SOLAR DESALINATION SYSTEM BY USING PARABOLIC COLLECTOR

By

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B. Sc. Agric. Sc. (Agric. Engineering), Ain Shams University, 2009

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Approval Sheet

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VII. APPENDIX A

Table (A-١): The average experimental measurement of the active solar still in September,2013

Time	T water (°C)	T oil,in (°C)	T oil,out (°C)	T vapor (°C)	T glass ,in (°C)	T glass, out (°C)	Water productivity (mL/m^2)	Accumulative Water Productivity (mL/m^2)	T ambient (°C)	I w/m^2
7:00	22	22	22	23	23	24	0	0	23	99.09
7:30	24	23	22	24	24	25			23	
8:00	25	26	24	26	24	26	0	0	24	229.4
8:30	26	27	26	28	28	28			24	
9:00	27	29	28	30	30	31	26	29	26	506.9
9:30	30	31	30	32	33	33			28	
10:00	33	33	32	32	34	34	288	335	30	662.2
10:30	35	35	33	34	35	35			32	
11:00	37	39	36	39	37	37	442	809	33	781.1
11:30	37	42	38	44	37	39			34	
12:00	40	46	40	46	43	41	570	1403	35	840.4
12:30	43	51	44	48	46	43			37	
1:00	47	60	54	53	49	46	692	2123	37	815.1

Table (A-١): The average experimental measurement of the active solar still in September,2013, cont.

1:30	53	67	60	58	54	49			38	
2:00	61	75	66	61	58	51	833	2991	39	735.1
2:30	70	88	74	67	65	54			40	
3:00	78	104	87	73	70	57	900	3931	41	572.6
3:30	85	119	103	77	76	56			41	
4:00	80	121	105	72	73	52	1005	5017	38	393.4
4:30	74	105	91	68	66	48			35	
5:00	69	91	77	61	61	47	790	5859	32	194.7
5:30	66	81	71	58	57	46			30	
6:00	62	73	64	55	54	44	627	6515	29	41.4

Table (A-2): The average experimental measurement of the passive solar still in September,2013

Time	T water (°C)	T vapor (°C)	T glass ,in (°C)	T glass, out (°C)	Water productivity (mL/m^2)	Accumulative Water Productivity (mL/m^2)	T ambient (°C)	I w/m^2
7:00	24	24	24	25	0	0	23	99.09
7:30	25	25	25	25			23	
8:00	26	26	27	27	0	0	24	229.4
8:30	28	27	27	28			24	
9:00	29	28	29	30	23	22	26	506.9
9:30	30	30	30	31			28	
10:00	31	33	35	34	182	210	30	662.2
10:30	33	32	37	36			32	
11:00	36	35	38	39	295	524	33	781.1
11:30	38	36	39	42			34	
12:00	41	38	41	45	348	884	35	840.4
12:30	44	40	41	46			37	
1:00	45	43	44	48	395	1296	37	815.1

Table (A-2): The average experimental measurement of the passive solar still in September,2013, cont.

1:30	47	46	48	51			38	
2:00	49	53	50	52	477	1776	39	735.1
2:30	53	56	56	54			40	
3:00	58	61	61	56	565	2340	41	572.6
3:30	60	63	64	55			41	
4:00	58	59	60	52	628	2958	38	393.4
4:30	52	54	54	48			35	
5:00	49	50	50	44	525	3494	32	194.7
5:30	44	47	47	42			30	
6:00	42	44	44	41	283	3778	29	41.4

Table (A-3): The average experimental measurement of the active solar still in October,2013

Time	T water (°C)	T oil,in (°C)	T oil,out (°C)	T vapor (°C)	T glass ,in (°C)	T glass, out (°C)	Water productivity (mL/m^2)	Accumulative Water Productivity (mL/m^2)	T ambient (°C)	I w/m^2
7:00	21	21	20	22	21	22	0	0	21	30.9
7:30	21	22	21	23	23	23			22	
8:00	23	24	22	25	23	25	0	0	23	203.9
8:30	24	26	23	26	26	26			24	
9:00	26	27	26	28	28	28	15	15	25	247.6
9:30	28	29	27	30	31	31			26	
10:00	29	32	29	31	32	32	245	260	27	537.5
10:30	31	35	31	33	34	34			30	
11:00	33	36	31	38	36	37	365	625	30	589.1
11:30	35	39	32	43	38	39			32	
12:00	37	43	34	44	43	40	488	1113	33	662.2
12:30	40	49	38	47	45	45			34	
1:00	45	60	45	51	49	47	590	1703	35	674.1

Table (A-3): The avera

1:30	50	72	52	55	51	49			36	
2:00	57	80	57	58	54	51	697	2400	37	585.4
2:30	64	87	63	60	55	53			37	
3:00	75	96	75	65	62	57	802	3201	37	448.9
3:30	79	108	82	68	65	59			35	
4:00	71	94	71	60	58	55	798	4000	33	261.5
4:30	65	79	64	55	53	52			30	
5:00	58	72	57	51	50	49	635	4634	29	69.8
5:30	53	66	52	49	47	45			28	
6:00	51	62	50	47	46	44	516	5151	27	6.2

Table (A-4): The average experimental measurement of the passive solar still in October,2013

Time	T water (°C)	T vapor (°C)	T glass ,in (°C)	T glass, out (°C)	Water productivity (mL/m^2)	Accumulative Water Productivity (mL/m^2)	T ambient (°C)	I w/m^2
7:00	21	22	21	22	0	0	21	30.9
7:30	22	23	23	22			22	
8:00	24	25	25	24	0	0	23	203.9
8:30	26	25	26	25			24	
9:00	27	27	28	27	10	10	25	247.6
9:30	29	29	29	29			26	
10:00	30	31	31	31	153	164	27	537.5
10:30	32	32	32	32			30	
11:00	34	34	35	32	233	397	30	589.1
11:30	36	36	38	34			32	
12:00	37	38	40	37	318	715	33	662.2
12:30	37	40	40	40			34	
1:00	40	42	41	40	370	1085	35	674.1