Scotsman
Ice Systems

Service Tech's Ice Machine Service Handbook

for products introduced 2007 and later

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291-840

Contents

C0322 - air cooled

Modular Cuber. Single six inch high evaporator.

Ice production (lb /24 hr @ 90/70)	255
Ice production (lb /24 hr @ 70/50)	356
Water use, gallons ice only	48
Ice weight / cycle (lb)	2.4 - 2.6
Refrigerant charge, oz R-404A:	14
Fan pressure sw., cut out / cut in, PSIG	190 / 240
High pressure cut out / cut in, PSIG	500 / 390
Compressor Amps, beg. - end, freeze	7.3 - 4.8
Compressor Amps, harvest	6.2

Cycle Time (minutes)

Air Cooled	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9-10	10-11	11-12
70	10-11	11-12	12-13
80	11-12	12-13	13-14
90	12-13	13-14	14-15

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	26	60	32
Harvest - PSIG	100	105	130	125

C0322 - water cooled

Modular Cuber. Single six inch high evaporator.

Ice production (lb /24 hr @ 90/70)	329
Ice production (lb /24 hr @ 70/50)	366
Water use, gallons ice only	61
Water use, water cooled condenser only	454
Condenser GPM @ 45ºF.	.2
Ice weight / cycle (lb)	2.4 - 2.6
Refrigerant charge, oz R-404A	11
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	7.3 - 4.8
Compressor Amps, harvest	6.2

Cycle Time (minutes)

Water Cooled	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	8-10	10	10
70	10	11	10-11
80	11	11	11
90	11	11	12

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	56	32	57	32
Harvest - PSIG	95	105	110	130

C0330 - air cooled

Single 6 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	280
Ice production (lb /24 hr @ 70/50)	350
Water use, gallons ice only	63
Ice weight / cycle (lb)	2.4 - 2.6
Refrigerant charge, oz R-404A:	14
Fan pressure sw., cut out / cut in, PSIG	190 / 240
High pressure cut out / cut in, PSIG	500 / 390
Compressor Amps, beg. - end, freeze	6.2 - 4.8
Compressor Amps, harvest	5.7

Cycle Time (minutes)

Air Cooled	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9-10	10-11	11-12
70	10-11	11-12	12-13
80	11-12	12-13	13-14
90	12-13	13-14	14-15

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	28	53	34
Harvest - PSIG	100	110	134	115

C0330 - water cooled

Single six inch high evaporator

Ice production (lb /24 hr @ 90/70)	280
Ice production (lb /24 hr @ 70/50)	400
Water use, gallons ice only	52
Water use, water cooled condenser only	457
Condenser GPM @ 45°F.	.1
Ice weight / cycle (lb)	2.4 - 2.6
Refrigerant charge, oz R-404A	11
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	6.2 - 4.8
Compressor Amps, harvest	5.7

Cycle Time (minutes)

Water Cooled	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	8-10	10	10
70	10	11	10-11
80	11	11	11
90	11	11	12

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	32	55	34
Harvest - PSIG	100	130	110	105

C0522 - air cooled

Single 12 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	380
Ice production (lb /24 hr @ 70/50)	475
Water use, gallons ice only	69
Ice weight / cycle (lb)	4.8 - 5.2
Refrigerant charge, oz R-404A	17
Fan pressure sw., cut out / cut in, PSIG	190 / 240
High pressure cut out / cut in, PSIG	500 / 390
Compressor Amps, beg. - end, freeze	7.9-6.5
Compressor Amps, harvest	7.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	11-13	13	16
70	13	15	16-18
80	14	15	18
90	15	16	19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	57	32	67	34
Harvest - PSIG	100	105	110	120

C0522 - water cooled

Single 12 inch high evaporator

Ice production (lb /24 hr @ 90/70)	494
Ice production (lb /24 hr @ 70/50)	549
Water use, gallons ice only	90
Water use, water cooled condenser only	701
Condenser GPM @ 45oF.	.3
Ice weight / cycle (lb)	4.8 - 5.2
Refrigerant charge, oz R-404A	14
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	7.9-6.2
Compressor Amps, harvest	7.2

Cycle Time (minutes)

Water cooled	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	13-15	15	14
70	15	16	14-15
80	16	17	15
90	16-17	17	16

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	23	55	36
Harvest - PSIG	86	85	100	110

C0522 - remote

Single 12 inch high evaporator

Ice production (lb /24 hr @ 90/70)	465
Ice production (lb /24 hr @ 70/50)	517
Water use, gallons ice only*	85
Ice weight / cycle (lb)	4.8 -5.2
Refrigerant charge, oz R-404A	160
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. -end, freeze	7.9-6.2
Compressor Amps, harvest	7.2

Cycle Time (minutes)

Remote	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	12-13	13-14	14
70	13-14	13-14	14-15
80	14-15	14-15	15-16
90	15-16	17-18	18-19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	35	56	35
Harvest - PSIG	88	85	92	90

C0722 - air cooled

Single 18 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	590
Ice production (lb /24 hr @ 70/50)	790
Water use, gallons ice only	106
Ice weight / cycle (lb)	7.3 - 7.5
Refrigerant charge, oz R-404A	17
Fan pressure sw., cut out / cut in, PSIG	190 - 240
High pressure cut out / cut in, PSIG	500 / 390
Compressor Amps, beg. - end, freeze	5.8 - 5.0
Compressor Amps, harvest	6.8

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	13	13-14	17
70	13-14	14	17-18
80	14-15	15	19-20
90	15-16	17	21-22

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	60	30	62	33
Harvest - PSIG	94	92	150	120

C0530 - air cooled

Single 12 inch high evaporator. C Series (new compressor) mid 2011.

Ice production (lb /24 hr @ 90/70)	400
Ice production (lb /24 hr @ 70/50)	562
Water use, gallons ice only*	80
Ice weight / cycle (lb)	4.8 - 5.2
Refrigerant charge, oz R-404A:	22
Fan pressure sw., cut out / cut in, PSIG	190 / 240
High pressure cut out / cut in, PSIG	500 / 390
Compressor Amps, beg. - end, freeze	8-6.5
Compressor Amps, harvest	9.3

Cycle Time (minutes)

Air cooled	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	13	14	16
70	14	15	17
80	15	16	18
90	16	17	19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	52	33	55	32
Harvest - PSIG	100	95	120	105

C0530 - water cooled

Single 12 inch high evaporator C series (new compressor) mid 2011.

Ice production (lb /24 hr @ 90/70)	480
Ice production (lb /24 hr @ 70/50)	595
Water use, gallons ice only*	84
Water use, water cooled condenser only*	682
Condenser GPM @ 45oF.	.3
Ice weight / cycle (lb)	4.8 - 5.2
Refrigerant charge, oz R-404A	11
High pressure cut out / cut in, PSIG 400 /	300
Compressor Amps, beg. - end, freeze	8-6.5
Compressor Amps, harvest	9.3

Cycle Time (minutes)

Water cooled	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	10	12	12
70	11	13	13
80	12	13	13
90	13	13	14

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	33	55	34
Harvest - PSIG	99	100	110	110

C0530 - Remote

Modular Cuber. Single 12 inch high evaporator. C Series (new compressor) mid 2011.

Ice production (lb /24 hr @ 90/70)	460
Ice production (lb /24 hr @ 70/50)	511
Water use, gallons ice only*	83
Ice weight / cycle (lb)	4.8 - 5.2
Refrigerant charge, oz R-404A	160
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	8-6.5
Compressor Amps, harvest	9.3

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	11-13	13-14	13-14
70	14	14-15	14
80	15	15-16	15-16
90	16	17-18	17-18

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	30	55	35
Harvest - PSIG	146	145	99	100

C0630 - air cooled

Single 12 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	528
Ice production (lb /24 hr @ 70/50)	776
Water use, gallons ice only*	100
Ice weight / cycle (lb)	4.8 - 5.2
Fan pressure sw., cut out / cut in, PSIG	190 / 240
High pressure cut out / cut in, PSIG	500 / 390
Refrigerant charge, oz R-404A:	36
Compressor Amps, beg. - end, freeze	5.8-5.0
Compressor Amps, harvest	6.8

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9-10	10-11	10-11
70	10-11	11-12	11-12
80	11-12	12-13	12-13
90	12-13	13-14	13-14

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	40	21	53	27
Harvest - PSIG	87	85	108	115

C0630 - water cooled

Single 12 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	650
Ice production (lb /24 hr @ 70/50)	722
Water use, gallons ice only*	130
Water use, water cooled condenser only*	1455
Condenser GPM @ 45oF.	.4
Ice weight / cycle (lb)	4.8 - 5.2
Refrigerant charge, oz R-404A	14
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	5.8-5.0
Compressor Amps, harvest	6.8

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9	10	10
70	10	11	11
80	11	11	12
90	11	11	13

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	40	25	44	22
Harvest - PSIG	74	75	82	80

C0630 - remote

Single 12 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	616
Ice production (lb /24 hr @ 70/50)	684
Water use, gallons ice only*	115
Ice weight / cycle (lb)	4.8 - 5.2
Refrigerant charge, oz R-404A	160
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	5.8-5.0
Compressor Amps, harvest	6.8

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9	9	9-10
70	9-10	9-10	10
80	10-11	11-12	11
90	12	14	13-14

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	45	30	50	30
Harvest - PSIG	107	110	120	120

C0830 - air cooled

Single 18" high evaporator.

Ice production (lb /24 hr @ 90/70)	724
Ice production (lb /24 hr @ 70/50)	905
Water use, gallons ice only*	139
Ice weight / cycle (lb)	7.2
Refrigerant charge, oz R-404A:	46
Fan pressure sw., cut out / cut in, PSIG	190 / 240
Compressor Amps, beg. - end, freeze	6.4-5.3
Compressor Amps, harvest	6.6

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	11	12	13
70	12	13	14
80	13	14	15
90	14	15	16

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	26	60	30
Harvest - PSIG	83	80	110	100

C0830 - water cooled

Single 18 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	832
Ice production (lb /24 hr @ 70/50)	924
Water use, gallons ice only	157
Water use, water cooled condenser only	1132
Condenser GPM @ 45ºF.	.4
Ice weight / cycle (lb)	7.2
Refrigerant charge, oz R-404A	34
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	6.4-5.3
Compressor Amps, harvest	6.6

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	11	12-13	13
70	12	13-14	13
80	13	13-14	14
90	14	14	15

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	30	55	31
Harvest - PSIG	88	85	88	90

C0830 - remote

Single 18 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	780
Ice production (lb /24 hr @ 70/50)	870
Water use, gallons ice only*	115
Ice weight / cycle (lb)	7.2
Refrigerant charge, oz R-404A	208
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	6.4-5.3
Compressor Amps, harvest	6.6

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9-11	10-11	12
70	11	11-12	13
80	12-13	12-13	13-14
90	13-14	15	16-17

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	52	32	55	32
Harvest - PSIG	100	100	110	110

C1030 - air cooled

Single 18" evaporator.

Ice production (lb /24 hr @ 90/70)	844
Ice production (lb /24 hr @ 70/50)	1077
Water use, gallons ice only*	153
Ice weight / cycle (lb)	7.2
Refrigerant charge, oz R-404A:	48
Fan pressure sw., cut out / cut in, PSIG	190 / 240
Compressor Amps, beg. - end, freeze	7.3-4.8
Compressor Amps, harvest	6.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9-10	10-11	11-12
70	10-11	11-12	12-13
80	11-12	12-13	13
90	10-13	13-14 1	4-15

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	45	26	52	30
Harvest - PSIG	80	80	90	85

C1030 - water cooled

Single 18 inch high evaporator.

Ice production (lb /24 hr @ 90/70)	908
Ice production (lb /24 hr @ 70/50)	1009
Water use, gallons ice only*	179
Water use, water cooled condenser only*	1389
Condenser GPM @ 45oF.	.4
Ice weight / cycle (lb)	7.2
Refrigerant charge, oz R-404A	38
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	7.3-4.8
Compressor Amps, harvest	6.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	10	11	11
70	11	11-12	11
80	11-12	12-12	12
90	12	12-13	13

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	44	26	45	30
Harvest - PSIG	72	70	75	75

C1030 - remote

Single 18 inch high evaporator.

Ice production (lb /24 hr)	851
Ice production (lb /24 hr @ 70/50)	996
Water use, gallons ice only*	155
Ice weight / cycle (lb)	7.2
Refrigerant charge, oz R-404A	208
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	7.3-4.8
Compressor Amps, harvest	6.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	10-11	11	12-13
70	11	11-12	12-13
80	12-13	12-13	14
90	13-14	15-16	16-17

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	45	28	46	27
Harvest - PSIG	95	95	105	100

C1448 - air cooled

Two 18" evaporators.

Ice production (lb /24 hr @ 90/70)	1242
Ice production (lb /24 hr @ 70/50)	1553
Water use, gallons ice only	207
Ice weight / cycle (lb)	14
Refrigerant charge, oz R-404A:	62
Fan pressure sw., cut out / cut in, PSIG	220 / 280
Compressor Amps, beg. - end, freeze	12.5-7.6
Compressor Amps, harvest	9.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	12-13	13-14	14-15
70	13-14	14-15	15-16
80	14-15	15-16	16-17
90	15-16	16-17	17-18

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	35	60	38
Harvest - PSIG	100	95	105	100

C1448 - water cooled

Modular Cuber. Two 18 inch high evaporators.

Ice production (lb /24 hr @ 90/70)	1300
Ice production (lb /24 hr @ 70/50)	1444
Water use, gallons ice only	250
Water use, water cooled condenser only	1693
Condenser GPM @ 45ºF.	.6
Ice weight / cycle 14	
Refrigerant charge, oz R-404A	56
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	12.5-7.6
Compressor Amps, harvest	9.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	13-14	14-15	15-19
70	14-15	15-16	15-16
80	15-16	15-16	16-17
90	15-16	15-16	17-18

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	36	55	35
Harvest - PSIG	105	105	105	100

C1448 - remote

Modular Cuber. Two 18 inch high evaporators.

Ice production (lb /24 hr)	1221
Ice production (lb /24 hr @ 70/50)	1357
Water use, gallons ice only*	223
Ice weight / cycle	13
Refrigerant charge, oz R-404A	256
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	12.5-7.6
Compressor Amps, harvest	9.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	11	11-12	14-15
70	11-12	11-12	14-15
80	13	13	16
90	14	15-16	18-19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	40	60	40
Harvest - PSIG	105	100	125	125

C1848 - air cooled

Modular Cuber. Two 18" evaporators.

Ice production (lb /24 hr @ 90/70)	1527
Ice production (lb /24 hr @ 70/50)	1909
Water use, gallons ice only*	321
Ice weight / cycle	14
Fan pressure sw., cut out / cut in, PSIG	220 / 280
Refrigerant charge, oz R-404A:	62
Compressor Amps, beg. - end, freeze	16-10
Compressor Amps, harvest	15

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	10-11	11-12	12-13
70	11-12	12-13	13-14
80	12-13	13-14	14-15
90	13-14	14-15	15-16

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	30	55	32
Harvest - PSIG	90	90	100	100

C1848 - water cooled

Modular Cuber. Two 18 inch high evaporators.

Ice production (lb /24 hr @ 90/70)	1710
Ice production (lb /24 hr @ 70/50)	1900
Water use, gallons ice only*	315
Water use, water cooled condenser only*	2643
Condenser GPM @ 45ºF	. 1
Ice weight / cycle	14
Refrigerant charge, oz R-404A	63
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	16-10
Compressor Amps, harvest	15

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	10-11	11-12	11-12
70	11-12	12-13	11-12
80	12-13	12-13	12-13
90	12-13	12-13	13-14

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	45	30	50	30
Harvest - PSIG	75	80	85	85

C1848 - remote

Modular Cuber. Two 18 inch high evaporators.

Ice production (lb /24 hr @ 90/70)	1645
Ice production (lb /24 hr @ 70/50)	1828
Water use, gallons ice only*	289
Ice weight / cycle	14
Refrigerant charge, oz R-404A	320
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	16-10
Compressor Amps, harvest	15

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	10-11	11-12	13
70	11-12	12	13
80	13	13-14	14-15
90	14	16	17

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	45	32	55	33
Harvest - PSIG	85	85	100	105

C2148 - water cooled

Modular Cuber. Two 18 inch high evaporators. Discontinued 2012.

Ice production (lb /24 hr @ 90/70)	1804
Ice production (lb /24 hr @ 70/50)	2091
Water use, gallons ice only 3	19
Water use, water cooled condenser only	2778
Condenser GPM @ 45°F	.1
Ice weight / cycle	14
Refrigerant charge, oz R-404A	69
High pressure cut out / cut in, PSIG	400 / 300
Compressor Amps, beg. - end, freeze	15.4-12.6
Compressor Amps, harvest	16.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	9-10	10-11	11
70	10-11	11-12	11
80	11-12	11-12	12
90	11-12	11-12	13

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	42	27	45	27
Harvest - PSIG	75	75	75	75

C2148 - remote

Modular Cuber. Two 18 inch high evaporators.

Ice production (lb /24 hr @ 90/70)	1849
Ice production (lb /24 hr @ 70/50)	2248
Water use, gallons ice only	337
Ice weight / cycle	14
Refrigerant charge, oz R-404A	320
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	15.4-12.6
Compressor Amps, harvest	16.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	10	10	11
70	9-10	10	12
80	11-12	11	13
90	12-13	14	15-16

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	40	24	45	24
Harvest - PSIG	80	80	95	95

C2648

3 evaporators, 2 pumps, remote 3 phase only.

Ice production (lb /24 hr @ 90/70)	2253
Ice production (lb /24 hr @ 70/50)	2570
Water use, gallons ice only	388
Ice weight / cycle (lb)	21
Refrigerant charge, oz R-404A	240
High pressure cut out / cut in, PSIG	450 / 350
Compressor Amps, beg. - end, freeze	13.2 - 12.9
Compressor Amps, harvest	12.7 - 11.8

Cycle Time (minutes) at select temperatures (F°)

	Condenser Air Temp (degrees F.)			
Water Temp	-20	70	80	120
50	9-11	10-12	11-13	16-18
70	10-12	11-13	12-14	17-19
80	11-13	12-14	13-15	18-20
90	12-14	13-15	15-16	19-21

Suction pressure, end of freeze:

- Minus -20 to 90: 26-30 PSIG
- 120: 34-36 PSIG

Suction pressure, harvest:

- Minus -20 to 90: 73-80 PSIG
- 120: 86-89 PSIG

OPR valve set to 80 PSIG at compressor dome.

Discharge pressure freeze: 205 minimum, 370 at 120°F.

Headmaster (217 set point) in PRC241 condenser.

CU0415

New in 2013. Electronically controlled undercounter cuber, Inverted grid evaporator. 3 voltages.

Ice production, pounds / 24 hours 70/50 - 90/70	58 - 38
Water use, gallons @90/70	16
BTUs per hour	1500
Bin control	Thermostat. Controller has no power unless thermostat is closed calling for ice.
Refrigerant type	R-134a
Refrigerant charge, oz	8
Refrigeration suction pressure, freeze cycle, PSIG	25 dropping to 7
Refrigeration suction pressure, harvest cycle, PSIG	40-55
Metering device	Cap tube
Fan pressure control	Cut out 100, cut in 150
Compressor amps, 115 volt model, 5 minutes into freeze	1.8
Cube size	Medium / Full Dice
Cubes per cycle	45
Batch weight, pounds	1
Water solenoid valve flow rate, gallons per minute	.275
Cycle time, minutes @ 70/50	25
Cycle time, minutes @ 90/70	38

CU0515

Electro mechanical cuber, medium gourmet cubes.

Ice production	72 to 44 lb. per 24 hours
Water use	24 gallons per 24 hours
BTUs per hour	2400
Refrigerant type	R-134a
Refrigerant charge	9.5 oz
Refrigerant pressures, freeze	End of freeze: 125 to 130 PSIG discharge 1 -3 PSIG suction
Refrigeration pressures, harvest	83 -125 PSIG discharge 120 PSIG max suction
Metering device	Cap tube
Compressor amps, freeze	4.3 to 3.6
Cubes per cycle	24
Batch weight	1 lb 1 oz
Water solenoid valve flow rate	.21 g.p.m.
Cycle time, 90/70	20 -25 minutes

CU0715

New in 2013. Electronically controlled undercounter cuber, Inverted grid evaporator. 3 voltages.

Ice production, pounds / 24 hours 70/50 - 90/70	80 - 58
Water use, gallons @90/70	18
BTUs per hour	2300
Bin control	Thermostat. Controller has no power unless thermostat is closed calling for ice.
Refrigerant type	R-134a
Refrigerant charge, oz	8
Refrigeration suction pressure, freeze cycle, PSIG	22 dropping to 6
Refrigeration suction pressure, harvest cycle, PSIG	40-55
Metering device	Cap tube
Fan pressure control	Cut out 100, cut in 150
Compressor amps, 115 volt unit, 5 minutes into freeze	2.6
Compressor amps, harvest	2.9 - 3.2
Cube size	Medium / Full Dice
Cubes per cycle	45
Batch weight, pounds	1
Water solenoid valve flow rate	.275 g.p.m.
Cycle time, minutes @ 70/50	17
Cycle time, minutes @ 90/70	25

CU0920

New in 2013. Electronically controlled undercounter cuber, Inverted grid evaporator. 3 voltages.

Ice production, pounds / 24 hours 70/50 - 90/70	100 - 80
Water use, gallons @ 90/70	28
BTUs per hour	4100
Bin control	Thermostat. Controller has no power unless thermostat is closed calling for ice.
Refrigerant type	R-134a
Refrigerant charge, oz	8
Refrigeration suction pressure, freeze cycle, PSIG	24 dropping to 3
Refrigeration suction pressure, harvest cycle, PSIG	55-60
Metering device	Cap tube
Fan pressure control	Cut out 100, cut in 150
Compressor amps, 115 volt unit, freeze	3.1
Cube size	Medium / Full Dice
Cubes per cycle	45
Batch weight, pounds	1
Water solenoid valve flow rate, gallons per minute	.275
Cycle time, minutes @ 70/50	15
Cycle time, minutes @ 90/70	18

CU50

15 inch gourmet cuber. Cap tube, R-134a.

Ice production (lb /24 hr @ 90/70)	50
Ice production (lb /24 hr @ 70/50)	65
Water use, gallons ice only	17
Ice weight / cycle (lb)	1
Refrigerant charge, oz R-134a	8
High pressure cut out / cut in, PSIG	none
Compressor Amps	2.6 - 3.2

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	19-20	19-20	20-21
70	26-27	28-29	29-31
80	30-31	31-32	33-34
90	33-34	35-36	36-37

CU1526

Undercounter cuber. Single 6 inch high plate.

Ice production (AC lb /24 hr @ 90/70)	115
Ice production (AC lb /24 hr @ 70/50)	150
Water use, gallons ice only	19-20
Ice weight / cycle	3 lb
Refrigerant charge, oz R-404A	12 AC 9 WC
High press cut out / cut in, PSIG - AC	500 / 390
High press cut out / cut in, PSIG - WC	400 / 300
Fan press control cut out / cut in	190 / 240
Compressor Amps, freeze	5-5.5
Compressor Amps, harvest	5.6-5.9

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	22-23	24	36
70	24	25	37
80	25	26	38
90	26	27	39

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	53-56	36-39	66-62	36-38
Harvest - PSIG	103-105	105-110	115-116	115-120

Superheat: 20

CU2026

Undercounter cuber. Single 6 inch high plate.

Ice production (AC lb /24 hr @ 90/70)	155
Ice production (AC lb /24 hr @ 70/50)	200
Water use, gallons ice only	28
Ice weight / cycle	3 lb
Refrigerant charge, oz R-404A	15 AC 9 WC
High press cut out / cut in, PSIG - AC	500 / 390
High press cut out / cut in, PSIG - WC	400 / 300
Fan pressure control cut out / cut in	190 / 240
Compressor Amps, freeze*	5.4-5.9
Compressor Amps, harvest*	6.1-6.3

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	16-17	18	25
70	17	19	26
80	18	20	27
90	19	21	28

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	61-57	33-34	66-70	35-36
Harvest - PSIG	100-101	100-105	124-125	125-130

* 115 volt model's data shown

Superheat: 16 - 8

CU3030

Undercounter cuber. Single 6 inch high plate.

Ice production (AC lb /24 hr @ 90/70)	210
Ice production (AC lb /24 hr @ 70/50)	250
Water use, gallons ice only	39-40
Ice weight / cycle	3 lb
Refrigerant charge, oz R-404A	12 AC 12 WC
High press cut out / cut in, PSIG - AC	500 / 390
High press cut out / cut in, PSIG - WC	400 / 300
Fan press control cut out / cut in	190 / 240
Compressor Amps, freeze*	6-7.3
Compressor Amps, harvest*	7.2-7.9

Cycle Time (minutes)

	Ambient Air Temp (deg. F)		
Water Temp	70	80	90
50	13	14	19
70	14	15	20
80	16	16	22
90	16	17	25

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	52-48	25-26	51-52	29-30
Harvest - PSIG	81-82	84-85	106-107	100-105

* 115 volt model's data shown

Superheat: 15-8

EH130 with C0600CP

Single Evaporator 600 lb low profile Eclipse. 30 inch wide cabinet. Discontinued 2012.

Ice production (lb /24 hr @ 90/70)	530
Ice production (lb /24 hr @ 70/50)	638
Water use*	98
BTUs per hour*	8000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	232
Compressor amps, freeze	4-3.5
Compressor amps, harvest	4-5

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	10-12	12-13	13-14
	70	11-12	12-14	15
	80	13	13-14	16
	90	14	15-16	17-18

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	32	55	33
Harvest - PSIG	95	100	110	115

EH222 - with C0600CP

Single evaporator Eclipse model. 22 inch wide cabinet. New curtain Oct 2010. C0600CP discontinued 2013. EH222 to C series 2013.

Ice production (lb /24 hr @ 90/70)	595
Ice production (lb /24 hr @ 70/50)	700
Water use*	104
BTUs per hour*	9000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	232
Compressor amps, freeze	4-3.5
Compressor amps, harvest	4-5

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	15-16	18	18-19
	70	16	18-19	20
	80	17-18	18	21
	90	18-19	22-23	23

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	32	55	32
Harvest - PSIG	95	100	100	105

EH222 - with C0800CP

Single evaporator Eclipse model. New curtain Oct 2010. EH222 to C series in 2013, C0800CP discontinued in 2013/

Ice production (lb /24 hr @ 90/70)	728
Ice production (lb /24 hr @ 70/50)	855
Water use*	128
BTUs per hour*	11000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	232
Compressor amps, freeze	7-5.6
Compressor amps, harvest	6

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	12-13	14-15	15
	70	13	15	17
	80	14-15	14-15	18
	90	15-16	17	19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	30	58	30
Harvest - PSIG	100	105	105	110

EH222 - with C1410CP

Single evaporator Eclipse model. New curtain Oct 2010. EH222 to C series in 2013, C1410CP discontinued in 2013.

Ice production (lb /24 hr @ 90/70)	874
Ice production (lb /24 hr @ 70/50)	1035
Water use*	164
BTUs per hour*	13500
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	272
Compressor amps, freeze	9-6
Compressor amps, harvest	7.5-8

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	9	11	11-12
	70	9-10	10	13
	80	11	11-12	14
	90	12	14	15

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	28	55	28
Harvest - PSIG	100	105	105	110

EH222 C - with ECC0800

New in 2013, tubing connections are brazed.

Ice production (lb /24 hr @ 90/70)	728
Ice production (lb /24 hr @ 70/50)	855
Water use*	128
BTUs per hour*	11000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	192
Compressor amps, freeze	7-5.6
Compressor amps, harvest	6-8

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	11-13	14-15	15
	70	13	15	17
	80	14-15	14-15	18
	90	15-16	17	19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	30	58	30
Harvest - PSIG	100	105	105	110

EH222 C - with ECC1410

New in 2013, tubing connections are brazed.

Ice production (lb /24 hr @ 90/70)	874
Ice production (lb /24 hr @ 70/50)	1035
Water use*	164
BTUs per hour*	13500
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	224
Compressor amps, freeze	8-9
Compressor amps, freeze - 3 phase	6.3-5.2
Compressor amps, harvest	7.5-8

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	9	11	11-12
	70	9-10	10	13
	80	11	11-12	14
	90	12	14	15

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	28	55	28
Harvest - PSIG	100	105	105	110

EH330 with C1200CP

Low Profile 1200 lb Eclipse. 30 inch wide cabinet. EH333 to C series in 2013. C1200CP discontinued in 2013.

Ice production (lb /24 hr @ 90/70)	1230
Ice production (lb /24 hr @ 70/50)	1411
Water use*	214
BTUs per hour*	19,000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	272
Compressor amps, freeze*	10 to 14
Compressor amps, harvest*	

* single phase

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	11-12	12-13	14-15
	70	12-13	13	15
	80	14	14-15	16-17
	90	15	16-17	19-20

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	30	55	35

EH330 C with ECC1200

New is 2013, tubing connections are brazed.

Ice production (lb /24 hr @ 90/70)	1230
Ice production (lb /24 hr @ 70/50)	1411
Water use*	214
BTUs per hour*	19,000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	224
Compressor amps, freeze*	10 to 14
Compressor amps, harvest*	

* single phase

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	11-12	12-13	14-15
	70	12-13	13	15
	80	14	14-15	16-17
	90	15	16-17	19-20

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	30	55	35

EH430 - with C1410CP

Two evaporator Eclipse model. 30 inch wide cabinet. EH430 to C series in 2013, C1410CP discontinued in 2013.

Ice production (lb /24 hr @ 90/70)	1180
Ice production (lb /24 hr @ 70/50)	1520
Water use*	218
BTUs per hour*	17000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	272
Compressor amps, freeze*	9-8
Compressor amps, harvest*	8

* single phase

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	12	12-13	15
	70	12-13	13	15-16
	80	14	14-15	17
	90	15	16-17	19-20

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	37	55	38
Harvest - PSIG	105	110	120	120

EH430 - with C1800CP

Two evaporator Eclipse model. EH430 to C series in 2013, C1800CP discontinued in 2013.

Ice production (lb /24 hr @ 90/70)	1670
Ice production (lb /24 hr @ 70/50)	1755
Water use*	294
BTUs per hour*	23500
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	232
Compressor amps, freeze*	12-15
Compressor amps, harvest*	15

* single phase

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	12	13-14	13-14
	70	12-13	13-14	15-16
	80	13-14	15	16-17
	90	14-16	17-18	18-19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	30	50	30
Harvest - PSIG	105	110	120	120

EH430 C - with ECC1410

New in 2013, tubing connections are brazed.

Ice production (lb /24 hr @ 90/70)	1180
Ice production (lb /24 hr @ 70/50)	1520
Water use*	218
BTUs per hour*	17000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	272
Compressor amps, freeze*	9-8
Compressor amps, harvest*	8

* single phase

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	12	12-13	15
	70	12-13	13	15-16
	80	14	14-15	17
	90	15	16-17	19-20

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	55	37	55	38
Harvest - PSIG	105	110	120	120

EH430 C with ECC1800

New in 2013, tubing connections are brazed.

Ice production (lb /24 hr @ 90/70)	1670
Ice production (lb /24 hr @ 70/50)	1755
Water use*	294
BTUs per hour*	23500
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	288
Compressor amps, freeze*	12-15
Compressor amps, harvest*	15

* single phase

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	12	13-14	13-14
	70	12-13	13-14	15-16
	80	13-14	15	16-17
	90	14-16	17-18	18-19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	30	50	30
Harvest - PSIG	105	110	120	120

EH430 - with C2000CP

Two evaporator Eclipse model. EH430 to C series in 2013, C2000CP discontinued.

Ice production (lb 24/hr @ 90/70)	1765
Ice production (lb /24 hr @ 70/50)	1884
Water use*	307
BTUs per hour*	27000
High pressure cut out, opens / closes in PSIG	450 / 350
Headmaster setting, PSIG	217
Refrigerant charge, oz, R-404A	288
Compressor amps, freeze*	14-15
Compressor amps, harvest*	18-20

* single phase

Remote Cooled		Ambient Air Temp (deg. F)		
	Water Temp	70	90	100
Cycle Time (minutes)	50	11	12	12-13
	70	12	12-13	14-15
	80	13	14-15	15-16
	90	14	16	18-19

Low Side Pressures

	70/50		90/70	
	Beg	End	Beg	End
Freeze - PSIG	50	22-30	50	25-35
Harvest - PSIG	105	110	120	120

F0522 - Air cooled

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	450
Ice production 90/70 (lb)	320
24 hour water use (gallons)	38-39
BTUH (AC load)	5000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	14
Suction Pressure (PSIG)	37 - 39 @ 70/50
	45 - 46 @ 90/70
Discharge Pressure (PSIG)	235 - 245 @ 70/50
	255 - 265 @ 90/70
Superheat (Degrees F.)	11 - 15
Metering device Internally equalized	TXV
Compressor amps	5.9 - 6.1
Auger drive motor amps	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F0522 - Water cooled

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	530
Ice production 90/70 (lb)	420
24 hour water use, ice only (gallons)	50-51
Condenser water use (gallons)	344
Condenser GPM	.24
Condenser GPM @ 50°F. water	.14
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	11
Suction Pressure (PSIG)	38 - 40
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	10 - 14
Metering device Internally equalized	TXV
Compressor amps	5.9 - 6.1
Auger drive motor amps	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F0822 - Air cooled

Prodigy Flake Ice Machine. B series (new compressor) mid 2011.

Ice production 70/50 (lb)	800
Ice production 90/70 (lb)	580
24 hour water use (gallons)	70
BTUH (AC load)	7100
Refrigerant Type	R-404A
Refrigerant Charge (oz)	14
Suction Pressure (PSIG)	37 - 39 @ 70/50
	34 - 39 @ 90/70
Discharge Pressure (PSIG)	235-245 @ 70/50
	285-295 @ 90/70
Superheat (Degrees F.)	7 - 12
Metering device Internally equalized	TXV
Compressor amps (@ 115 v)	5.9-6.1
Auger drive motor amps @ 115 volts	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F0822 - Water cooled

Prodigy Flake Ice Machine. B series (new compressor) mid 2011.

Ice production 70/50 (lb)	775
Ice production 90/70 (lb)	620
24 hour water use, ice only (gallons)	75
Condenser water use (gallons)	508
Condenser GPM	.35
Condenser GPM @ 50oF. water	.21
BTUH (AC load)	not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	11
Suction Pressure (PSIG)	29 - 34
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	9 - 12
Metering device	Internally equalized TXV
Compressor amps @ 115 v	5.9 - 6.1
Auger drive motor amps @ 115 volts	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F0822 - Remote air cooled

Prodigy Flake Ice Machine. B series (new compressor) mid 2011.

Ice production 70/50 (lb)	760
Ice production 90/70 (lb)	610
24 hour water use (gallons)	73-74
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	192
Suction Pressure (PSIG)	35 - 37 @ 70/50 36 - 38
Discharge Pressure (PSIG)	240 - 250 @ 70/50
	250 - 260
Superheat (Degrees F.)	8 - 12
Metering device	Internally equalized TXV
Compressor amps @ 115 v	5.9 - 6.1
Auger drive motor amps @ 115 volts	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

Uses ERC111 condenser with 217 PSIG headmaster.

F0822L - Remote low side

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	865
Ice production 90/70 (lb)	640
24 hour water use (gallons)	77
BTUH Capacity Requirement	4000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	Field charged or rack connected. See condensing unit for charge amount.
EPR setting (PSIG)	30
Suction Pressure (PSIG)	30
Superheat (Degrees F.)	10-12
Metering device	Internally equalized TXV
Auger drive motor amps	3.4 - 4

F1222 - Air cooled

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	1100
Ice production 90/70 (lb)	825
24 hour water use (gallons)	99
BTUH (AC load)	10500
Refrigerant Type	R-404A
Refrigerant Charge (oz)	18 (single phase)
	20 (three phase)
Suction Pressure (PSIG)	22 - 25 @ 70/50
	32 - 34 @ 90/70
Discharge Pressure (PSIG)	205 - 215 @ 70/50
	285 - 295 @ 90/70
Superheat (Degrees F.)	11 - 13
Metering device	Internally equalized TXV
Compressor amps - single phase	4.7 - 5.1
Compressor amps - three phase	3.9 - 4.1
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F1222 - Water cooled

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	1240
Ice production 90/70 (lb)	1040
24 hour water use, ice only (gallons)	125
Condenser water use (gallons)	1103
Condenser GPM	.76
Condenser GPM @ 50oF. water	.68
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	20 (single phase)
	22 (three phase)
Suction Pressure (PSIG)	22 - 33
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	9 - 11
Metering device	Internally equalized TXV
Compressor amps, single phase	4.7 - 5.1
Compressor amps, three phase	3.9 - 4.1
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F1222 - Remote air cooled

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	1250
Ice production 90/70 (lb)	1000
24 hour water use (gallons)	120
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	192
Suction Pressure (PSIG)	28 - 30 @ 70/50
	31 - 32 @ 90/70
Discharge Pressure (PSIG)	240 - 250 @ 70/50
	245 - 255 @ 90/70
Superheat (Degrees F.)	10 - 12
Metering device	Internally equalized TXV
Compressor amps - single phase	4.7 - 5.1
Compressor amps - three phase	3.9 - 4.1
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

Uses ERC311 condenser with 217 PSIG headmaster.

F1222L - Remote low side

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	1180
Ice production 90/70 (lb)	1000
24 hour water use (gallons)	120
BTUH Capacity Requirement	5000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	Field charged or rack connected. See condensing unit for charge amount.
EPR Setting	30
Suction Pressure (PSIG)	30
Superheat (Degrees F.)	10-12
Metering device	Internally equalized TXV
Auger drive motor amps	3.4 - 4

F1522 - Air cooled

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	1570
Ice production 90/70 (lb)	1100
24 hour water use (gallons)	132
BTUH (AC load)	16000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	34
Suction Pressure (PSIG)	22 - 25 @ 70/50
	28 - 32
Discharge Pressure (PSIG)	205 - 215 @ 70/50
	295 - 305
Superheat (Degrees F.)	9 - 13
Metering device	Internally equalized TXV
Compressor amps	6.9 - 7.2
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F1522 - Water cooled

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	1525
Ice production 90/70 (lb)	1220
24 hour water use, ice only (gallons)	146-147
Condenser water use (gallons)	854
Condenser GPM	.59
Condenser GPM @ 50oF. water	.32
BTUH (AC load)	not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	18
Suction Pressure (PSIG)	25 - 28
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	9 - 13
Metering device	Internally equalized TXV
Compressor amps	6.9 - 7.2
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

F1522L - Remote low side

Prodigy Flake Ice Machine

Ice production 70/50 (lb)	1455
Ice production 90/70 (lb)	1205
24 hour water use (gallons)	144-145
BTUH Capacity Requirement	7200
Refrigerant Type	R-404A
Refrigerant Charge (oz)	Field charged or rack connected. See condensing unit for charge amount.
EPR Setting (PSIG)	26
Suction Pressure (PSIG)	26
Superheat (Degrees F.)	8-12
Metering device	Internally equalized TXV
Auger drive motor amps	3.4 - 4

HID312 - Air cooled

Meridian Ice Maker Dispenser

Ice production 70/50 (lb)	260
Ice production 90/70 (lb)	225
Storage Capacity (lb)	12
24 hour water use (gallons)	29
BTUs (per hour)	3,200
Refrigerant Type	R-134A
Refrigerant Charge (oz)	11
Suction Pressure (PSIG)	6-8
Superheat (Degrees F.)	7-10
Metering device	Internally equalized TXV
Auger drive motor amps	1.1 - 1.3
Compressor amps	4.1 - 4.3

HID525 - Air cooled

Meridian Ice Maker Dispenser

Ice production 70/50 (lb)	500
Ice production 90/70 (lb)	365
Storage Capacity (lb)	25
24 hour water use (gallons)	52
BTUs (per hour)	6,800
Refrigerant Type	R404A
Refrigerant Charge (oz)	12
Suction Pressure (PSIG)	30 - 34
Superheat (Degrees F.)	11 - 15
Metering device	Internally equalized TXV
Auger drive motor amps	1.1 - 1.5
Compressor amps	5.7 - 5.9

HID525 - Water cooled

Meridian Ice Maker Dispenser

Ice production 70/50 (lb)	500
Ice production 90/70 (lb)	365
Storage Capacity (lb)	25
24 hour water use (gallons)	52
BTUs (per hour)	6,800
Refrigerant Type	R404A
Refrigerant Charge (oz)	11
Suction Pressure (PSIG)	30 - 34
Superheat (Degrees F.)	11 - 15
Metering device	Internally equalized TXV
Auger drive motor amps	1.1 - 1.5
Compressor amps	5.7 - 5.9

HID540 - Air cooled

Meridian Ice Maker Dispenser

Ice production 70/50 (lb)	500
Ice production 90/70 (lb)	365
Storage Capacity (lb)	40
24 hour water use (gallons)	52
BTUs (per hour)	6,800
Refrigerant Type	R404A
Refrigerant Charge (oz)	12
Suction Pressure (PSIG)	
Superheat (Degrees F.)	
Metering device	Internally equalized TXV
Auger drive motor amps	
Compressor amps	

HID540 - Water cooled

Meridian Ice Maker Dispenser

Ice production 70/50 (lb)	500
Ice production 90/70 (lb)	365
Storage Capacity (lb)	40
24 hour water use (gallons)	52
BTUs (per hour)	6,800
Refrigerant Type	R404A
Refrigerant Charge (oz)	11
Suction Pressure (PSIG)	
Superheat (Degrees F.)	
Metering device	Internally equalized TXV
Auger drive motor amps	
Compressor amps	

N0422 - Air cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	420
Ice production 90/70 (lb)	310
24 hour water use (gallons)	37-38
BTUH (AC load)	5000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	14
Suction Pressure (PSIG)	37 - 39 @ 70/50
	45 - 46 @ 90/70
Discharge Pressure (PSIG)	235 - 245 @ 70/50
	255 - 265
Superheat (Degrees F.)	11 - 15
Metering device	Internally equalized TXV
Compressor amps	5.9 - 6.1
Auger drive motor amps	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N0422 - Water cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	455
Ice production 90/70 (lb)	360
24 hour water use, ice only (gallons)	43-44
Condenser water use (gallons)	317
Condenser GPM	.22
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	11
Suction Pressure (PSIG)	38 - 42
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	12 - 14
Metering device	Internally equalized TXV
Compressor amps	5.9 - 6.1
Auger drive motor amps	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N0622 - Air cooled

Prodigy Nugget Ice Machine. B series (new compressor) mid 2011.

Ice production 70/50 (lb)	643
Ice production 90/70 (lb)	500
24 hour water use (gallons)	60
BTUH (AC load)	7100
Refrigerant Type	R-404A
Refrigerant Charge (oz)	14
Suction Pressure (PSIG)	37 - 39 @ 70/50
Discharge Pressure (PSIG)	235 - 245 @ 90/70
Suction Pressure (PSIG)	34 - 40 @ 70/50
Discharge Pressure (PSIG)	275 - 285 @ 90/70
Superheat (Degrees F.)	9 - 12
Metering device	Internally equalized TXV
Compressor amps	5.9 - 6.1
Auger drive motor amps	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N0622 - Water cooled

Prodigy Nugget Ice Machine. B series (new compressor) mid 2011.

Ice production 70/50 (lb)	715
Ice production 90/70 (lb)	570
24 hour water use, ice only (gallons)	68-69
Condenser water use (gallons)	581
Condenser GPM	.4
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	11
Suction Pressure (PSIG)	29 - 32
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	10 - 12
Metering device	Internally equalized TXV
Compressor amps	5.9 - 6.1
Auger drive motor amps	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N0622 - Remote air cooled

Prodigy Nugget Ice Machine. B series (new compressor) mid 2011.

Ice production 70/50 (lb)	660
Ice production 90/70 (lb)	530
24 hour water use (gallons)	63-64
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	192
Suction Pressure (PSIG)	35 - 37 @ 70/50
	36 - 38 @ 90/70
Discharge Pressure (PSIG)	240 - 250 @ 70/50
	250 - 260 @ 90/70
Superheat (Degrees F.)	8-12
Metering device	Internally equalized TXV
Compressor amps	5.9 - 6.1
Auger drive motor amps	3.4 - 4
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

Uses ERC111 condenser with 217 PSIG headmaster.

N0622L - Remote low side

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	800
Ice production 90/70 (lb)	585
24 hour water use (gallons)	70
BTUH Capacity Requirement	4000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	Field charged or rack connected. See condensing unit for charge amount.
EPR Setting (PSIG)	30
Suction Pressure (PSIG)	30
Superheat (Degrees F.)	10-12
Metering device	Internally equalized TXV
Auger drive motor amps	3.4 - 4

N0922 - Air cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	956
Ice production 90/70 (lb)	765
24 hour water use (gallons)	92
BTUH (AC load)	10500
Refrigerant Type	R-404A
Refrigerant Charge (oz)	18 (single phase)
	20 (three phase)
Suction Pressure (PSIG)	22 - 25 @ 70/50
	31 - 32 @ 90/70
Discharge Pressure (PSIG)	205 - 215 @ 70/50
	280 - 290 @ 90/70
Superheat (Degrees F.)	9 - 12
Metering device	Internally equalized TXV
Compressor amps - single phase	4.7 - 5.1
Compressor amps - three phase	6.9 - 4.1
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N0922 - Water cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	1094
Ice production 90/70 (lb)	875
24 hour water use, ice only (gallons)	105
Condenser water use, (gallons)	1094
Condenser GPM .	76
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	20 (single phase)
	22 (three phase)
Suction Pressure (PSIG)	22 - 33
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	9 - 11
Metering device	Internally equalized TXV
Compressor amps, single phase	4.7 - 5.1
Compressor amps, three phase	3.9 - 4.1
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N0922 - Remote air cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	1044
Ice production 90/70 (lb)	835
24 hour water use (gallons)	100
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	192
Suction Pressure (PSIG)	28 - 30 @ 70/50
	31 - 32 @ 90/70
Discharge Pressure (PSIG)	240 - 250 @ 70/50
	245 - 255 @ 90/70
Superheat (Degrees F.)	10-12
Metering device	Internally equalized TXV
Compressor amps, single phase	4.7 - 5.1
Compressor amps, 3 phase	3.9 - 4.1
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG) 4	50
High pressure cut in (PSIG)	350

Uses ERC311 condenser with 217 PSIG headmaster.

N0922L - Remote low side

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	1090
Ice production 90/70 (lb)	915
24 hour water use (gallons)	110
BTUH Capacity Requirement	5000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	Field charged or rack connected. See condensing unit for charge amount.
EPR Setting (PSIG)	30
Suction Pressure (PSIG)	30
Superheat (Degrees F.)	10-12
Metering device	Internally equalized TXV
Auger drive motor amps	3.4 - 4

N1322 - Air cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	1180
Ice production 90/70 (lb)	950
24 hour water use (gallons)	114
BTUH (AC load)	16000
Refrigerant Type	R-404A
Refrigerant Charge (oz)	34
Suction Pressure (PSIG)	22 - 25 @ 70/50
	30 - 32 @ 90/70
Discharge Pressure (PSIG)	205 - 215 @ 70/50
	295 - 305 @ 90/70
Superheat (Degrees F.)	8 - 12
Metering device	Internally equalized TXV
Compressor amps	6.9 - 7.2
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N1322 - Water cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	1354
Ice production 90/70 (lb)	1050
24 hour water use, ice only (gallons)	126
Condenser water use (gallons)	850.5
Condenser GPM	.59
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	18
Suction Pressure (PSIG)	25 - 28
Discharge Pressure (PSIG)	240 - 250
Superheat (Degrees F.)	9 - 13
Metering device	Internally equalized TXV
Compressor amps	6.9 - 7.2
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

N1322 - Remote air cooled

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	1329
Ice production 90/70 (lb)	1030
24 hour water use (gallons)	123
BTUH (AC load)	Not significant
Refrigerant Type	R-404A
Refrigerant Charge (oz)	192
Suction Pressure (PSIG)	28-30
Discharge Pressure (PSIG)	235-250
Superheat (Degrees F.)	12
Metering device	Internally equalized TXV
Compressor amps	6.9 - 7.2
Auger drive motor amps	1.1 - 2
Low pressure cut out (PSIG)	15
Low pressure cut in (PSIG)	30
High pressure cut out (PSIG)	450
High pressure cut in (PSIG)	350

Uses ERC311 condenser with 217 PSIG headmaster.

N1322L - Remote low side

Prodigy Nugget Ice Machine

Ice production 70/50 (lb)	1330
Ice production 90/70 (lb)	1100
24 hour water use (gallons)	132
BTUH Capacity Requirement	7200
Refrigerant Type	R-404A
Refrigerant Charge (oz)	Field charged or rack connected. See condensing unit for charge amount.
EPR Setting (PSIG)	26
Suction Pressure (PSIG)	26
Superheat (Degrees F.)	10-12
Metering device	Internally equalized TXV
Auger drive motor amps	3.4 - 4

NU130

Self contained nugget ice machine, introduced September 2011. Discontinued 2012.

Ice production 90/70 (lb)	59
24 hour water use (gallons)	7-8
BTUH Capacity Requirement	1390
Refrigerant Type	R-134a
Refrigerant Charge (oz)	4.5
Suction Pressure (PSIG)	8-10
Compressor amps	2.8-3.1
Metering device	Cap tube
Auger drive motor amps	.4 to .5

Superheat

In a mechanical refrigeration system, superheat is the amount the evaporator outlet's temperature is warmer than the temperature equivalent of the refrigerant's pressure in the evaporator. Too much superheat is a symptom of low charge or a TXV starving the evaporator, and likely overheating the compressor. Too little is a symptom of a TXV flooding through and overcooling the compressor.

Testing has shown that superheat is usually not a constant number. It changes both during the freeze cycle of a cuber and as the thermostatic expansion valve modulates or hunts. An accurate measurement of superheat requires several sample measurements of TXV bulb temperature and suction pressure.

The recommended frequency of measuring is every 15 seconds. Start 5 minutes into a freeze cycle.

Set up a table like this to record the information.

Freeze Cycle Time	15 sec	30 sec	45 sec	60 sec	Average
1. TXV bulb temp					n/a
2. Suction Pressure					n/a
3. Suction pressure converted to temperature					n/a
Superheat (1-3)					

Record data in rows 1 and 2. Convert row 2 to temperature and record it in row 3. Subtract row 3 from row 1 and enter the data in the superheat row. Calculate the average superheat.

This example is only for one minute's operation. Five minute's operation will give a more accurate reading.

Note: Thermometer attachment and insulation is critical in obtaining accurate readings.

Electrical Suffix Code

CODE	VOLTAGE	Hertz	PHASE
-1	115	60	1
-2	230	60	1
-3	208-230*	60	3
-4	115/230**	60	1
-6	230	50	1
-7	208	60	1
-9	115/208-230**	60	3
-10	115/208**	60	1
-31	115/208-230**	60	1
-32	208-230*	60	1
-63	230/380-420/50/3	50	3

*Two voltages separated by a hyphen (-) means that the machine can operate between the two voltages.

**Two voltages separated by a slash (/) means that both voltages are required to operate the machine. Usually requires a neutral wire.

Prodigy Cuber Cleaning Tips

Controller Cleaning Mode, two phases.

The first phase starts with a push of the clean button. The reservoir is drained and refilled. Scale remover is added after the draining is complete.

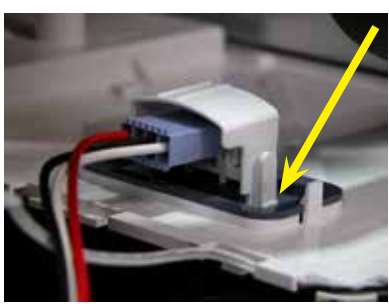
The second phase is after the scale remover or sanitizer has circulated, a second push of the clean button starts that phase.

Both phases are required to reset the cleaning reminder light.

Both phases continue until a button is pushed to stop or move to the next phase.

Note: In the first phase, water will NOT refill the reservoir if the water level sensor does not indicate Sump Empty. This can be caused by a unit that is slightly off level. The controller allows 2 minutes from the first push of the Clean button to achieve Sump Empty. If it does not get that signal in 2 minutes it will not refill the reservoir.

Tip: Unsnap and lift the water sensor up slightly (1/8”) so it rests on the sump cover to allow the probe tip to sense Sump Empty.



Prodigy Model Identification:

General Example: C0530SA-1C

C	05	30	S	A	-1	C
Type	Capacity	Cab.	Cube	Cond	Elec	Series
	100s of lb	Width	Size	Type	Code	

Type:

- C = modular cuber, CU = under counter cuber, F = flake, N= nugget, EH = Eclipse Head

Capacity:*

- 05 means 500 lb model

Cabinet Width

- 30 is 30 inches wide, others are 22 and 48

Cube Size - not used on flaked or nugget models

- S = small or half dice
- M = medium or full dice

Cond Type:

- A means air cooled
- W means water cooled
- R means remote air cooled
- L means remote low side

Electrical:

- -1 means 115 volt, see prior page for more info.

Series:

- and C means 2nd design series.

*Capacity Exceptions: EH models are Eclipse Heads, EH222 is 22" wide; EH130, EH330 and EH430 are 30" wide.

Date Code

Scotsman's production date code is located in the serial number.

2 digit Year, 2 digit Month, mfg site ID, six numbers

Example: 0 9 0 6 1 3 2 0 9 9 8 8 7 7

0906 = Manufactured June, 2009

Hot Gas Valves

Design

Hot gas valves are selected by flow rate, coil voltage and tubing size for each refrigeration system. Flow rates that are too small will extend the harvest cycle, while flow rates that are too large may cause excessive refrigerant flow to the compressor. When replacing a complete valve do NOT

use anything other than the OEM valve specified for the model in question. Rebuild kits are available for those valves without seat damage.

Diagnosis

Most hot gas valves are pilot type valves: Activation lifts a plunger that relieves pressure above the main valve disk allowing the main valve disk to lift up, allowing full flow of gas.

Valves can fail in three ways:

1. Do not open.

2. Leak through when closed (freeze cycle).

3. Do not open fully.

Do not open: When a valve does not open in the harvest cycle the power to the valve coil should be the first thing to check. If the proper voltage is present, check the coil for continuity.

Leaks through when closed: This can be caused by contamination on the seat of the valve. The degree of leak through can vary greatly. A good valve will have some temperature differential between its inlet and outlet during freeze and frost will gradually build up on the tubing leading from the evaporator inlet to the gas valve.

A leaking valve will cause the body of the valve to stay hot during the freeze cycle.

Does not open fully: This can be caused by a stuck disk in the valve. The coil pulls up the plunger and the valve opens, but ice release is slow. Another symptom of this is very low suction pressure during harvest and lack of heat at the evaporator inlet.

Kits

Water Valve Repair Kit (no coil or frame)

Blue body valves: 12-2912-01

Water regulating valves: 11-0559-01 (3/8" only)

Hot Gas Valve Kits (Alco only)

Model	Voltage	Valve Complete	Coil Part Number
C0322, C0522, C0330, C0530	115	11-0493-22	12-2719-21
C0322, C0522, C0330, C0530, C0630, C0830, C1030, C1448, C1848, C2148	230	11-0493-21	12-2719-22

Rebuild kit for all the above: 12-2733-30.

Cuber Capacity Check

1. Check cube size - is it correct?

 • Prodigy: Harvests as a sheet - 1/8 to 3/16" bridge.

2. Check ice formation pattern - is it even?

 • Must make ice over all freezing surfaces - nearly evenly.

3. Measure water temperature to ice machine.

4. Measure air temperature

 • Air cooled check air temp into the coil
 • Water cooled check ambient air

5. Operate the machine for 2 cycles and then measure the total cycle time (freeze + harvest). Compare to the cycle time in the manual or this book for the air and water temperatures the ice machine is operating in.

 • 90/70 = 90°F. air temp and 70°F. water temp.
 • 70/50 = 70°F. air temp and 50°F. water temp.

— Temperatures above will cause longer cycles

— Temperatures below will cause shorter cycles

— Temperatures in between will result in cycle times between 90/70 and 70/50 times.

6. If total cycle time is within a minute or two of what is listed in the machines's service manual for the temperatures the unit is in, the capacity is normal.

Note: Harvest times set for winter operation (for those units with adjustable harvest times) will extend the total cycle beyond normal.

Flake or Nugget Field Capacity Check

These models are continuous flow machines, and make ice at a steady rate once stabilized. A capacity check confirms the machines efficiency and is also a good measure of ice quality.

Note: Capacity ratings are for new, clean machines in exactly the listed conditions. Scale will reduce capacity.

1. Remove the lower chute.

2. Operate the machine for 10 minutes to stabilize it.

3. Catch the ice for exactly 15 minutes, shut the machine off.

4. Weigh the ice together with any meltage in the container; do not drain the water before weighing. Use an accurate scale (like a refrigerant drum scale), as small errors will by multiplied in the formula and cause an improper conclusion.

5. Calculate capacity: multiply measured weight by 96 (number of 15 minute segments in 24 hours).

6. Compare to rated capacity at the closest to local conditions. Models are rated at two conditions, 70/50 and 90/70. Ice machines make less ice as the load and ambient increase.

7. Reassemble machine and switch to ice making.

Example:

A model's rated 90/70 capacity is 1110. The measured weight was 11.5. 11.5 x 96 = 1104. The ambient was 88 and the water temperature 76. This machine is making the appropriate amount of ice.

Judging results: Field machines are almost never at the exact conditions they are rated at, so a direct match is unlikely. Low capacity units will test significantly low (>10%) and normal units will not.

Refrigerant Temperature-Pressure Chart

Deg. F	R404A	R134a
TEMP	PSIG	PSIG
-15	20.5	0.1
-10	24.5	2.0
-5	28.8	4.1
0	33.5	6.5
5	38.6	9.1
10	44.0	11.9
15	49.9	15.1
20	56.2	18.4
25	63.0	22.1
30	70.3	26.1
35	78.1	30.4
40	86.4	35.1
45	95.2	40.0
50	104.7	45.4
55	114.7	51.2
60	125.3	57.4
65	136.6	64.0
70	148.6	71.1
75	161.2	78.6
80	174.6	86.7
85	188.8	95.1
90	203.7	104.2
95	219.4	113.8
100	235.9	124.1
105	253.4	134.9
110	271.7	146.3
115	290.9	158.4
120	311.1	171.1
125	332.3	184.5
130	354.5	198.7
135	377.8	213.6
140	402.2	229.3
145	427.7	245.7
150	454.4	263.0

Thermistor Values

Temp (F⁰)	Resistance (ohms)	Temp (F⁰)	Resistance (ohms)	Temp (F⁰)	Resistance (ohms)
0	85325	47	21569	94	6683
1	82661	48	20997	95	6530
2	80090	49	20442	96	6382
3	77607	50	19903	97	6238
4	75210	51	19381	98	6097
5	72896	52	18873	99	5960
6	70660	S3	18381	100	5826
7	68501	54	17903	101	5696
8	66415	55	17439	102	5569
9	64400	56	16988	103	5446
10	62453	57	16551	104	5325
11	60571	58	16126	105	5208
12	58752	59	15714	106	5093
13	56995	60	15313	107	4981
14	55296	61	14924	108	4872
15	53653	62	14546	109	4766
16	52065	63	14179	110	4663
17	50529	64	13823	111	4562
18	49043	65	13476	112	4463
19	47607	66	13139	113	4367
20	46217	67	12812	114	4273
21	44872	68	12494	115	4182
22	43571	69	12185	116	4093
23	42313	70	11884	117	4006
24	41094	71	11592	118	3921
25	39915	72	11308	119	3838
26	38774	73	11031	120	3757
27	37669	74	10763	121	3678
28	36600	75	10502	122	3601
29	35564	76	10247	123	3526
30	34561	77	10000	124	3452
31	33590	78	9760	125	3381
32	**32649**	79	9526	126	3311
33	31738	80	9299	127	3243
34	30855	81	9077	128	3176
35	30000	82	8862	129	3111
36	29171	83	8652	130	3047
37	28368	84	8448	131	2985
38	27589	85	8250	132	2924
39	26835	86	8056	133	2865
40	26104	87	7868	134	2807
41	25395	88	7685	135	2751
42	24707	89	7507	136	2696
43	24041	90	7333	137	2642
44	23394	91	7164	138	2589
45	22767	92	6999	139	2537
46	22159	93	6839	140	2487

Thermistor Values

Temp (F⁰)	Resistance (ohms)	Temp (F⁰)	Resistance (ohms)	Temp (F⁰)	Resistance (ohms)
141	2438	188	1016	235	472
142	2390	189	998	236	465
143	2343	190	981	237	458
144	2297	191	965	238	451
145	2252	192	948	239	444
146	2208	193	932	240	438
147	2165	194	916	241	431
148	2123	195	901	242	425
149	2082	196	885	243	419
150	2042	197	871	244	412
151	2003	198	856	245	406
152	1965	199	842	246	400
153	1927	200	828	247	394
154	1890	201	814	246	389
155	1855	202	800	249	383
156	1819	203	787	250	377
157	1785	204	774		
158	1752	205	761		
159	1719	206	749		
160	1687	207	737		
161	1655	208	724		
162	1624	209	713		
163	1594	210	701		
164	1565	211	690		
165	1536	212	679		
166	1508	213	668		
167	1480	214	657		
168	1453	215	646		
169	1427	216	636		
170	1401	217	626		
171	1375	218	616		
172	1350	219	606		
173	1326	220	597		
174	1302	221	587		
175	1279	222	578		
176	1256	223	569		
177	1234	224	560		
178	1212	225	551		
179	1190	226	543		
180	1169	227	534		
181	1149	228	526		
182	1129	229	518		
183	1109	230	510		
184	1090	231	502		
185	1071	232	495		
186	1052	233	487		
187	1034	234	480		

Compressor Potential Relays

The part number prefix for a Scotsman compressor start relay is 18-1903, the ending numbers identify the individual part's configuration.

Part Number	Pick-Up Volts	Drop Out Volts	Continuous Voltage Rating	Hz
18-1903-04	150-160	20-55	130	60
18-1903-18	340-360	55-125	336	60
18-1903-21	320-340	60-140	395	60
18-1903-22	300-320	60-133	336	50
18-1903-26	320-340	75-160	420	60
18-1903-28	260-280	75-150	420	60
18-1903-29	240-260	60-140	395	60
18-1903-30	280-300	60-140	336	50
18-1903-31	170-180	45-90	256	60
18-1903-33	190-200	55-115	332	60
18-1903-34	300-320	75-160	420	60
18-1903-35	190-200	60-124	336	50
18-1903-40	170-180	40-90	336	60
18-1903-44	150-160	45-90	256	60
18-1903-46	190-200	60-130	395	60
18-1903-47	300-320	60-140	395	60
18-1903-50	210-230	75-150	420	60
18-1903-52	170-180	55-115	332	60
18-1903-53	160-170	35-77	228	50
18-1903-54	240-260	60-140	395	60
18-1903-55	160-170	40-90	332	60
18-1903-56	240-260	60-121	337	50
18-1903-57	190-200	55-115	332	60
18-1903-58	210-230	30-150	420	60
18-1903-59	190-200	60-121	375	60
18-1903-62	260-280	60-120	420	60
18-1903-65	150-160	35-77	253	
18-1903-66	170-180	35-77	228	50
18-1903-67	260-280	40-105	332	60
18-1903-68	170-180	40-90	332	60
18-1903-69	130-140	35-77	228	50
18-1903-70	280-300	50-110	338	50
18-1903-71	190-200	40-105	338	50
18-1903-72	190-200	40-90	332	60

Start Capacitors

The part number prefix for a Scotsman start capacitor is 18-1901, the ending numbers identify the individual part's configuration.

Part Number	MFD	VAC
18-1901-03	124-149	220
18-1901-04	324-389	110
18-1901-09	161-193	220
18-1901-12	540-648	110
18-1901-15	145-174	220
18-1901-20	108-130	330
18-1901-23	130-156	330
18-1901-27	189-227	330
18-1901-33	189-227	220
18-1901-40	88-109	250
18-1901-41	378-455	135
18-1901-42	270-324	160
18-1901-43	61-72	250
18-1901-45	88-106	330
18-1901-47	282-340	110
18-1901-48	145-174	250
18-1901-49	243-292	110
18-1901-50	145-174	250
18-1901-51	108-130	250
18-1901-52	130-156	250
18-1901-53	88-106	220
18-1901-54	108-130	220
18-1901-55	72-88	250
18-1901-56	72-88	330
18-1901-57	64-77	330
18-1901-58	270-324	330
18-1901-59	145-174	330
18-1901-60	288-352	125
18-1901-61	113-138	220
18-1901-62	145-175	165
18-1901-63	161-193	165
18-1901-64	21-25	330
18-1901-65	243-292	165
18-1901-66	88-106	330

Run Capacitors

The part number prefix for a Scotsman run capacitor is 18-1902, the ending numbers identify the individual part's configuration.

Part Number	MFD	VAC
18-1902-17	10	370
18-1902-27	40	440
18-1902-28	30	440
18-1902-29	20	370
18-1902-30	15	440
18-1902-45	25	370
18-1902-51	35	370
18-1902-52	15	370
18-1902-53	30	370
18-1902-55	35	370
18-1902-56	40	370
18-1902-57	45	370
18-1902-58	50	440
18-1902-59	60	370
18-1902-62	80	370
18-1902-63	30	440
18-1902-64	35	440
18-1902-65	17.5	440
18-1902-66	10	220
18-1902-67	25	440
18-1902-68	15	370
18-1902-69	30	370
18-1902-70	35	370
18-1902-71	40	370

Warranty Summary

Scotsman's commercial warranty varies by product type, country, and model prefix or model number.

- Prodigy cubers, Essential cubers, plus CU0515, CU1526, CU2026, CU3030); slope front ice storage bins (B222, B322, B330, B530, B842, B948); and HD22 or HD30 dispensers have 3 years labor, 3 years parts, plus Prodigy cuber evaporators are covered for 5 years parts and labor and their condensers and compressors have 5 years parts.
- CU50 has 1 year parts and labor, 5 years parts on the compressor.
- ICS, BH1100, BH1300, BH1600 bins have 5 years parts and labor.
- ID dispensers have 1 year labor and 2 years parts.
- Prodigy Flakers, N0422, N0622, N0922, N1322, F0522, F0822, F1222, F1522, plus NME1854, FME2404 have three years parts, three years labor and 5 years on the compressor (parts).
- All other ice making products have two years parts, two years labor and 5 years on the compressor (parts).

See warranty statements for specific information.

Prodigy Pressure Switches

	Cut In (PSIG)	Cut Out (PSIG)
Fan Pressure Control, 22" and 30"	240	190
Fan Pressure Control, 48"	280	220
Cuber High Pressure Cut Out AC	390	500
Cuber High Pressure Cut Out WC	300	400
Cuber High Pressure Cut Out, Remote	350	450
Flaker low pressure cut out	30	15
Flaker high pressure cut out	350	450
Flaker pump down pressure switch	30	15

Critical Maintenance - Spillway

The freeze cycle on a Prodigy cuber is controlled by an ice thickness sensor positioned in front of the ice making surface. It is triggered by water contact. Normally water only contacts the sensor when the ice is at the proper size. However, irregular water flow can cause premature contact resulting in a short freeze cycle, small bridge, long harvest and even a shut down on short freeze (code 8).

The primary procedure for correcting poor water flow is to scrub the spillway surface.

1. Shut machine off.
2. Remove right side panel liner and panel.
3. Disconnect ice thickness sensor from its bracket and move out of the way.
4. Scrub 4 to 6 strokes across the normal flow of water. Use of a clean nylon scrub pad is recommended.
5. Reassemble all components and retest operation.

Other short freeze causes include:

• Mis-adjustment or Dirty ice thickness sensor.

• Broken, bent, or dismounted ice thickness sensor.

• Sagging water distributor mounting bracket. See Service Bulletin PS-9-2012.

Critical Maintenance - Ice Thickness Sensor

The freeze cycle on a Prodigy cuber is controlled by an ice thickness sensor positioned in front of the ice making surface. It is triggered by water contact. Water contacts the sensor when the ice is at the proper size. During use the Ice Thickness Sensor will become coated with mineral scale from the water, which if left untreated can cause changes in bridge thickness. To correct, the Ice Thickness Sensor must have the mineral scale removed.

1. Remove the ice thickness sensor from the water distributor bracket.
2. Separate the metal sensor from the plastic insulator-bracket.
3. Wipe the sensor with diluted ice machine scale remover,
4. Scrub the white or dark gray plastic insulator-bracket with diluted ice machine scale remover and remove all traces of mineral build up
5. Wipe the wire to the bulkhead with diluted ice machine scale remover.
6. Wash all ice thickness sensor parts off with clean water.
7. Blow air thru metal sensor and insulator-bracket to dry them.
8. Reassemble and remount to water distributor bracket.

Critical Maintenance - Water Level Sensor

1. Remove Water Level Sensor

2. Release probes by pushing pints in.

3. Pull down, then lift up to remove probe.

4. Clean all dirt and scale from the housing.

5. Clean entire probe, be sure circled area is clean.

6. Blow air thru metal sensor and insulator-bracket to dry them then reassemble and remount.


Step 1


Step 2


Step 3


Step 4


Step 5

Cuber Controller Button Use

Set purge level, 1-5 (1 is minimum, 5 is maximum) or Automatic: (status light off)

- Hold off button in for 3 seconds. Release.
- Press and release the On button to cycle through and select one of the five purge settings or to use the Automatic setting.

Recall diagnostic code: (status light off)

- Hold off button in for 3 seconds. Release.
- Press and release the Harvest button to cycle through each of the last 10 error codes from most recent to oldest.

Clear diagnostic code: (status light off)

- Hold Clean and Harvest buttons in for 3 seconds to clear all prior codes.

Reset control:

- Depress and release Off, then depress and release On

Start Test Mode: (status light off)

- Hold Off button in for 3 seconds. Release.
- Hold Clean button in for 3 seconds. Release.

Lock / Unlock control:

To lock ON • Hold ON button in for 5 seconds, keep holding then press and release Off twice.

To lock OFF • Hold ON button and then press OFF button once within 3 seconds, wait 5 seconds then press Off twice and then release On.

To unlock • Hold ON button in for 5 seconds, keep holding then press and release Off twice.

Empty reservoir:

- Hold Clean button in for 3 seconds. Release. Pump and purge valve will be ON for 30 seconds. Repeat as needed.

Prodigy Cuber

Clear De-Scale / Sanitize Light (status light off)

- Push and release the Clean button
- Wait 3 minutes
- Push and release the Clean button again
- Push and release the Off button
- Push and release On to resume ice making

Change De-Scale Notification Interval

Like the others, this feature is accessible only from standby

(Status Light Off).

1. Press and hold harvest button for 3 seconds.

Starts the Time to Clean Adjustment State and displays the current time to clean setting.

2. Press the clean button repeatedly to cycle through the 4 possible settings:

Rev 5 and up (10/08 production start)

1 year (8760 hours)

0 (disabled)

4 months (2920 hrs)

6 months (4380 hours) (default)

Prior

6 months, 5 months, 4 months, 3 months

3. Press Off or leave untouched for 60 seconds to select the displayed interval

Prodigy Cuber Test Mode:

Depress Off for 3 seconds, release. Then depress Clean for 3 seconds.

The sump will fill the first 30 seconds of the test. If the sump is full it will overflow into the bin. At 30 seconds the WIV will shut off and the WP will turn on. You will be able to see and hear the water running over the plates. After 10 seconds the PV and HGV will turn on. Water will be purging from the machine. After 10 more seconds the compressor will start. 5 seconds later the HGV will close.

The compressor will run for a total of 20 seconds. After which everything will turn off for 5 seconds. After that time the HGV will open and you'll be able to hear the hissing as the pressure is equalized. 10 seconds later the fan will turn on (if fan control jumped). After 10 seconds all will be off and the output test will be complete.

Time from test start (seconds)	On
0-30	Inlet water valve -may overflow into bin
30-40	Water pump
40-50	Purge valve, hot gas valve and water pump
50-55	Compressor, hot gas valve
60-70	Compressor
70-75	Nothing is on
75-80	Hot gas valve
80-90	Fan (if pressure control jumped)

Prodigy Flake or Nugget Ice Machine

Control Button Use

Recall diagnostic code:

- Hold off button in for 3 seconds. Release.
- Press and release the Clean button to cycle through each of the last 10 error codes from most recent to oldest.

Clear diagnostic code:

- Hold Clean and Off buttons in for 3 seconds to clear all prior codes.

Reset control:

- Depress and release Off, then depress and release On

Start Test Mode:

- Hold Off button in for 3 seconds. Release.
- Hold Clean button in for 3 seconds. Release.

Lock / Unlock control:

- Hold On button in for 3 seconds, keep holding then press and release Off twice.

Prodigy Flake or Nugget Ice Machine

Change De-Scale Notification Interval

This feature is accessible only from standby (Status Light Off).

1. Press and hold Clean button for 3 seconds.

This starts the Time to Clean AdjustmentState and displays the current time to clean setting.

2. Press the clean button repeatedly to cycle through the 4 possible settings:

- 1 year (8760 hours)
- 0 (disabled)
- 4 months (2920 hrs)
- 6 months (4380 hours) (default)

3. Push Off to confirm the selection.

Start Test Mode:

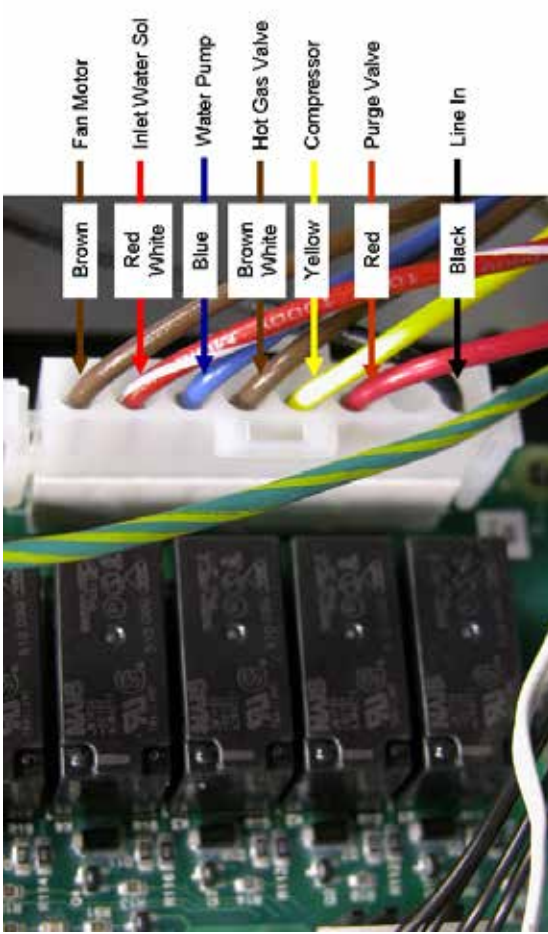
- Hold Off button in for 3 seconds. Release.
- Hold Clean button in for 3 seconds. Release.

d shows in code display

Time from test start (seconds)	On
0 to 10	Compressor
10 to 20	Compressor and Auger Gear Motor
20 to 30	Auger Gear Motor

Prodigy Cuber Controller

Hi Voltage Connections



Essential Cuber Controller

CU0415, CU0715, CU0920

Factory Defaults

	Ice Bridge Lights on Steady	Ice Bridge Lights Blinking	Harvest Lights on Steady	Harvest Lights Blinking
CU0415	1	1	3	1
CU0715	2	0	3	1
CU0920	2	1	3	0

Notes

- Bin thermostat must be closed (and master switch to ON) to power controller. Will stop operation at any time if open.
- Cycle power or switch OFF and ON to obtain manual harvest.
- Pump stops for 30 seconds every freeze cycle.
- Thermistors on suction line and in water pump hose.
- Thermistor failure signalled by all ice bridge and harvest lights blinking together.
- Controller operates machine on time only if thermistor fails; ice size not assured.
- Pump on during freeze, off during harvest.
- Fan may be on during freeze, is off during harvest.
- Inlet water solenoid valve and hot gas valve on during harvest and off during freeze.
- Freeze indicated by blue light.

Prodigy Cuber Controller

Error Codes

Error Code 1*:

Exceeds maximum freeze time of *45 minutes *except the CU1526, 2026 & 3030 there max is 84 minutes.

Controller Reaction after the error- Completes harvest, tries another cycle

Error Code 2*:

Exceeds 3.5 limit on maximum harvest time

Controller Reaction after the error- Shuts down with a blanking 2, restarts after 50 minutes

Error code 3:

Slow water fill sump did not fill within 5 minutes

Controller Reaction after the error- Attempts to refill every 20 minutes

Error Code 4:

Discharge temperature exceeded 250 degrees F.

Controller Reaction after the error- Immediate lockout will not retry

Error Code 5 or 7

Indicate a thermistor sensor failure

Controller Reaction after the error- The unit will continue to operate with the code displayed

Error Code 8*:

Short freeze cycle ice thickness sensor triggered before 6 minutes

Controller Reaction after the error- Completes timed harvest, tries another cycle

**** Code 1,2 & 8 Will not drive a lockout in less three codes in of any combination happen consecutively.***

Prodigy Flaked and Nugget Ice

Error Codes

Error Code 1:

No Ice Sensed

Controller Reaction after the error- After the 10 minute wait, the machine will restart. If no ice is sensed three times in a row, the machine will shut down on a no ice error and must be manually reset.

Error Code 2:

Auger motor over amp

Controller Reaction after the error- The controller will attempt a restart of the auger motor in 4 minutes. If during the first 60 seconds after restart the auger motor current stays within limits, the compressor is restarted and the machine returns to normal operation. If the auger motor's current is excessive within 60 seconds after the restart, the process will be repeated once more. If during that try the current is still excessive the machine shuts down and must be manually reset. The 2 in the code display will change from flashing to continuous.

Error Code 3:

No water present in the reservoir

Controller Reaction after the error- Once water is sensed in the reservoir by the conductivity probe's the unit will return to normal operation

Error Code 4: Refrigeration system pressure too high / low

Controller Reaction after the error- Machine will restart once pressures are back in range

HID Controller

Error Codes

Error Code 1 = Motor reversal

Unit shut down immediately – no auto restart

Error Code 2 = Motor stall

Unit shut down immediately – no auto restart

Error Code 3 = No water present in the reservoir

Once water is sensed in the reservoir by the conductivity probe's the unit will return to normal operation

Error Code 4 = Refrigeration system pressure too high.

Machine will restart once pressures are back in range

Recall Codes: With the machine Off but powered, push and hold the vend disable button and then push and hold the on off button for at least 3 seconds or until the status light switches on. Release both. The most recent code will be shown, push clean to see the second most recent until there are no more. The maximum stored is 30.

Essential Controller

Operation

Internal Timings: Freeze timer (timer light on) 7 minutes, starts when evaporator thermistor temperature falls to preset point

Harvest timer (timer light on) 20 seconds, starts when evaporator thermistor temperature warms to preset point

Minimum harvest time is 35 seconds and there is No maximum or minimum freeze time

Freeze Temperature Set Points

Set point	Temp (deg F)	Resistance (K ohm)	Notes:
1	20.0	46.33	Smallest Cubes
2	16.7	51.02	
3	13.3	56.56	Default for the CU0415
4	10.0	62.43	Default for the CU0715
5	6.7	69.38	Default for the CU0920
6	3.3	76.79	
7	0.0	85.57	
8	-3.3	94.90	
9	-3.7	106.0	
10	-10.0	117.8	Largest Cubes

Harvest Temperature Set Points

Set point	Temp (deg F)	Resistance (K ohm)	Notes:
1	37.2	28.2	Shortest Harvest
2	39.3	26.56	
3	41.4	25.15	
4	43.5	23.70	
5	45.6	22.35	
6	47.7	21.19	Default for the CU0920
7	49.8	20.00	Default CU0415 &CU715
8	51.9	18.88	
9	54.0	17.92	
10	54.1	16.93	Longest Harvest

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Service Information