

HOSHIZAKI AMERICA, INC.

SERVICE BULLETIN

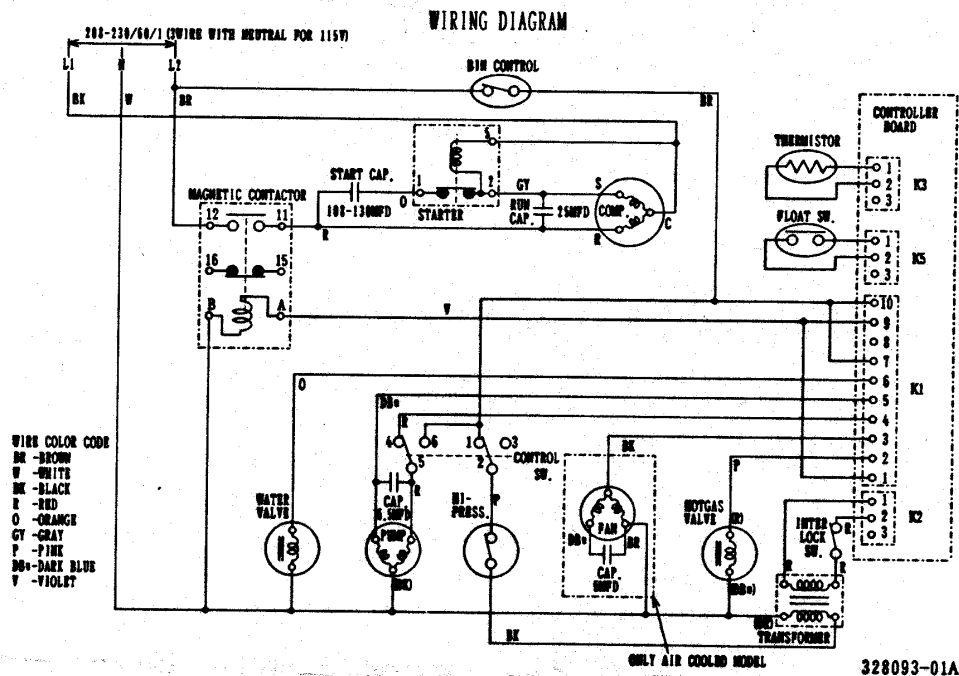
SB93-0005

May 10, 1993

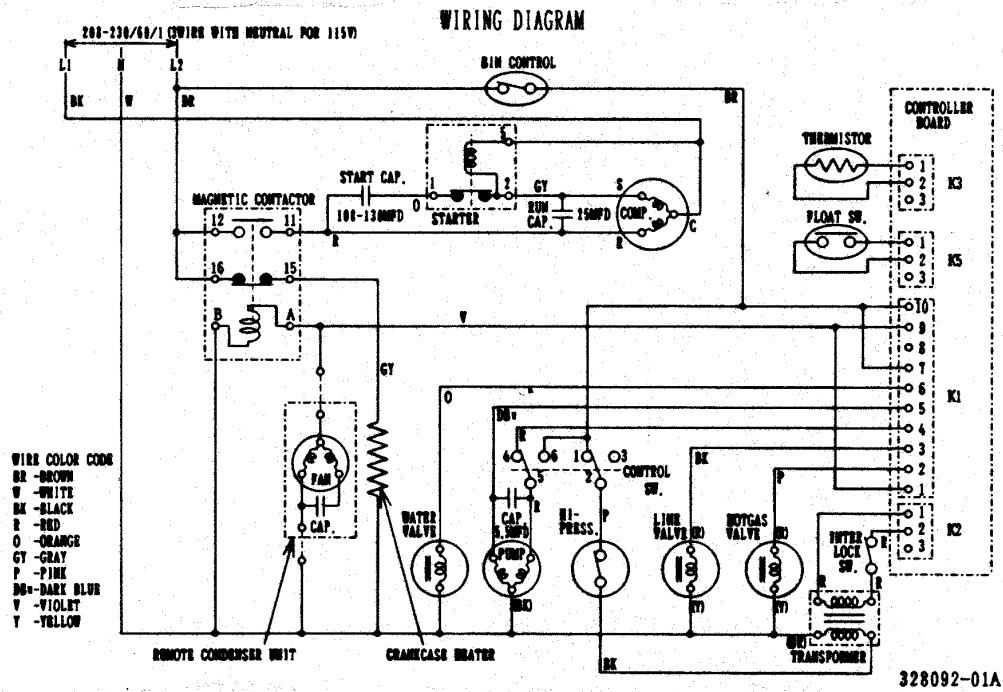
SUBJECT: SERVICE INFORMATION FOR R-22 CONVERSION

Utilize the following information for service diagnosis on R-22 models KM-630M-E, KM-800M-E and KM-1200M-E.

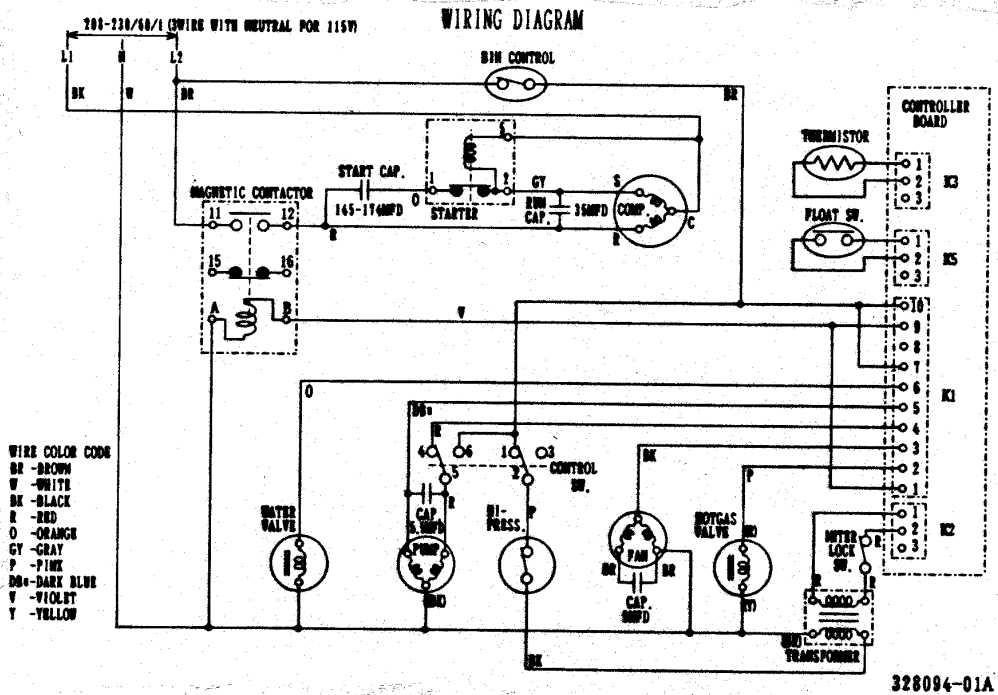
KM-630MAE/MWE



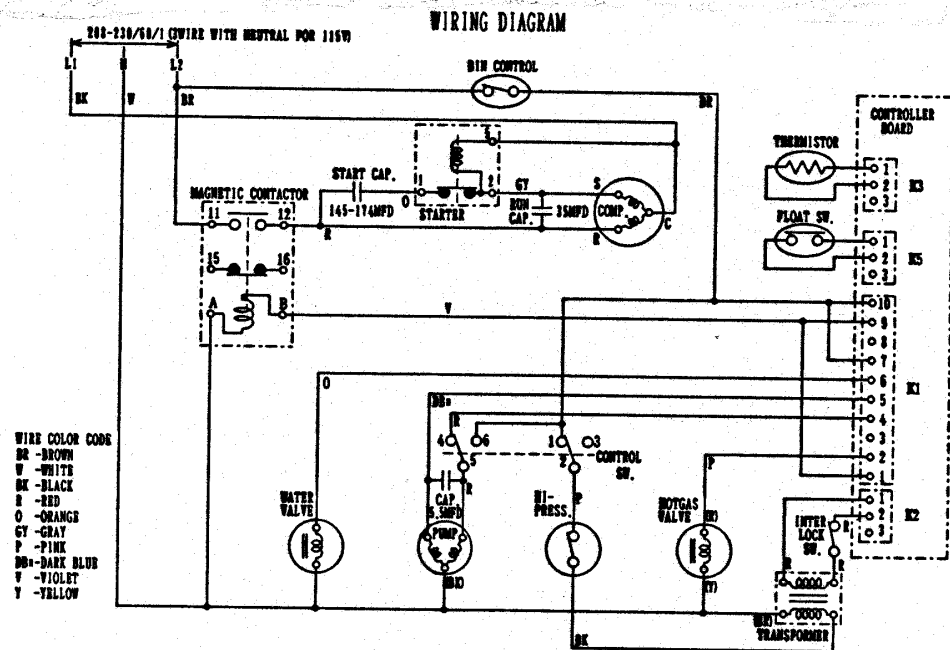
KM-630MRE



KM-800MAE

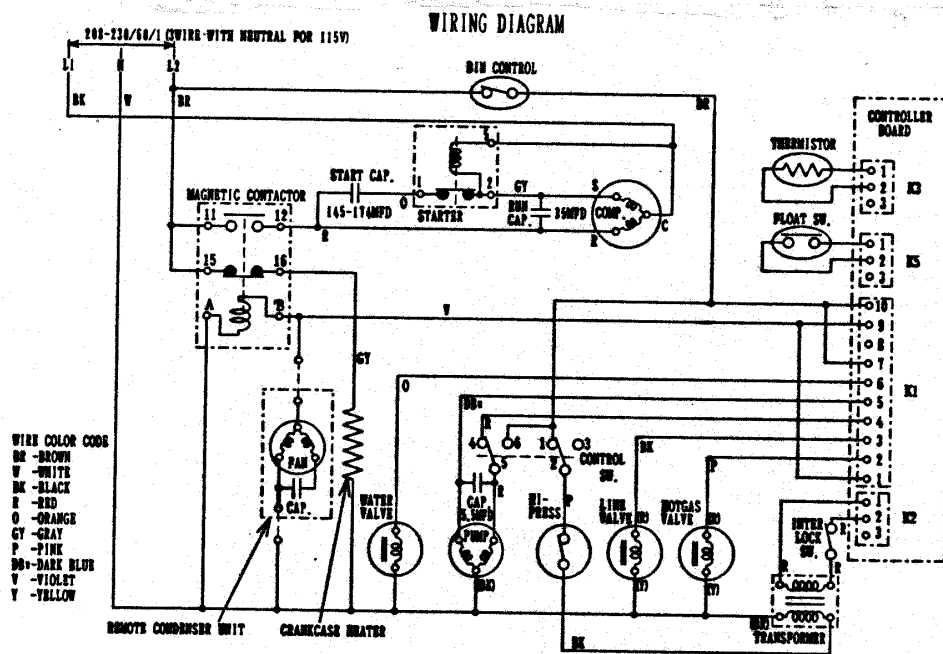


KM-800WE



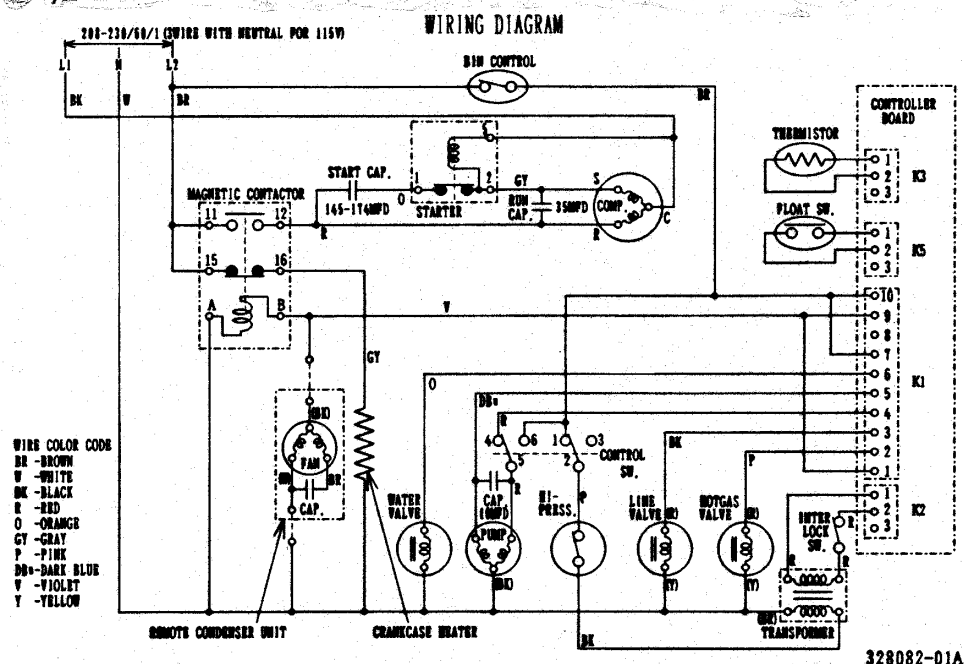
329729-01A

KM-800RE



329730-01A

KM-1200MRE



NOTE: The wiring diagram for the KM-1200MAE and MWE are the same as KM-1200SAE and SWE. See Service Bulletin number SB93-0002.

KM-630MWE

	Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90
APPROXIMATE ICE PRODUCTION PER 24 HR.	70 80 90 100	*615(279) 610(277) 600(272) 580(263)	540(245) 535(243) *525(238) 505(229)	510(232) 500(227) 490(222) 470(213)
lbs./day (kg/day)				
APPROXIMATE ELECTRIC CONSUMPTION	70 80 90 100	*1000 1000 1010 1010	1000 1010 *1015 1015	1020 1020 1020 1020
watts				
APPROXIMATE WATER CONSUMPTION PER 24 HR.	70 80 90 100	*753(2.85) 737(2.79) 737(2.79) 737(2.79)	940(3.56) 979(3.71) *991(3.75) 991(3.75)	1429(5.41) 1400(5.30) 1503(5.49) 1503(5.69)
gal./day (m ³ /day)				
FREEZING CYCLE TIME	70 80 90 100	33 33 34 35	36 36 37 37	39 41 41 42
min.				
HARVEST CYCLE TIME	70 80 90 100	4 4 4 4	2.5 2.5 2.5 2.5	2 2 2 2
min.				
HEAD PRESSURE	70 80 90 100	235(16.5) 235(16.6) 237(16.7) 237(16.7)	237(16.7) 237(16.7) 237(16.7) 239(16.8)	245(17.2) 247(17.4) 247(17.4) 249(17.5)
PSIG (kg/cm ² G)				
SUCTION PRESSURE	70 80 90 100	41(2.9) 43(3.0) 44(3.1) 44(3.1)	45(3.2) 45(3.2) 45(3.2) 45(3.2)	51(3.6) 53(3.7) 53(3.7) 54(3.8)
PSIG (kg/cm ² G)				

KM-630MAE

	Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90
	70 80 90 100	*630(286) 575(261) 520(236) 460(209)	595(270) 545(247) *490(222) 430(195)	570(259) 525(238) 470(213) 410(186)
	70 80 90 100	*1115 1145 1185 1195	1115 1165 *1185 1205	1115 1185 1195 1215
	70 80 90 100	*256(0.97) 166(0.63) 156(0.59) 137(0.52)	143(0.54) 137(0.52) *123(0.47) 114(0.43)	143(0.54) 132(0.50) 122(0.46) 111(0.42)
	70 80 90 100	32 34 37 43	33 36 40 45	35 38 42 48
	70 80 90 100	3 3 2 2	2.5 2 2 2	2 2 2 2
	70 80 90 100	210(14.8) 242(17.0) 267(18.8) 304(21.4)	216(15.2) 246(17.3) 279(19.6) 313(22.0)	225(15.8) 257(18.1) 289(20.3) 327(23.0)
	70 80 90 100	40(2.8) 43(3.0) 44(3.1) 47(3.3)	44(3.1) 46(3.2) 46(3.2) 48(3.4)	48(3.4) 51(3.6) 53(3.7) 54(3.8)

KM-630MRE

	Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90
	70 80 90 100	*600(272) 560(254) 510(232) 460(209)	580(263) 545(247) *495(225) 445(202)	540(245) 500(227) 455(207) 410(186)
	70 80 90 100	*1225 1235 1265 1295	1225 1235 *1265 1295	1235 1235 1275 1305
	70 80 90 100	*221(0.80) 209(0.79) 201(0.76) 148(0.56)	206(0.78) 198(0.75) *188(0.71) 145(0.55)	161(0.61) 153(0.58) 145(0.55) 129(0.49)
	70 80 90 100	35 36 37 42	36 38 41 45	39 40 43 48
	70 80 90 100	4 3.5 3 2	2.5 2 2 2	2 2 2 2
	70 80 90 100	206(14.5) 220(15.5) 239(16.8) 273(19.2)	210(14.8) 228(16.0) 256(18.0) 286(20.1)	212(14.9) 235(16.5) 289(20.3) 291(20.5)
	70 80 90 100	43(3.0) 44(3.1) 45(3.2) 45(3.2)	44(3.1) 47(3.3) 48(3.4) 53(3.7)	48(3.4) 50(3.5) 51(3.6) 54(3.8)

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

KM-800MWE

	Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90
APPROXIMATE ICE PRODUCTION PER 24 HR.	70 80 90 100	*861(391) 833(378) 822(373) 820(372)	833(378) 802(364) *780(353) 767(348)	813(369) 787(357) 767(348) 745(335)
lbs./day (kg/day)				
APPROXIMATE ELECTRIC CONSUMPTION	70 80 90 100	*1650 1670 1680 1680	1680 1680 *1690 1700	1670 1690 1710 1730
watts				
APPROXIMATE WATER CONSUMPTION PER 24 HR.	70 80 90 100	*796(3.01) 791(2.99) 793(3.00) 745(2.82)	901(3.41) 899(3.40) *912(3.45) 892(3.38)	1686(6.39) 1688(6.43) 1698(6.43) 1773(6.71)
gal./day (m³/day)				
FREEZING CYCLE TIME	70 80 90 100	20 21 21.5 22	22.5 23.5 24 24.5	23.5 24.5 25 26
min.				
HARVEST CYCLE TIME	70 80 90 100	4 4 3.5 3	2.5 2.5 2.5 2.5	2 2 2 2
min.				
HEAD PRESSURE	70 80 90 100	235(16.5) 235(16.5) 235(16.5) 235(16.5)	235(16.5) 235(16.5) 235(16.5) 235(16.5)	245(17.2) 245(17.2) 245(17.2) 248(17.4)
PSIG (kg/cm²)				
SUCTION PRESSURE	70 80 90 100	24(1.7) 24(1.7) 24(1.7) 24(1.7)	24(1.7) 24(1.7) 24(1.7) 24(1.7)	34(2.4) 34(2.4) 34(2.4) 34(2.4)
PSIG (kg/cm²)				

KM-800MAE

	Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90
APPROXIMATE ICE PRODUCTION PER 24 HR.	70 80 90 100	*826(375) 776(352) 769(349) 721(327)	818(371) 767(348) *760(345) 694(315)	798(362) 750(340) 736(334) 650(295)
lbs./day (kg/day)				
APPROXIMATE ELECTRIC CONSUMPTION	70 80 90 100	*1650 1720 1800 1880	1700 1770 *1850 1890	1730 1800 1860 1910
watts				
APPROXIMATE WATER CONSUMPTION PER 24 HR.	70 80 90 100	*399(1.51) 328(1.24) 259(0.98) 185(0.70)	275(1.04) 238(0.90) *198(0.75) 153(0.58)	211(0.80) 185(0.70) 159(0.60) 132(0.50)
gal./day (m³/day)				
FREEZING CYCLE TIME	70 80 90 100	21 22.5 23.5 26	22.5 24.5 24.5 28	24 25.5 26 30
min.				
HARVEST CYCLE TIME	70 80 90 100	4 4 3.5 2.5	3 2.5 2.5 2	2 2 2 2
min.				
HEAD PRESSURE	70 80 90 100	172(1.21) 203(14.3) 229(16.1) 270(19.0)	185(13.0) 211(14.8) 236(16.6) 279(19.6)	192(13.5) 220(15.5) 242(17.0) 290(20.4)
PSIG (kg/cm²)				
SUCTION PRESSURE	70 80 90 100	24(1.7) 28(2.0) 31(2.2) 34(2.4)	28(2.0) 31(2.2) 34(2.4) 38(2.7)	31(2.2) 36(2.5) 37(2.6) 44(3.1)
PSIG (kg/cm²)				

KM-800MRE

	Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90
APPROXIMATE ICE PRODUCTION PER 24 HR.	70 80 90 100	*860(390) 842(382) 807(366) 723(328)	838(380) 820(372) *791(359) 705(320)	811(368) 794(360) 765(347) 683(310)
lbs./day (kg/day)				
APPROXIMATE ELECTRIC CONSUMPTION	70 80 90 100	*1845 1875 1905 1935	1885 1915 *1965 1975	1885 1935 1975 1985
watts				
APPROXIMATE WATER CONSUMPTION PER 24 HR.	70 80 90 100	*433(1.64) 346(1.31) 320(1.21) 288(1.09)	275(1.04) 264(1.00) *251(0.95) 230(0.87)	211(0.80) 203(0.77) 193(0.73) 182(0.68)
gal./day (m³/day)				
FREEZING CYCLE TIME	70 80 90 100	20 20.5 22 25.5	22 22.5 23.5 27	23.5 24 25 28
min.				
HARVEST CYCLE TIME	70 80 90 100	4 4 3.5 3	2.5 2.5 2.5 2	2 2 2 2
min.				
HEAD PRESSURE	70 80 90 100	199(14.0) 199(14.0) 213(15.0) 249(17.5)	201(14.1) 202(14.2) 213(15.0) 256(18.0)	202(14.2) 206(14.5) 216(15.2) 259(18.2)
PSIG (kg/cm²)				
SUCTION PRESSURE	70 80 90 100	24(1.7) 24(1.7) 26(1.8) 28(2.0)	26(1.8) 26(1.8) 26(1.8) 31(2.2)	28(2.0) 31(2.2) 31(2.2) 36(2.5)
PSIG (kg/cm²)				

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

KM-1200WE

KM-1200MAE

KM-1200MRE

APPROXIMATE ICE PRODUCTION PER 24 HR.	Ambient Temp. (°F)	Water Temp. (°F)			Ambient Temp. (°F)	Water Temp. (°F)			Ambient Temp. (°F)	Water Temp. (°F)		
		50	70	90		50	70	90		50	70	90
		70	80	90		70	80	90		70	80	90
lbs./day (kg/day)		*1224(553)	1177(534)	1078(489)	70	*1200(544)	1190(540)	1152(522)	70	*1193(541)	1191(540)	1116(506)
		1188(539)	1142(518)	1065(483)	80	1182(536)	1173(532)	1113(505)	80	1146(520)	1144(519)	1100(499)
		1179(535)	*1125(510)	1049(476)	90	1127(511)	*1080(490)	1052(477)	90	1129(512)	*1125(510)	1045(474)
		1168(530)	1120(508)	1043(473)	100	1052(477)	1036(470)	937(425)	100	1065(483)	1041(472)	977(443)
APPROXIMATE ELECTRIC CONSUMPTION					70	*1950	2250	2275	70	*2275	2305	2330
watts		2050	2160	2160	80	2275	2270	2350	80	2305	2310	2370
		2150	*2170	2170	90	2350	*2282	2420	90	2400	*2315	2455
		2175	2175	2175	100	2400	2410	2450	100	2450	2475	2500
APPROXIMATE WATER CONSUMPTION PER 24 HR.					70	*600(2.27)	388(1.47)	336(1.27)	70	*576(2.18)	432(1.64)	304(1.15)
gal./day (m ³ /day)		1329(5.03)	1387(5.25)	2795(10.58)	80	506(1.92)	378(1.43)	312(1.18)	80	516(1.95)	396(1.50)	328(1.24)
		1329(5.03)	*1403(5.31)	2829(10.71)	90	441(1.67)	*367(1.39)	285(1.08)	90	442(1.67)	*386(1.46)	299(1.13)
		1329(5.03)	1566(5.93)	2932(11.10)	100	388(1.47)	300(1.13)	267(1.01)	100	378(1.43)	340(1.28)	262(0.99)
FREEZING CYCLE TIME					70	30	31	32.5	70	31.5	32	36
min.		31.5	33.5	36.5	80	33	34	36	80	32.5	34	34
		33	35	38	90	35	36.5	38.5	90	33	34	37
		34	35	38	100	38	39.5	43	100	36.5	37.5	40
HARVEST CYCLE TIME					70	3.5	2.5	2.0	70	5.0	3.0	2.5
min.		3.5	2.5	2.0	80	3.0	2.0	2.0	80	5.0	3.0	2.5
		3.5	2.5	2.0	90	3.0	2.0	2.0	90	4.5	3.0	2.5
		3.5	2.5	2.0	100	2.5	2.0	2.0	100	4.0	2.5	2.0
HEAD PRESSURE					70	256(18.0)	256(18.0)	263(18.5)	70	228(16.0)	228(16.0)	228(16.0)
		256(18.0)	263(18.5)	263(18.5)	80	249(17.5)	263(18.5)	270(19.0)	80	228(16.0)	235(16.5)	235(16.5)
		263(18.5)	270(19.0)	270(19.0)	90	277(19.5)	299(21.0)	299(21.0)	90	242(17.0)	249(17.5)	256(18.0)
		263(18.5)	270(19.0)	270(19.0)	100	320(22.5)	327(23.0)	341(24.0)	100	270(19.0)	277(19.5)	284(20.0)
PSIG (kg/cm ²)					70	44(3.1)	46(3.2)	54(3.8)	70	53(3.7)	54(3.8)	57(4.0)
		60(4.2)	61(4.3)	64(4.5)	80	60(4.2)	61(4.3)	65(4.6)	80	53(3.7)	57(4.0)	60(4.2)
		63(4.4)	65(4.6)	67(4.7)	90	65(4.6)	73(5.1)	73(5.1)	90	55(3.9)	60(4.2)	64(4.5)
		64(4.5)	67(4.7)	67(4.7)	100	80(5.6)	80(5.6)	81(5.7)	100	63(4.4)	64(4.5)	68(4.8)

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