ETAPUMP INTEGRATED SYSTEMS™
SIZING TABLE

FOR NON-BATTERY SYSTEMS

VERTICAL LIFT		25 Feet 8m		50 Feet 15m		75 Feet 23m		100 Feet 30m		125 Feet 38m		150 Feet 46m		175 Feet 53m	
		gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*
PEAK	***7.5***	***1400***	*5.3*	***1320***	*5.0*	***1000***	*3.8*	***790***	*3.0*	***530***	*2.0*				
SUN	***6.0***	***1320***	*5.0*	***1030***	*3.9*	***790***	*3.0*	***630***	*2.4*	***400***	*1.5*				
hours/day	***4.5***	***1030***	*3.9*	***850***	*3.2*	***480***	*1.8*	***320***	*1.2*						
SYSTEM #		***ETA-04-090***													
GPM	*lpm*	2.8	*10.5*	2.6	*10.0*	2.1	*8.0*	2.0	*7.5*	1.6	*6.0*				

LOOK FOR MORE CHOICES IN MAY 2002

PEAK	***7.5***	***1960***	*7.4*	***1660***	*6.3*	***1450***	*5.5*	***1160***	*4.4*	***870***	*3.3*	***530***	*2.0*	***400***	*1.5*
SUN	***6.0***	***1740***	*6.6*	***1450***	*5.5*	***1240***	*4.7*	***950***	*3.6*	***710***	*2.7*	***450***	*1.7*		
hours/day	***4.5***	***1320***	*5.0*	***1060***	*4.0*	***850***	*3.2*	***630***	*2.4*	***550***	*2.1*				
SYSTEM #		***ETA-04-120***													
GPM	*lpm*	3.8	*14.5*	3.8	*14.3*	3.4	*12.8*	2.7	*10.4*	2.1	*8.0*	1.7	*6.6*	1.5	*5.8*

PEAK	***7.5***	***6340***	*24.0*	***3430***	*13.0*	***3170***	*12.0*	***2640***	*10.0*	***1850***	*7.0*	***1400***	*5.3*	***1240***	*4.7*
SUN	***6.0***	***4760***	*18.0*	***3170***	*12.0*	***2380***	*9.0*	***1590***	*6.0*	***1400***	*5.3*	***1160***	*4.4*	***1110***	*4.2*
hours/day	***4.5***	***3170***	*12.0*	***1450***	*5.5*	***1320***	*5.0*	***1190***	*4.5*	***980***	*3.7*	***660***	*2.5*	***530***	*2.0*
SYSTEM #		***ETA-107C-180***		***ETA-14-180***				***ETA-07-180***				***ETA-04-180***			
GPM	*lpm*	11.1	*42.0*	9.0	*34.0*	7.1	*27.0*	5.3	*20.0*	4.5	*17.0*	3.0	*11.5*	2.9	*10.8*

PEAK	***7.5***	***7930***	*30.0*	***4620***	*17.5*	***3960***	*15.0*	***3170***	*12.0*	***2640***	*10.0*	***1740***	*6.6*	***1480***	*5.6*
SUN	***6.0***	***6610***	*25.0*	***4230***	*16.0*	***3040***	*11.5*	***2190***	*8.3*	***1640***	*6.2*	***1400***	*5.3*	***1240***	*4.7*
hours/day	***4.5***	***4760***	*18.0*	***3430***	*13.0*	***2060***	*7.8*	***1320***	*5.0*	***1060***	*4.0*	***920***	*3.5*	***820***	*3.1*
SYSTEM #		***ETA-107C-240***		***ETA-14-240***				***ETA-07-240***						***ETA-04-240***	
GPM	*lpm*	17.2	*65.0*	11.4	*43.0*	9.2	*35.0*	7.1	*27.0*	5.3	*20.0*	4.5	*17.0*	3.3	*12.5*

PEAK	***7.5***	***10040***	*38.0*	***6080***	*23.0*	***4490***	*17.0*	***3700***	*14.0*	***3170***	*12.0*	***2190***	*8.3*	***1660***	*6.3*
SUN	***6.0***	***7930***	*30.0*	***4760***	*18.0*	***3700***	*14.0*	***2910***	*11.0*	***2250***	*8.5*	***1610***	*6.1*	***1510***	*5.7*
hours/day	***4.5***	***5550***	*21.0*	***3430***	*13.0*	***2510***	*9.5*	***1850***	*7.0*	***1190***	*4.5*	***1060***	*4.0*	***1080***	*4.1*
SYSTEM #		***ETA-75C-300***		***ETA-14-300***								***ETA-07-300***		***ETA-04-300***	
GPM	*lpm*	18.5	*70.0*	12.4	*47.0*	10.8	*41.0*	9.1	*34.5*	7.1	*27.0*	5.3	*20.0*	3.3	*12.5*

PEAK	***7.5***	***14270***	*54.0*	***10040***	*38.0*	***6340***	*24.0*	***5550***	*21.0*	***4760***	*18.0*	***3750***	*14.2*	***3300***	*12.5*
SUN	***6.0***	***12150***	*46.0*	***7930***	*30.0*	***5550***	*21.0*	***4760***	*18.0*	***4020***	*15.2*	***3170***	*12.0*	***2640***	*10.0*
hours/day	***4.5***	***9510***	*36.0*	***5550***	*21.0*	***3960***	*15.0*	***3650***	*13.8*	***2640***	*10.0*	***1850***	*7.0*	***1320***	*5.0*
SYSTEM #		***ETA-75C-480***		***ETA-107C-480***						***ETA-14-480***					
GPM	*lpm*	26.4	*100.0*	20.3	*77.0*	12.4	*47.0*	11.9	*45.0*	10.8	*41.0*	9.2	*35.0*	7.9	*30.0*

PEAK	***7.5***	***14800***	*56.0*	***12420***	*47.0*	***6870***	*26.0*	***6080***	*23.0*	***5760***	*21.8*	***5020***	*19.0*	***4250***	*16.1*
SUN	***6.0***	***13470***	*51.0*	***9780***	*37.0*	***6080***	*23.0*	***5550***	*21.0*	***4890***	*18.5*	***4230***	*16.0*	***3570***	*13.5*
hours/day	***4.5***	***11100***	*42.0*	***6870***	*26.0*	***5150***	*19.5*	***4490***	*17.0*	***3700***	*14.0*	***2910***	*11.0*	***2380***	*9.0*
SYSTEM #		***ETA-75C-600***		***ETA-107C-600***						***ETA-14-600***					
GPM	*lpm*	29.1	*110.0*	22.7	*86.0*	12.4	*47.0*	11.9	*45.0*	11.1	*42.0*	11.0	*41.5*	10.8	*41.0*

PEAK	***7.5***	***15850***	*60.0*	***13740***	*52.0*	***10040***	*38.0*	***7130***	*27.0*	***6080***	*23.0*	***5280***	*20.0*	***5020***	*19.0*
SUN	***6.0***	***14800***	*56.0*	***11890***	*45.0*	***7660***	*29.0*	***6080***	*23.0*	***5550***	*21.0*	***4620***	*17.5*	***4490***	*17.0*
hours/day	***4.5***	***13210***	*50.0*	***8720***	*33.0*	***4760***	*18.0*	***5020***	*19.0*	***4490***	*17.0*	***3570***	*13.5*	***3170***	*12.0*
SYSTEM #		***ETA-75C-720***				***ETA-107C-720***		***ETA-14-720***							
GPM	*lpm*	31.7	*120.0*	25.1	*95.0*	21.1	*80.0*	11.9	*45.0*	11.1	*42.0*	11.0	*41.5*	10.8	*41.0*

PEAK	***7.5***	***16640***	*63.0*	***14530***	*55.0*	***11100***	*42.0*	***7130***	*27.0*	***6870***	*26.0*	***5870***	*22.2*	***5550***	*21.0*
SUN	***6.0***	***15850***	*60.0*	***13470***	*51.0*	***10040***	*38.0*	***6610***	*25.0*	***6340***	*24.0*	***5420***	*20.5*	***5280***	*20.0*
hours/day	***4.5***	***14270***	*54.0*	***10570***	*40.0*	***7400***	*28.0*	***6080***	*23.0*	***5810***	*22.0*	***4760***	*18.0*	***4230***	*16.0*
SYSTEM #		***ETA-75C-900***				***ETA-107C-900***		***ETA-14-900***							
GPM	*lpm*	31.7	*120.0*	26.4	*100.0*	21.1	*80.0*	11.9	*45.0*	11.1	*42.0*	11.0	*41.5*	10.8	*41.0*

MORE WATER

Dankoff Solar Products, Inc.
Santa Fe, NM USA
(505) 473-3800
www.dankoffsolar.com

PRELIMINARY RELEASE
V1.3 MARCH 20, 2002
Request update for more models in May 2002

For battery systems, request data for 24V and 48V models.

DAILY WATER VOLUME

Daily volume is calculated using the non-linear curve of actual flow vs. solar array output, for each application. This is far more realistic than simply multiplying flow X peak sun hours.

peak sun hours/day = kWh/sq.m/day

Performance is based on solar cell temp. 30°C, solar radiation at standard 1 kW/sq.m, and solar array fixed at a tilt angle = latitude of the location. For central USA, seasonal adjustment of the tilt angle increases yield by about 8% summer, 5% winter. Flow rates may vary +/- 10%. Specifications are subject to change.

200 Feet 61m		250 Feet 76m		300 Feet 91m		350 Feet 107m		400 Feet 122m		450 Feet 137m		500 Feet 152m	
gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*	gallons per day	*cubic m. per day*
920	*3.5*	**660**	*2.5*	**530**	*2.0*	**400**	*1.5*						
790	*3.0*	**530**	*2.0*	**370**	*1.4*								
340	*1.3*												
ETA-04-180				**ETA-04H-180**									
2.0	*7.5*	1.8	*7.0*	1.7	*6.3*	1.5	*5.5*						
1240	*4.7*	**920**	*3.5*	**850**	*3.2*	**710**	*2.7*	**610**	*2.3*	**480**	*1.8*		
1030	*3.9*	**820**	*3.1*	**690**	*2.6*	**580**	*2.2*	**450**	*1.7*	**320**	*1.2*		
550	*2.1*	**480**	*1.8*	**340**	*1.3*								
ETA-04-240						**ETA-O4H-240**							
3.2	*12.0*	2.5	*9.3*	2.2	*8.5*	1.9	*7.3*	1.7	*6.6*	1.5	*5.5*		
1450	*5.5*	**1240**	*4.7*	**1110**	*4.2*	**980**	*3.7*	**850**	*3.2*	**770**	*2.9*	**530**	*2.0*
1270	*4.8*	**1060**	*4.0*	**950**	*3.6*	**790**	*3.0*	**660**	*2.5*	**580**	*2.2*	**450**	*1.7*
920	*3.5*	**690**	*2.6*	**550**	*2.1*	**400**	*1.5*						
ETA-04-300						**ETA-04H-300**							
3.2	*12.0*	2.9	*10.8*	2.6	*10.0*	2.5	*9.3*	2.2	*8.5*	1.9	*7.3*	1.8	*6.7*
3040	*11.5*	**2250**	*8.5*	**1980**	*7.5*	**1510**	*5.7*	**1400**	*5.3*	**1320**	*5.0*	**1190**	*4.5*
2380	*9.0*	**1720**	*6.5*	**1450**	*5.5*	**1270**	*4.8*	**1160**	*4.4*	**1080**	*4.1*	**1000**	*3.8*
1320	*5.0*	**1240**	*4.7*	**1110**	*4.2*	**980**	*3.7*	**870**	*3.3*	**790**	*3.0*	**630**	*2.4*
ETA-07-480						**ETA-04H-480**							
4.8	*18.0*	4.4	*16.7*	4.2	*16.0*	3.4	*13.0*	3.4	*12.8*	3.0	*11.4*	2.9	*10.8*
3120	*11.8*	**2770**	*10.5*	**2380**	*9.0*	**2060**	*7.8*	**1530**	*5.8*	**1480**	*5.6*	**1400**	*5.3*
2770	*10.5*	**2110**	*8.0*	**1800**	*6.8*	**1590**	*6.0*	**1430**	*5.4*	**1370**	*5.2*	**1220**	*4.6*
2110	*8.0*	**1590**	*6.0*	**1370**	*5.2*	**1240**	*4.7*	**1110**	*4.2*	**1030**	*3.9*	**870**	*3.3*
ETA-07-600								**ETA-04H-600**					
4.9	*18.4*	4.7	*17.9*	4.6	*17.4*	4.5	*17.0*	3.3	*12.5*	3.2	*12.3*	3.1	*11.8*
3170	*12.0*	**2850**	*10.8*	**2640**	*10.0*	**2250**	*8.5*	**1720**	*6.5*	**1660**	*6.3*	**1590**	*6.0*
2910	*11.0*	**2640**	*10.0*	**2250**	*8.5*	**1850**	*7.0*	**1560**	*5.9*	**1530**	*5.8*	**1430**	*5.4*
2380	*9.0*	**2250**	*8.5*	**1930**	*7.3*	**1530**	*5.8*	**1320**	*5.0*	**1240**	*4.7*	**1140**	*4.3*
ETA-07-720								**ETA-04H-720**					
4.9	*18.4*	4.7	*17.9*	4.6	*17.4*	4.5	*17.0*	3.3	*12.5*	3.2	*12.3*	3.1	*11.8*
3220	*12.2*	**2910**	*11.0*	**2800**	*10.6*	**2460**	*9.3*	**1740**	*6.6*	**1690**	*6.4*	**1640**	*6.2*
2990	*11.3*	**2720**	*10.3*	**2640**	*10.0*	**2110**	*8.0*	**1690**	*6.4*	**1610**	*6.1*	**1560**	*5.9*
2800	*10.6*	**2320**	*8.8*	**2460**	*9.3*	**1850**	*7.0*	**1510**	*5.7*	**1510**	*5.7*	**1400**	*5.3*
ETA-07-900								**ETA-04H-900**					
4.9	*18.4*	4.7	*17.9*	4.6	*17.4*	4.5	*17.0*	3.3	*12.5*	3.2	*12.3*	3.1	*11.8*

INSTRUCTIONS

1. Find the LIFT you require, and read the column below it.

Daily solar radiation: 7.5 = moderately dry summer weather

2. Find the DAILY VOLUME you require.

	gal/day	*cu.m/day*
at 7.5 peak sun hrs/day –		
at 6.0 peak sun hrs/day –		
at 4.5 peak sun hrs/day –		

(For more water, look further down the column.)

3. Order this SYSTEM NUMBER

4. Use the PEAK FLOW RATE for pipe sizing.

GPM	*lpm*

MORE WATER

SOLAR ARRAY WATTS = Last 3 digits of SYSTEM #

WIRE SIZES								
Solar Array WATTS	MAXIMUM CABLE LENGTH, CONTROLLER TO PUMP							
	#12 AWG		#10 AWG		#8 AWG		#6 AWG	
	feet	meters	feet	meters	feet	meters	feet	meters
90	360	110	570	175	920	280	1480	450
120	330	100	520	160	850	260	1380	420
180	230	70	380	115	590	180	930	285
240	180	55	300	90	440	135	710	215
300	150	47	250	75	390	120	620	190
480	110	33	160	50	280	85	410	125
600	90	27	150	45	230	70	360	110
> 600W	Use 600 (pump draws 600W max.)						AWG=American Wire Gauge	
ARRAY TO CONTROLLER if <20 ft. (3m)					#12 min.			
CONTROLLER TO LOW-WATER PROBE					#18 min. single conductor			

PUMP OUTLET PIPE SIZE	
ETA SYSTEM #	NPT inches
contains "C"	1 1/2"
all others	1 "