



HOSHIZAKI AMERICA, INC.

SERVICE BULLETIN

SB94-0012

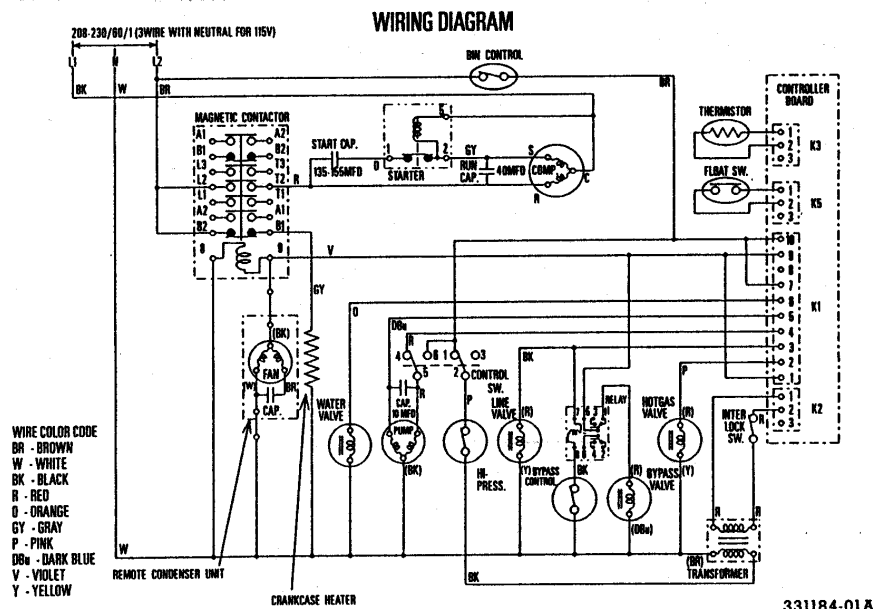
November 28, 1994

SUBJECT: UPDATE TECHNICAL INFORMATION ON R-22 MODELS

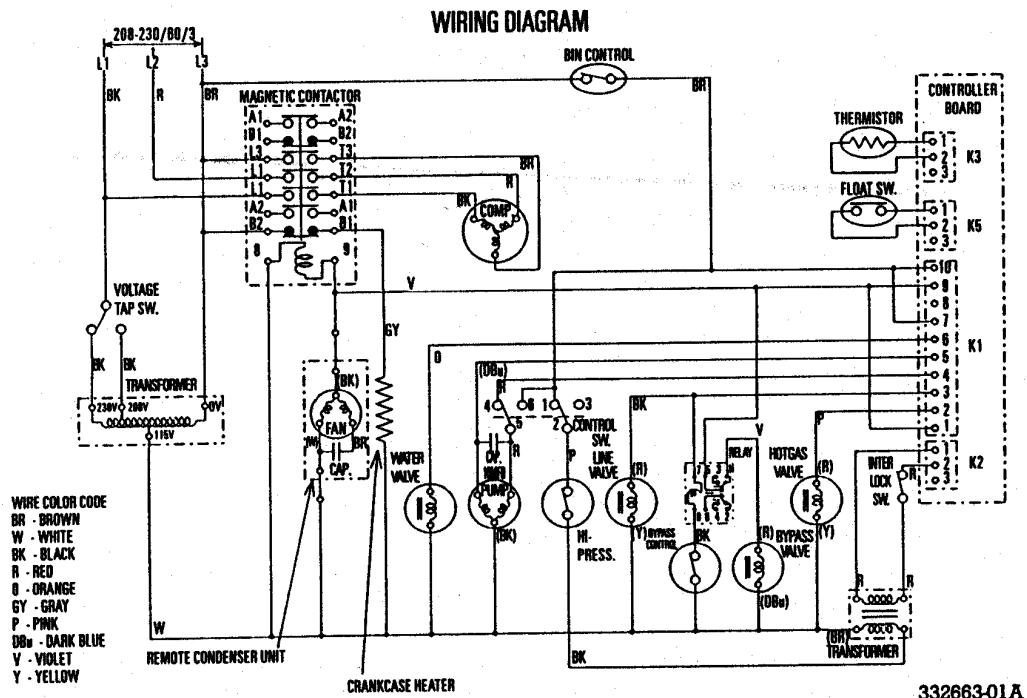
Wiring diagrams and performance data for KM-1600M/S and KM-2000S.

DM/ss

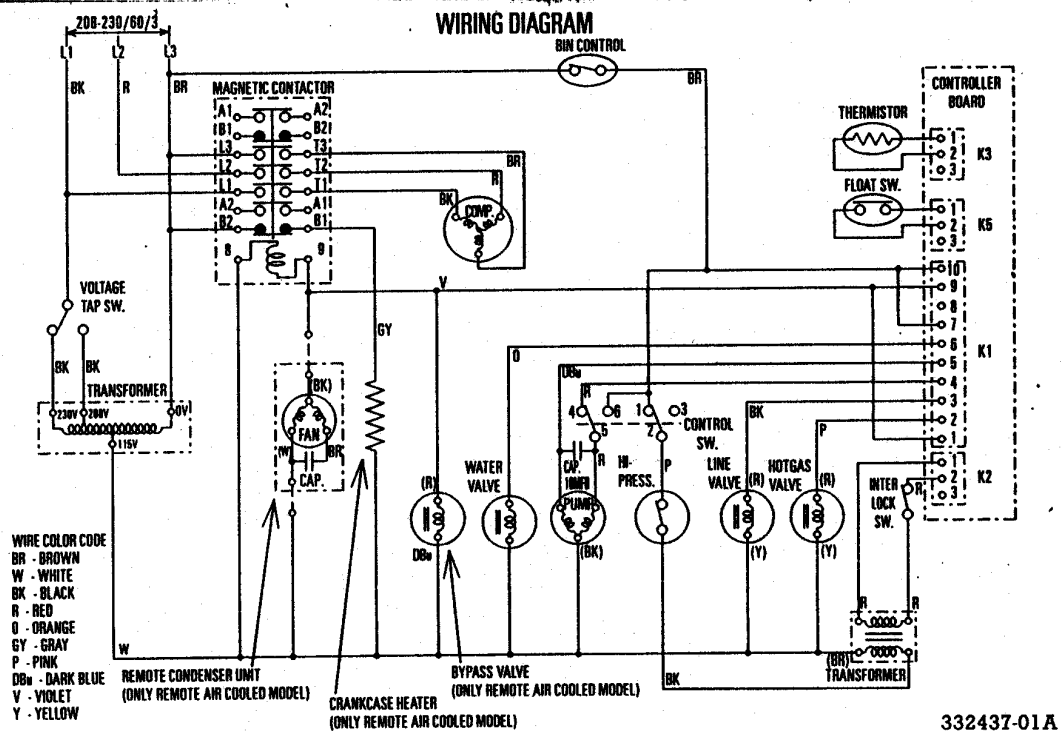
KM-1600MRE/SRE



KM-1600MRE3 / SRE3



KM-2000SRE3 / SWE3



MODEL KM-2000SRE3

MODEL KM-2000SWE3

	Ambient Temp. (°F)	Water Temp. (°F)			Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90		50	70	90
APPROXIMATE ICE PRODUCTION PER 24 HR.								
	70	*2026(919)	1970(894)	1810(821)	70	*1905(864)	1900(862)	1820(826)
	80	1990(903)	1960(889)	1780(807)	80	1860(844)	1905(864)	1750(794)
	90	1970(894)	*1952(885)	1740(789)	90	1820(826)	*1733(786)	1600(726)
	100	1940(880)	1940(880)	1710(776)	100	1740(790)	1650(748)	1500(680)
lbs./day (kg/day)								
APPROXIMATE ELECTRIC CONSUMPTION								
	70	2830	3000	3100	70	*3334	3350	3400
	80	2830	3000	3100	80	3380	3430	3460
	90	2830	3000	3100	90	3420	*3547	3560
	100	2830	3000	3100	100	3530	3560	3580
watts								
APPROXIMATE WATER CONSUMPTION PER 24 HR.								
	70	*1807(6.8)	2339(8.9)	4157(15.7)	70	756(2.87)	420(1.59)	430(1.63)
	80	1823(6.9)	2350(8.9)	4317(16.3)	80	705(2.67)	410(1.55)	415(1.57)
	90	1839(7.0)	*2365(9.0)	4413(16.7)	90	650(2.46)	367(1.39)	375(1.42)
	100	1828(6.9)	2372(9.0)	4436(16.8)	100	570(2.16)	325(1.23)	315(1.19)
gal./day (m ³ /day)								
FREEZING CYCLE TIME								
	70	28	29.5	33.5	70	32	32.5	33
	80	28.5	29.5	34	80	32.5	33	34
	90	28.5	30	35	90	33	33.5	36.5
	100	29	30.5	35.5	100	35	36.5	39
min.								
HARVEST CYCLE TIME								
	70	5	3.5	2.5	70	5.5	3.5	3.5
	80	5	3.5	2.5	80	5.5	3.5	3.5
	90	5	3.5	2.5	90	5.5	3.5	3.5
	100	4.5	3	2.5	100	5.5	3.5	3.5
min.								
HEAD PRESSURE								
	70	231(16.2)	231(16.2)	249(17.4)	70	200(14.0)	200(14.0)	200(14.0)
	80	231(16.2)	231(16.2)	250(17.5)	80	219(15.3)	221(15.5)	227(15.9)
	90	231(16.2)	233(16.3)	250(17.5)	90	221(15.5)	250(17.5)	256(17.9)
	100	231(16.2)	233(16.3)	251(17.6)	100	279(19.5)	281(19.7)	286(20.0)
PSIG (kg/cm ²)								
SUCTION PRESSURE								
	70	39(2.7)	40(2.8)	43(3.0)	70	37(2.6)	39(2.7)	39(2.7)
	80	39(2.7)	41(2.9)	46(3.2)	80	37(2.6)	39(2.7)	40(2.8)
	90	39(2.7)	41(2.9)	46(3.2)	90	39(2.7)	39(2.7)	41(2.9)
	100	43(3.0)	43(3.0)	47(3.3)	100	40(2.8)	41(2.9)	46(3.2)
PSIG (kg/cm ²)								
HEAT OF REJECTION FROM CONDENSER								
	23700 BTU/h (AT 90 °F/WT 70 °F)				27270 BTU/h (AT 90 °F/WT 70 °F, URC-20E)			
HEAT OF REJECTION FROM COMPRESSOR								
	3600 BTU/h (AT 90 °F/WT 70 °F)				3680 BTU/h (AT 90 °F/WT 70 °F)			
WATER FLOW FOR CONDENSER								
	206 gal./h (AT 100 °F/WT 90 °F)				CONDENSER VOLUME 214 cu. in. (URC-20E)			
PRESSURE DROP OF COOLING WATER LINE								
	less than 10 PSIG				Note: Pressure data is recorded first 5 minutes in freezing cycle. The data without *marks should be used for reference.			

MODEL: KM-1600MRE3

MODEL: KM-1600MRE

	Ambient Temp. (° F)	Water Temp. (° F)		
		50	70	90
APPROXIMATE ICE PRODUCTION PER 24 HR.	70	* 1590 (723)	1570 (714)	1470 (668)
	80	1540 (700)	1515 (689)	1405 (639)
	90	1470 (668)	* 1430 (650)	1325 (602)
	100	1380 (627)	1350 (614)	1220 (555)
lbs./day (kg/day)				
APPROXIMATE ELECTRIC CONSUMPTION	70	3260	3340	3400
	80	3360	3450	3470
	90	3490	3645	3700
	100	3720	3780	3850
watts				
APPROXIMATE WATER CONSUMPTION PER 24 HR.	70	753 (2.85)	495 (1.87)	393 (1.47)
	80	675 (2.55)	466 (1.76)	375 (1.42)
	90	570 (2.16)	449 (1.70)	350 (1.32)
	100	520 (1.97)	395 (1.50)	320 (1.21)
gal./day (m³/day)				
FREEZING CYCLE TIME	70	23	25	27
	80	24	26	30
	90	25	28	31
	100	27	30	34
min.				
HARVEST CYCLE TIME	70	5	3	2.5
	80	5	3	2.5
	90	4.5	3	2.5
	100	4	2.5	2
min.				
HEAD PRESSURE	70	200 (14.0)	203 (14.2)	204 (14.3)
	80	229 (16.0)	231 (16.2)	233 (16.3)
	90	243 (17.0)	246 (17.2)	249 (17.4)
	100	283 (19.8)	286 (20.0)	290 (20.3)
PSIG (kg/cm²G)				
SUCTION PRESSURE	70	36 (2.5)	36 (2.5)	37 (2.6)
	80	37 (2.6)	37 (2.6)	39 (2.7)
	90	37 (2.6)	39 (2.7)	39 (2.7)
	100	39 (2.7)	39 (2.7)	43 (3.0)
PSIG (kg/cm²G)				

HEAT OF REJECTION FROM CONDENSER 20600 BTU/h (AT 90° / WT 70° F. URC-20E)

HEAT OF REJECTION FROM COMPRESSOR 3300 BTU/h (AT 90° / WT 70° F)

214 cu. in. (URC-20E)

20600 BTU/h (AT 90° / WT 70° F. URC-20E)

3300 BTU/h (AT 90° / WT 70° F)

214 cu. in. (URC-20E)

Note: Pressure data is recorded first 5 minutes in freezing cycle.

The data without *marks should be used for reference.

MODEL KM-1600SWB

APPROXIMATE
ICE PRODUCTION
PER 24 HR. (MAX. CUBE SIZE)

lbs./day (kg/day)

APPROXIMATE ELECTRIC
CONSUMPTION

watts

APPROXIMATE WATER
CONSUMPTION PER 24 HR.

gal./day (m³/day)

FREEZING CYCLE TIME

min.

HARVEST CYCLE TIME

min.

HEAD PRESSURE

PSIG (kg/cm²)

SUCTION PRESSURE

PSIG (kg/cm²)

HEAT OF REJECTION FROM
CONDENSER

HEAT OF REJECTION FROM
COMPRESSOR

WATER FLOW FOR CONDENSER

PRESSURE DROP-OF COOLING
WATER LINE

Note: Pressure data is recorded first 5 minutes in freezing cycle.
The data without marks should be used for reference.

MODEL KM-1600SWB3

Ambient Temp. (°F)	Water Temp. (°F)		
	50	70	90
70	+1520(689)	1465(665)	1295(587)
80	1510(685)	1455(660)	1285(583)
90	1500(680)	+1445(655)	1275(578)
100	1480(671)	1425(646)	1255(569)

70	+2812	2800	2950
80	2812	2800	2950
90	2812	+2800	2950
100	2812	2800	2950

70	1605(6.08)	1790(6.78)	3222(12.2)
80	1560(5.91)	1800(6.82)	3300(12.5)
90	1480(5.61)	1821(6.90)	3500(13.3)
100	1380(5.23)	1900(7.20)	3700(14.0)

70	23	27	31
80	24	27.5	31.5
90	24.5	27.5	31.5
100	25	28	32

70	5.5	3	3
80	5	3	3
90	5	3	3
100	5	3	3

70	235(16.5)	235(16.5)	249(17.5)
80	235(16.5)	235(16.5)	250(17.6)
90	235(16.5)	236(16.6)	252(17.7)
100	235(16.5)	236(16.6)	253(17.8)

70	36(2.5)	36(2.5)	37(2.6)
80	36(2.5)	36(2.5)	38(2.7)
90	36(2.5)	37(2.6)	38(2.7)
100	36(2.5)	37(2.6)	40(2.8)

24393 BTU/h (AT 90 °F/WT 70 °F)

3686 BTU/h (AT 90 °F/WT 70 °F)

154 gal./h (AT 100 °F/WT 90 °F)

less than 10 PSIG

Ambient Temp. (°F)	Water Temp. (°F)		
	50	70	90
70	+1520(689)	1465(665)	1295(587)
80	1510(685)	1455(660)	1285(583)
90	1500(680)	+1445(655)	1275(578)
100	1480(671)	1425(646)	1255(569)

70	+2540	2535	2600
80	2540	2535	2600
90	2540	+2535	2600
100	2540	2535	2600

70	1605(6.08)	1810(6.86)	3260(12.4)
80	1580(6.00)	1815(6.88)	3280(12.4)
90	1560(5.91)	1821(6.90)	3300(12.5)
100	1560(5.91)	1850(7.01)	3400(12.9)

70	23	27	31
80	24	27.5	31.5
90	24.5	27.5	31.5
100	25	28	32

70	5.5	3	3
80	5	3	3
90	5	3	3
100	5	3	3

70	235(16.5)	235(16.5)	249(17.5)
80	235(16.5)	235(16.5)	250(17.6)
90	235(16.5)	236(16.6)	252(17.7)
100	235(16.5)	236(16.6)	253(17.8)

70	36(2.5)	36(2.5)	37(2.6)
80	36(2.5)	36(2.5)	38(2.7)
90	36(2.5)	37(2.6)	38(2.7)
100	36(2.5)	37(2.6)	40(2.8)

24393 BTU/h (AT 90 °F/WT 70 °F)

3686 BTU/h (AT 90 °F/WT 70 °F)

154 gal./h (AT 100 °F/WT 90 °F)

less than 10 PSIG

MODEL KM-1600SRE

APPROXIMATE ICE PRODUCTION PER 24 HR. (MAX. CUBE SIZE)	
lbs./day (kg/day)	
APPROXIMATE ELECTRIC CONSUMPTION	
watts	
APPROXIMATE WATER CONSUMPTION PER 24 HR.	
gal./day (m ³ /day)	
FREEZING CYCLE TIME	
min.	
HARVEST CYCLE TIME	
min.	
HEAD PRESSURE	
PSIG (kg/cm ² G)	
SUCTION PRESSURE	
PSIG (kg/cm ² G)	
HEAT OF REJECTION FROM CONDENSER	
HEAT OF REJECTION FROM COMPRESSOR	
CONDENSER VOLUME	

MODEL KM-1600SRE3

Ambient Temp. (°F)	Water Temp. (°F)		
	50	70	90
70	*1540 (699)	1500 (680)	1350 (612)
80	1500 (680)	1440 (653)	1300 (590)
90	1440 (653)	*1360 (617)	1240 (562)
100	1340 (608)	1240 (562)	1100 (499)
70	*2624	2680	2730
80	2700	2730	2770
90	2830	*2890	2920
100	2960	3020	3060
70	779 (2.95)	480 (1.82)	420 (1.59)
80	653 (2.47)	455 (1.72)	400 (1.52)
90	555 (2.10)	424 (1.61)	370 (1.40)
100	485 (1.84)	370 (1.40)	330 (1.25)
70	23	26	29
80	24	27	30
90	26	28.5	32
100	28	32	36
70	5	3	3
80	5	3	3
90	4	3	3
100	4	3	3
70	199 (14.0)	199 (14.0)	199 (14.0)
80	216 (15.2)	220 (15.5)	225 (15.8)
90	239 (16.8)	242 (17.0)	245 (17.2)
100	277 (19.5)	282 (19.8)	284 (20.0)
70	33 (2.3)	33 (2.3)	34 (2.4)
80	33 (2.3)	33 (2.3)	34 (2.4)
90	34 (2.4)	36 (2.5)	37 (2.6)
100	37 (2.6)	38 (2.7)	41 (2.9)
23749 BTU/h (AT 90 °F/WT 70 °F, URC-20E)			
4068 BTU/h (AT 90 °F/WT 70 °F)			
214 cu. in. (URC-20E)			

Note: Pressure data is recorded first 5 minutes in freezing cycle.
The data without *marks should be used for reference.