	Internal	104
CR47KQM-PFZ		41752	12226	3950	20.00	189/227	60	AC85005	Internal	110
R22, 50Hz, 3 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
CR22K6M-TFM	1 1/2	18254	5345	1750	3.20	-	-	-	Internal	20
CR30K6M-TFM	2 1/2	24307	7118	2275	4.20	-	-	-	Internal	28
CR36K6-TF6	3	29844	8739	2680	4.90	-	-	-	Internal	41
CR42K6-TF5	3 1/2	35077	10272	3300	6.10	-	-	-	Internal	45
CR47KQM-TFD	4 1/2	40692	11916	3825	6.90	-	-	-	Internal	60
CR53KQM-TFD		45816	13416	4350	7.70	-	-	-	Internal	61
CR57KQM-TFD		48995	14347	4650	8.30	-	-	-	Internal	61
CR62KQM-TFD	5	52789	15458	5100	8.80	-	-	-	Internal	55
CR72KQM-TFD	6	61500	18024	6100	10.50	-	-	-	Internal	55

Note

Model	Return Gas Temp. (°C)	Subcooled Liquid Temp. (°C)
KCJ, KCE, KCN	35	46.1
CR, KCM, KCG	18.3	46.1
KCM475LAL, 515LAL	32	46.1

Performance Nominals and Specifications

R134a , R404A Medium Temperature

Model	HP	Performance at ASRE/T Rated Conditions				Electrical Accessories				LRA
		Capacity		Power	Current	St. Cap. (Mfd)	Run Cap. (Mfd)	Relay	OLP	
		Btu/hr	W	W	A					
R134a, 50Hz, 1 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCN413CAG	1/8	1079	316	180	0.80	40/60	6	PTC-8EA19D7	KAT0411/H3	8
KCN416CAG	1/5	1342	393	220	1.00	40/60	6	PTC-8EA19D7	KAT0413/H3 or MRA12390-12101	10
R404A, 50Hz, 1 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCJ422CAL	¼	1800	527	400	2.40	80/100	-	KARP4741	KAT0463/B2	16
KCJ438CAL	½	3203	938	625	3.70	80/100	-	KARP5641/ MTRP5641	T0732/B9	24
KCJ461CAL	¾	5102	1494	925	4.10	80/100	25	LT85002 or HLR3800-413C-2	Internal	25
KCJ484CAL	1	7004	2051	1250	6.20	80/100	25	Ac85001 OR HLR3800-8H3C-1	Internal	37
KCM511CAL	1 3/8	8975	2628	1385	6.30	80/100	36	AC85004	Internal	54
KCM514CAL	1 ½	11947	3498	1840	8.70	150/200	45	AC85001 or HLR3800-6H3C-1	Internal	72
KCM519CAL	2 3/8	16025	4692	2360	12.30	120/150	45	AC85004 or 3ARR3CT3P5 or RVA-3F6	Internal	85
KCM522CAL	2 ¾	18205	5331	2600	12.00	120/150	60	AC85005 or 3ARR3CT2455 or RVA-3AG6D	Internal	104
R404A, 50Hz, 3 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCM511CAL	1 3/8	9484	2777	1380	2.40	-	-	-	Internal	20
KCM514CAL	1 ½	13051	3822	1865	3.50	-	-	-	Internal	28
KCM519CAL	2 3/8	15776	4620	2325	4.70	-	-	-	Internal	41
KCM522CAL	2 3/4	18275	5352	2800	5.20	-	-	-	Internal	45

Performance Nominals and Specifications

R134a , R404A Low Temperature

Model	HP	Performance at ASRE/T Rated Conditions				Electrical Accessories				LRA
		Capacity		Power	Current	St. Cap. (Mfd)	Run Cap. (Mfd)	Relay	OLP	
		Btu/hr	W	W	A					
R134a, 50Hz, 1 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCN372LAG	1/5	601	176	159	1.34	40/60	-	KARP/MTRP-3141 KARP-3227	TAE15/H3	10
KCN396LAG	¼	803	235	206	1.85	40/60	-	KARP/MTRP-4141	TAE5M/H3	10
KCN411LAG	1/3	963	282	245	2.10	40/60	-	KARP/MTRP-4241	KAT0072/H3 or MRA-12309-12101	10
KCJ412LAG	1/3	1028	301	280	2.75	80/100	-	MTRP/KARP-4841	159/B2	24
KCN415LAG	3/8	1267	371	325	1.80	80/100	10	KARP-4941	KAT0072/H3 or MRA12309-12101	14
KCJ423LAG	1/2	1933	566	485	3.00	150/200	10	LT85003	T0732/B2 or KAT0732/B2	30
R404A, 50Hz, 1 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCN414LAL	1/3	1150	337	325	2.30	60/80	-	KARP-4241	KAT0072/H3 or MRA2309-12101	16
KCN418LAL	⅓	1455	426	385	2.00	80/100	10	LT85002/ HLR3800-413C2	KAT0072/B2 or MRA12309-12102 or T0072/B2	14
KCN422LAL	½	1834	537	455	2.20	80/100	15	LT85003/ HLR3800-4L3C-3	KAT0164/B2 or T0164/K9	17
KCN430LAL	¾	2575	754	580	4.40	80/100	15	LT85003/ HLR3800-4L3C-3	KAT0733/B2	18
KCJ430LAL	¾	2435	713	580	3.20	150/200	10	LT85003/ HLR3800-4L3C-3	Internal	30
KCJ450LAL	1 ¼	4118	1206	1000	5.50	150/200	25	AC85005	internal	50
KCM475LAL	1.7	5703	1670	1250	6.80	150/200	25	AC85004	Internal	72
R404A, 50Hz, 3 Phase, Evap. Temp. / Cond. Temp. 43.3 / 54.4										
KCM515LAL	3.75	12506	3662	2460	5.10	--	–	–	internal	45

ASTE/T Rating Conditions

Ambient Temp. °C	Evap. Temp. °C	Cond. Temp. °C	Sub Cooled Liquid Temp. °C	Suction Gas Temp. °C	Suction Pressure			Discharge Pressure		
					R134a psig	R22 psig	R404A psig	R134a psig	R22 psig	R404A 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

Water Cooler

R134a Models	KCE419HAG	KCE444HAG KCJ444HAG	KCJ467HAG KCN463HAG	KCJ498HAG	KCM511CAL	KCM514CAL	KCM522CAL
R22Models		KCE443HAE	KCE461HAE	KCJ511HAE	KCJ513HAE	CR22K6M	CR30K6M
Capacity Ltrs / Hr	20	40	60	100	150	200	300
Condenser size (inch) (Length X Ht) 3/8" O.D.Tube 10-12 FPI	9 x 9 x 2 ROWS	11 x 10 x 3 ROWS	13 x 12 x 3 ROWS	18 x 15 x 2 ROWS	22 x 16 x 2 ROWS	22 x 16 x 3 ROWS	22 x 16 x 4 ROWS
Condenser Fan Motor	1/83HP x 1350 RPM	1/36 HP x 1350 RPM	1/20 HP x 1350 RPM	1/20 hp x 930 RPM	1/12 HP x 930 RPM	1/5 HP x 930 RPM	¼ HP x 1350 RPM
Condenser Fan	8" DIA x 4 BLADE	9" DIA x4 BLADE	10" DIA x 4 BLADE	12 ½" DIA x 6 BLADE	15" DIA x 6 BLADE	15" DIA x 6 BLADE	15 " DIA x 6 BLADE
Evaporator Size O.D. Tube (inch) x Length (Ft)	5/16 x 30	3/8 x 50	3/8 x 70	3/8 x (45 x 2 circuit)	3/8 x (65 x 2 circuit)	3/8 x (95 x 2 circuit)	3/8 x (125 x 2 circuit)
Capillary tube Bore x Length	0.050" x 10 ft x 1 No.	0.050" X 5 ft x 1 No.	0.050" x 5 ft x 2 Nos.	0.055" x 39" x 2 Nos.	0.055" x 31" x 2 Nos.	0.064" x 29" x 2 Nos.	0.064" x 28" x 2 Nos.

Typical System Operating Parameters

Parameters	R134a		R22	
Ambient Temperature (°C)	35	43	35	43
Suction Pressure (psig) (Bar)	33 to 38 2.2 to 2.6	47 to 50 3.2 to 3.4	70 to 72 4.8 to 4.9	85 5.8
Discharge pressure (psig) (Bar)	165 to 175 11 to 12	185 to 200 12.7 to 13.7	280 to 290 19 to 20	380 26
Return Gas temperature (°C)	16	21	10 to 13	21
Top shell temperature (°C)	43 to 60	49 to 71	36 to 46	50 to 56

Chest Type Bottle Cooler

R134a Models	KCE419HAG	KCE425HAG KCN413HAG	KCE432HAG KCN416CAG	KCE444HAG KCJ444HAG	KCN463HAG KCJ467HAG	KCJ498HAG
R22Models				KCE443HAE	KCE461HAE	KCJ511HAE
R404a Models				KCJ422CAL	KCJ438CAL	KCJ461CAL
No. of 250ml Bottles	120-140	150-200	220-250	260-310	360-430	650-800
Cabinet volume Ltrs	110-120	130-160	200-220	240-260	330-360	700-800
Condenser size (inch) (Length x Height) 3/8" O.D.tube 10-12 FPI	9 x 9 x 2 ROWS	10 x 11 x 2 ROWS	10 x 9 x 3 ROWS	13 x 12 x 2 ROWS (OR) 11 x 10 x 3 ROWS	13 x 12 x 3 ROWS	14 x 14 x 4 ROWS
Condenser Fan Motor	1/83 HP x 1350 RPM	1/50 HP x 1350 RPM	1/36 HP x 1350 RPM	1/36 HP x 1350 RPM	1/20 HP x 1350 RPM	1/20 HP x 1350 RPM
Condenser Fan	8" DIA	10" DIA	8" DIA	10" DIA	10" DIA	12" DIA
Evaporator size O.D. Tube (inch) x Length (ft)	5/16 x 30	5/16 x 40	3/8 x 50	3/8 x 60	3/8 x 85	3/8 x (70 x 2 Circuit)
Capillary tube Bore x Length	0.044" x 10 ft x 1 No.	0.044" x 10 ft x 1 No.	0.046" x 9 ft x 1 No.	0.050" x 8 ft. x 1 No. For KCE443HAE 0.050" X 55" X 1 No.	0.050" x 8 ft x 1 No.	0.050" x 55" x 2 Nos.

Typical system operating parameters

Parameters	R134a		R22		R404a	
Ambient Temperature (°C)	35	43	35	43	35	43
Suction Pressure [psig] [Bar]	18 to 20 1.2 to 1.3	30 to 32 2 to 2.2	40 to 43 2.7 to 3	55 3.8	50 to 55 3.4 to 3.8	65 4.4
Discharge pressure [psig] [Bar]	164 to 174 11 to 12	187 to 199 12.7 to 13.7	280 to 290 19 to 20	380 26	355 24	455 31
Return Gas Temperature (°C)	16	21	10 to 13	21	13 to 15	24
Top shell Temperature (°C)	43 to 60	49 to 71	36 to 46	50 to 56	38 to 48	52 to 58

Air-Conditioner

R22 Models	KCJ511HAE	KCJ513HAE	CR22K6M	CR30K6M
Cooling Capacity	0.075 TR	1 TR	1.5 TR	2 TR
Condenser size (inch) (Length x Ht) 3/8 O.D. tube 13 PFI	18 x 15 x 2 ROWS	22 x 16 x 2 ROWS	22 x 16 x 3 ROWS	22 x 16 x 4 ROWS
Condenser Fan	12 ½" DIA x 6 BLADE	13 ½" DIA X 6 BLADE	16" DIA x 6 BLADE	16" DIA x 6 BLADE
Evaporator / Condenser Air flow Qty	300/600 CFM	375 / 750 CFM	450 / 940 CFM	625 / 1200 CFM
Evaporator size (inch) [Length x Ht] 3/8 O.D. tube 13 PFI	14 x 14 x 2 ROWS	15 x 15 x 2 ROWS	15 x 15 x 3 ROWS	15 x 15 x 4 ROWS
Evaporator Blower	7 " DIA 3 ¼" W	7" DIA 3 ¼" W	8 ½" DIA x 4" W	8 ½" DIA x 4" W
Capillary tube Bore x Length	0.055 x 22" x 1 NO. [OR] 0.055" x 40" x 2 NOS	0.055" x 32" x 2 NOS	0.064" x 30" x 2 NOS	0.064" x 28" x 2 NOS
Condenser Fan Motor	1/12 HP x 930 RPM	1/10 HP x 930 RPM	1/5 HP x 930 RPM	¼ HP x 1350 RPM

Typical System Operating Parameters

Parameters	R22	
Ambient Temperatures [°C]	35	43
Suction Pressure [psig] [Bar]	70 to 72 4.8 to 4.9	85 5.8
Discharge Pressure [psig] [Bar]	280 to 290 19 to 20	380 26
Return gas temperature [°C]	10 to 13	21
Top shell Temperature [°C]	36 to 46	50 to 56

Deep Freezer

R134a Models	KCN372LAG KCN396LAG	KCJ412LAG KCN411LAG	KCN415LAG		KCJ423LAG	
R404a Models	--	-	KCN414LAL	KCN418LAL	KCN422LAL KCJ430LAL	KCJ450LAL
Nominal Capacity Hard top [Ltrs }	300 / 400	450	500	600	800 / 1100	1800
Nominal capacity Glass top [Ltrs]	200 / 300	300	400	500	700 / 1000	1700
Condenser size [inch] (Length x Ht) 3 / 8 O.D. Tube 13 FPI	9 x 9 x 2 ROWS	11 x 10 x 2 ROWS	13 x 13 x 2 ROWS	13 x 13 x 3 ROWS	14 x 14 x 4 ROWS	18 x 16 x 4 ROWS
Condenser Fan Motor	1/83 HP x 1350 RPM	1/36 HP x 1350 RPM	1/36 HP x 1350 RPM	1/36 HP x 1350 RPM	1/20 HP x 1350 RPM	1/5 HP x 1350 RPM
Evaporator size O.D. Tube (inch) x Length (ft)	5 / 16 x 30	3 / 8 x 60	3 / 8 x 85	3 / 8 x 95	3/8 x (65 x 2 Circuit)	1 / 2 x [100 x 2 circuit]
Condenser Fan	9" DIA	9" DIA	9" DIA	12" DIA	12" DIA	15" DIA
Capillary tube (Bore x Length)	0.031" x 12' x 1 No.	0.036 "x 12' x 1 No.	0.044" x 8' x 1 N0.	0.050" x 8' x 1 No.	0.050" x 10' x 1 No.	0.044 " x 10' x 2 Nos

Typical System Operating Parameters

Parameters	R 134a		R 404a	
Ambient Temperatures [°C]	32	43	32	43
Suction Pressure [psig] [Bar]	1 to 2 0 to 0.1	0 to 5 0 to 0.3	22 to 24 1.5 to 1.6	21 to 31 1.4 to 2.1
Discharge Pressure [psig] [Bar]	160 11	175 to 190 12 to 13	293 20	316 to 340 22 to 23
Return gas temperature [°C]	10	18.3	10	18.3
Top shell Temperature [°C]	66	77	66	77

Visi Cooler

R134a models	KCE 419HAG	KCE 425HAG	KCE 432HAG	KCE 444HAG	KCN 463HAG
		KCN 413CAG	KCN 416CAG	KCJ 444HAG	
No of cases [Lit]	2 [110]	4 [150]	7 [250]	9 [400]	9 [650]
Condenser size (inch) [Length x Ht] 3/8 O.D. Tube, 6- 11 FPI	10 x 9 x 2 ROWS	11 x 10 x 2 ROWS	10 x 9 x 3 ROWS	11 x 10 x 3 ROWS	13 x 12 x 3 ROWS
Condenser Fan Motor	1/ 83 HP x 1350 RPM	1/50HP x 1350RPM	1/36HP x 1350 RPM	1/36HP x 1350 RPM	1/20HP x 1350RPM
Condenser Fan	8" DIA	9" DIA	8"DIA X 5BLADE	9"DIA X 5BLADE	12"DIA X 4 BLADE
Evaporator size [inch] T [Length x Ht] 3/8 OD Tube 6 to 11 FPI	11 X 10 X 2 ROWS	12 X 11 X 2 ROWS	14 X 12 X 2 ROWS	17 X 14 X 2 ROWS	17 X 14 X 3 ROWS
Capillary tube (Bore x Length)	0.044" X 10' X 1 NO	0.044" X 10' X 1 NO	0.046" X 9' X 1NO	0.050" X 7' X 1NO.	0.050" X 8' X 1NO.

Typical System Operating Parameters

Parameters	R 134a	
Ambient Temperatures [°C]	35	43
Suction Pressure [psig] [Bar]	18 to 20 1.2 to 1.3	30 to 32 2 to 2.2
Discharge Pressure [psig] [Bar]	164 to 174 11 to 12	187 to 199 12.7 to 13.7
Return gas temperature [°C]	16	21
Top shell Temperature [°C]	43 to 60	49 t0 71

Softy Ice-Cream Machine

R 134a Models	KCJ 423LAG					
R 404a Models	KCJ430LAL	KCJ450LAL	KCM511CAL	KCM514CAL	KCM519CAL	KCM522CAL
Capacity of Churner [Ltrs]	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	30 to 40
Condenser size (inch) [Length x Ht] 3/8 O.D. Tube, 13 FPI	14 x 14 x 4 ROWS	18 X 16 X 4 ROWS	22 X 18 X 3 ROWS	22 X 18 X 4 ROWS	22 X 20 X 4 ROWS	24 X 22 X 4 ROWS
Condenser Fan	1350 RPM ,12” DIA	1350 RPM ,14” DIA	1300 RPM ,16” DIA	1300 RPM ,16” DIA	1400RPM 18” DIA	1400RPM 18” DIA
Evaporator size O.D. Tube (inch) x Length (ft)	½ X 15	½ X 25	½ X 30	½ X 40	½ X 54	½ X 60
Capillary tube (Bore x Length)	0.050” X 7 Ft x 2 Nos.	0.060” X 6 Ft x 2 Nos.	0.060” X 6 Ft x 2 Nos.	0.060” X 5Ft 6”x 2 Nos.	0.060” X 5 Ft x 2 Nos.	0.060” X 4 Ft 6” x 2 Nos.

Water Chiller

R 134a Models		KCM519CAL	KCM522CAL							
R 22 Models		CR22K6M	CR30K6M	CR36K6M	CR42K6M	CR47 KQM	CR53 KQM	CR57 KQM	CR62 KQM	CR72 KQM
R404a Models	KCJ484 CAL	KCM511CAL	KCM514CAL	KCM519CAL	KCM522CAL					
Approx Chilled water flow rate[LPH]	600	830	1000	1400	1600	1800	2000	2200	2400	2600
Compressor capacity # [Btu/ Hr]		15,528	17,822							
		16,200	21,800	25,900	31,100	36,100	40,648	42,600	47,000	52,240
	11,412	16,500	21,400	27,200	31,500	-	-	-	-	-
Condenser size (inch) [Length x Ht] 3/8 O.D. Tube, 13FPI	20 x 16 x 3 ROWS	22 x 18 x 3 ROWS	22 x 20 x 3 ROWS	22 x 20 x 4 ROWS	24x 22 x 4 ROWS	34 x 28 x 3 ROWS	34 x 32 x 3 ROWS	33 x 26 x 4 ROWS	36 x 26 x 4 ROWS	40 x 26 x 4 ROWS
Condenser Fan	14"DIA , 1300 RPM	14"DIA , 1300 RPM	15"DIA , 1300 RPM	15"DIA , 1400 RPM	18"DIA , 1400 RPM	16"DIA , 1400 RPM	16"DIA , 1400 RPMx 2Nos	16"DIA , 1800 RPMx 2Nos	16"DIA , 1800 RPMx 2Nos	19"DIA, 1800 RPM x 2Nos
Evaporator type	Select suitable model of BPHE / Shell & Tube HE from your known reliable source									
Coil in tank Type evaporator Length[ft] x O.D. Tube (inch)	130 x 3/8 [65 x 2 Circuit]	200 x 3/8 [130 x 2 Circuit]	260 x 3/8 [130 x 2 Circuit]	330 x 3/8 [82 x 4 Circuit]	400 x 3/8 [100 x 4 Circuit]	460 x 3/8 [115 x 4 Circuit]	520 x 1/2 [130 x 4 Circuit]	580 x 1/2 [145 x 4 Circuit]	640 x1/2 [160x4 circuit]	700 x ½ [175x4 circuit]
TXV (Alco make)		R134a TIE-MW [Orifice 003]	R134a TIE-MW [Orifice 003]							
	R22-TIE-HW [Orifice 001]	R22-TIE-HW [Orifice 002]	R22-TIE-HW [Orifice 003]	R22-TIE-HW [Orifice 003]	R22-TIE-HW [Orifice 003]	R22-TIE-HW [Orifice 003]	R22-TIE-HW [Orifice 004]	R22-TIE-HW [Orifice 004]	R22-TIE-HW [Orifice 004]	R22-TIE-HW [Orifice 005]
	R 404a –TIE-SW [Orifice 002]	R 404a –TIE-SW [Orifice 003]	R 404a –TIE-SW [Orifice 003]	R 404a –TIE-SW [Orifice 004]	R 404a –TIE-SW [Orifice 004]					

Rating conditions – Evaporating temp- 4.4 c Condensing temp – 54.4 c
Sub cooling = 8.3 K Return gas temp. = 35 c
Water inlet temperature 15 c
Water outlet temperature : 10 c

Cold Room

(+ 4 °C Room temperature)

R 134a Models	KCM511CAL	KCM511CAL	KCM514CAL	KCM522CAL			
R22Models	KCJ513HAE	CR22K6M	CR30K6M	CR36K6M	CR42K6M	CR53KQM	CR62KQM
R404a Models	KCJ484CAL	KCM511CAL	KCM514CAL	KCM519CAL	KCM522CAL		
App. Room size [ft]	10 x 6 x 8	10 x 10 x 8	12 x 12 x 8	18 x 12 x 8	18 x 16 x 8	20 x 20 x 8	20 x 32 x 8
Condenser size (inch) [Length x Ht] 3/8 O.D. Tube, 6- 11 FPI	20 x 16 x 3 ROWS	22 x 18 x 3 ROWS	22 x 20 x 3 ROWS	22 x 20 x 4 ROWS	24 x 22 x 4 ROWS	26 x 24 x 4 ROWS	28 x 26 x 4 ROWS
Condenser Fan	14" DIA, 1300 RPM	14" DIA, 1300 RPM	14" DIA, 1300 RPM	15" DIA 1400 RPM	15" DIA 1400 RPM X 2 Nos	16" DIA 1400 RPM X 2 Nos	15" DIA 1800 RPM X 2 Nos
Evaporator size [inch] (Length x Ht) 3/8 O.D. Tube 6 to 8 FPI	22 x 16 x 4 ROWS	22 x 20 x 4 ROWS	24 X 22 X 4 ROWS	26 X 24 X 4 ROWS	28 X 26 X 4 ROWS	30 X 28 X 4 ROWS	32 X 29 X 4 ROWS
Evaporator Airflow qty	1150 CFM	1450 CFM	1750 CFM	2000 CFM	2300 CFM	2600 CFM	2900CFM
TXV (Alco Make)	R134a TIE-MW (Orifice 001)	R134a TIE-MW (Orifice 001)	R134a TIE-MW (Orifice 002)	R134a TIE-MW (Orifice 003)			
	R22-TIE-HW (Orifice 001)	R22-TIE-HW (Orifice 001)	R22-TIE-HW (Orifice 002)	R22-TIE-HW (Orifice 002)	R22-TIE-HW (Orifice 003)	R22-TIE-HW (Orifice 004)	R22-TIE-HW (Orifice 004)
	R 404a TIE-SW (Orifice 002)	R 404a TIE-SW (Orifice 002)	R 404a TIE-SW (Orifice 002)	R 404a TIE-SW (Orifice 003)	R 404a TIE-SW (Orifice 003)		

These are preliminary Room size for Cold rooms. Pls verify the product load
And select suitable Compressor model.

Pastry Cooler

R134a Models	**KCE 419HAG**	**KCE444HAG**	**KCJ467HAG**	
		KCJ444HAG	**KCN463HAG**	**KCJ498HAG**
R 22 Models		**KCE443HAE**	**KCE461HAE**	**KCJ511HAE**
R404a Models		**KCJ422CAL**	**KCJ438CAL**	**KCJ461CAL**
Pastry cooler size (ft)	2’	3’	4’	5-6’
Cabinet volume [Ltrs]	110-120	240-260	300-360	450-600
Condenser size (inch) [Length x Ht] 3/8 O.D. Tube, 10-12 FPI	9 x 9 x 2 ROWS	13 X 12 X 2 ROWS (OR) 11 X 10 X 3 ROWS	13 X 12 X 3 ROWS	14 X 14 X 4 ROWS
Condenser Fan Motor	1/ 83 HP x 1350 RPM	1/ 36 HP x 1350 RPM	1/ 20 HP x 1350 RPM	1/ 20 HP x 1350 RPM
Condenser Fan	8” DIA	10” DIA	10” DIA	12” DIA
Evaporator size O.D. Tube (inch) x Length (ft)	5/16 X 30	3/8 X 60	3/8 X 85	3/8 X [70 X 2 circuit]
Capillary tube (Bore x Length)	0.044” x 10 ft x 1 No	0.050” x 8 ft X 1 No. for KCE443HAE 0.055” X 55” X 1 N0	0.050” x 8ft x 1 No	0.050” x 8’ x 1 No

Typical System Operating Parameters

Parameters	**R134a**		**R22**		**R404a**	
Ambient Temperature (°C)	35	43	35	43	35	43
Suction Pressure [psig] [Bar]	18 to 20 1.2 to 1.3	30 to 32 2 to 2.2	40 to 43 2.7 to 3	55 3.8	50 to 55 3.4 to 3.8	65 4.4
Discharge pressure [psig] [Bar]	164 to 174 11 to 12	187 to 199 12.7 to 13.7	280 to 290 19 to 20	380 26	355 24	455 31
Return Gas Temperature (°C)	16	21	10 to 13	21	13 to 15	24
Top shell Temperature (°C)	43 to 60	49 to 71	36 to 46	50 to 56	38 to 48	52 to 58

ECZ Hermetic FHP Reciprocating Compressors

CII Award Winner for Most Innovative Energy Saving Product of the Year.

Product Specifications

R134a Low temperature (50Hz)

ECZ Platform	Current Platform	HP	Capacity		Power	Current	Electrical Accessories				LRA
			Btu/hr	W	W	A	St. Cap. (Mfd)	Run Cap. (Mfd)	Relay	OLP	
ECZ 380	KCN372	1/5	660	193	154	0.8	40-60	6	KARPN-3541	5TM734	10
ECZ 396	KCN 396	¼	790	232	188	0.9	40-60	10	KARPN-3741	5TM739	15
ECZ 412	KCN 411	1/3	1000	293	227	1.2	60-80	6	New Code#	5TM743	14
ECZ 416	KCN 415	3/8	1260	369	286	1.3	80-100	10	KARPN4341	5TM743PFBYY	15.8

R134a High temperature (50Hz)

ECZ 421	KCE 419	1/6	1760	516	231	1.5	–	–	KARPN-4027	5TM743	12
ECZ 426	KCE 425	1/5	2150	630	240	1.1	40-60	6	KARPN-3041	5TM734	9
ECZ 434	New Model	1/3	3150	793	335	1.5	40-60	6	KARPN4241	5TM739	12.3
ECZ 444	KEC 444	3/8	3850	1127	415	2.1	40-60	6	KARPN4241	5TM743	13.5
ECZ 431	KCE 432	¼	2555	749	298	1.4	40-60	6	KARPN-3541	5TM734	10

Part code will be communicated at later stage

Above specifications may be changed at a later stage due to continuous product improvement process.

ASRE/T Rating Conditions-

Rating	Ambient Temp.	Evap. Temp.	Condensing Temp.	Sub cooled Liquid Temp.	Return gas Temp.
	°C(°F)	°C(°F)	°C(°F)	°C(°F)	°C(°F)
HBP	35(95)	7.2(45)	54.4(130)	43.1(115)	35(95)
CBP	35(95)	-6.7(20)	54.4(130)	46.1(115)	35(95)
LBP	32(90)	-23.3(-10)	54.4(130)	32(90)	32(90)

Wiring Diagrams

PERMANENT SPLIT CAPACITOR (PSC)

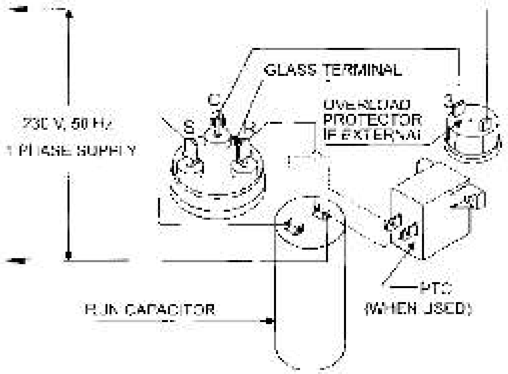

Fig. 1

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

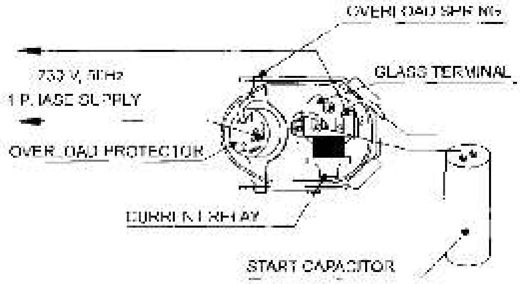

Fig. 2

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

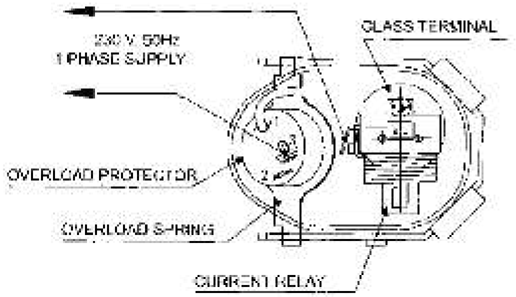

Fig. 3

CAPACITOR START CAPACITOR RUN (CSCR)

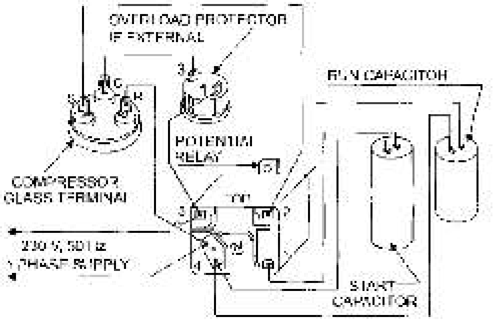

Fig. 4

Wiring Diagrams

CAPACITOR START INDUCTION RUN (CSIR)

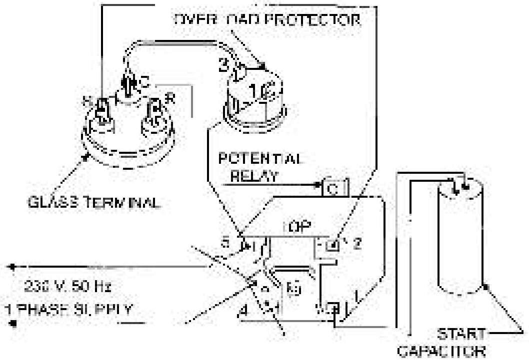

Fig. 5

CAPACITOR START INDUCTION RUN (CSIR) WITH CURRENT RELAY

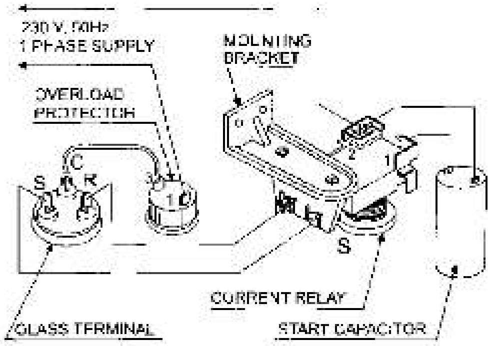

Fig. 6

CAPACITOR START CAPACITOR RUN (CSCR) WITH PTC

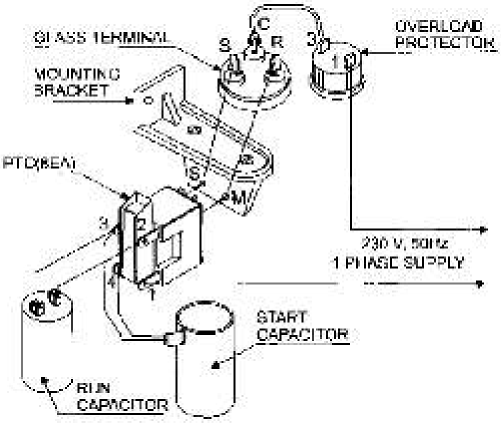

Fig. 7

CAPACITOR START CAPACITOR RUN (CSCR) WITH NTC

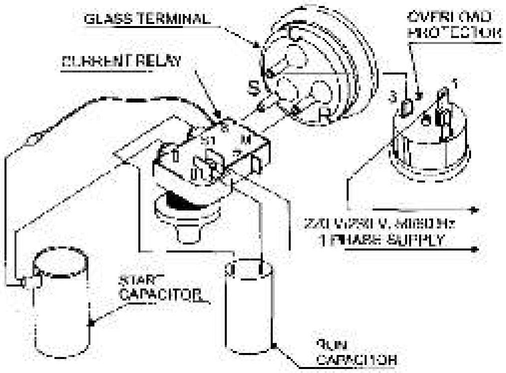

Fig. 8

EMERSON COMPRESSOR

COMPARRISON CHART WITH TECUMSHE / DANFOSS

S/NO	Model No. Tecumseh	REF	Application./ Capacity	Emerson Model	Danfoss	Remarks
1	AW1000Q/AW5515Q	R22	A/C. 1Ton	KCH513HAE		W/C150Ltr/Hr
2	AW1500Q/AW5522Q	R22	A/ C 1.5Ton	CR22K6M-PF1		W/C200Ltr/Hr
3	AW1750Q/AW5524	R22	A/ C. 1.75Ton			
4	AW2000/AW5530	R22	A/C. 2Ton	CR30K6M		W/C275Ltr/Hr
5	AW1500(3Ph)	R22	A/C. 1.5Ton	CR22K6M-TFM		
6	AW2000(3Ph)	R22	A/C. 2Ton	CR30K6M-TFM		
7	AW2500/AW5535	R22	A/C.2.5Ton	CR36K6-PFZ		
8	AW2500 3Ph/ AW5535EGF	R22	A/C.2.5Ton	CR36K6-TF6		
9	AW5542 3Ph	R22	A/C.3Ton	CR42K6-TF5		
COMMERCIAL REFRIGERATION APPLICATION- FHP COMPRESSORS						
1	.THK1330	R134A	BP			3Ltr/Hr
2	THK1340	R134A	LBP		TL4G	D/F 70-100Ltr
3	THK1352	R134A	LBP		TL5G	D/F100-150Ltr
4	THK1365	R134A	LBP	KCN372LAG	FR85G	D/F200-250Ltr
5	THK1365	R134A	LBP	KCN372LAG	NL8FT	D/F200-250Ltr
6	THK1374	R134A	LBP	KCN372LAG	FR10G	D/F250-300Ltr
7	THK0384	R134A	LBP		TL4G	B/C70-100Ltr
8	THK9384	R134A	MBP			B/C70-100Ltr W/C10-15Ltr
9	THK0410	R134A	MBP		TL5G	B/C100-150Ltr W/C15-20Ltr
10	THK9410	R134A	MBP	KCE419HAG KCN413CAG KCE425HAG		B/C100-150Ltr W/C15-20Ltr
11	THK9414	R134A	MBP	KCE432HAG		B/C150-200Ltr W/C20-25Ltr
12	AKR4460	R134A	HBP/CBP	KCJ467HAG KCN463HAG	SC15G SC18G	B/C400-500Ltr W/C60-120Ltr
13	AKR4476	R134A	HBP/CBP		SC21G	B/C500-600Ltr W/C80Ltr
14	AKR4461E	R22	HBP/CBP	KCE461HAE		W/C60-120Ltr
15	AKR5512	R22	HBP/CBP	KCJ498HAG KCJ511HAE		W/C120Ltr
16	AWX2421Y	R134A	LBP	KCJ423LAG		D/F550-750Ltr
17	AWX2431Y	R134A	LBP	KCJ423LAG		D/F800-900Ltr
18	AWX2450Z	R404A	LBP	KCJ430LAL		D/F1000-1200Ltr
19	AWX2460Z	R404A	LBP	KCJ450LAL		D/F1200-1500Ltr
20	TWB1390Y	R134A	LBP	KCN396LAG	FR11G	D/F300-400Ltr
21	TPH2415Y	R134A	LBP	KCN/J-411LAG KCJ412, KCN415LAG	NL10FTS C15FT	D/F425-550Ltr
22	TPA9417Y	R134A	MBP	KCE444HAG		B/C200-300Ltr V/C280-325Ltr
23	TPA9421Y	R134A	MBP	KCJ444HAG		B/C300-400Ltr V/C325-400Ltr
24	AE4440Y	R134A	HBP/CBP	KCE444/KCJ444 SC12G	NL10MF	B/C200-350Ltr VC300-400

Best Practice Guide

1. Select appropriate model compressors as per selection chart for different types of equipments.
2. Never use low temperature models for medium and high temperature equipments and vice-versa.
3. Do not use the compressor for self vacuum, use proper vacuum pump for evacuation. No warranty will be given in case it is used for self vacuum.
4. Flush the system with Nitrogen before operation. Do not use Oxygen for system processing instead of Nitrogen, as Oxygen with Oil mixture can cause explosion.
5. Use bright annealed refrigeration grade copper tubes.
6. Use refrigerant of good quality procured from genuine sources. Do not interchange refrigerants.
7. Always use genuine electrical accessories supplied by Emerson and use good quality drier and accumulator for longer life.
8. In case of replacing compressor, find out cause of failure of the system and rectify it before replacing it with another compressor.
9. a. 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.
   b. Joints have to be free from oil & greece 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.
10. For Further enquiries, Please contact Chill Gate or Emerson Technical Help Desk at Toll Free Number : 1800-209-1700.

2015

JANUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

MARCH

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		


Coca-Cola