

PS600 BADU Top 12



Solar operated centrifugal surface pump

Application

- swimming pool water circulation through a filter system and thermal collectors
- pond management
- irrigation
- aquariums
- etc.

Pump end (PE) BADU Top 12

- monoblock-type pump with integrated strainer tank
- bellow mechanical seal is mounted on a plastic shaft protected sleeve
- motor/pump shaft has no contact with fluid
- total electric separation
- strainer capacity approx. 3 l
- strainer basket mesh size approx. 3.2 x 2.6 mm

Material used for pump end

- pump casing, strainer basket: PP
- flange, gland housing: PP TV 40
- diffuser: PP TV 40
- impeller: PA 66 GF 30 / PC
- lid: PC, transparent
- mechanical seal: carbon / ceramic / NBR
- bolts: steel, galvanized



PS600 BADU Top 12

Motor ECDRIVE 600 BADU Top

- brushless, maintenance free DC motor

Controller PS600

- controlling of the pump system and monitoring of the operating states
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- overload protection
- speed control, max. pump speed adjustable to reduce flow rate to approx. 30 %
- solar operation: integrated MPP tracking
- battery operation: low voltage disconnect and restart after battery has recovered
- max. efficiency 92 % (motor + controller)

Design

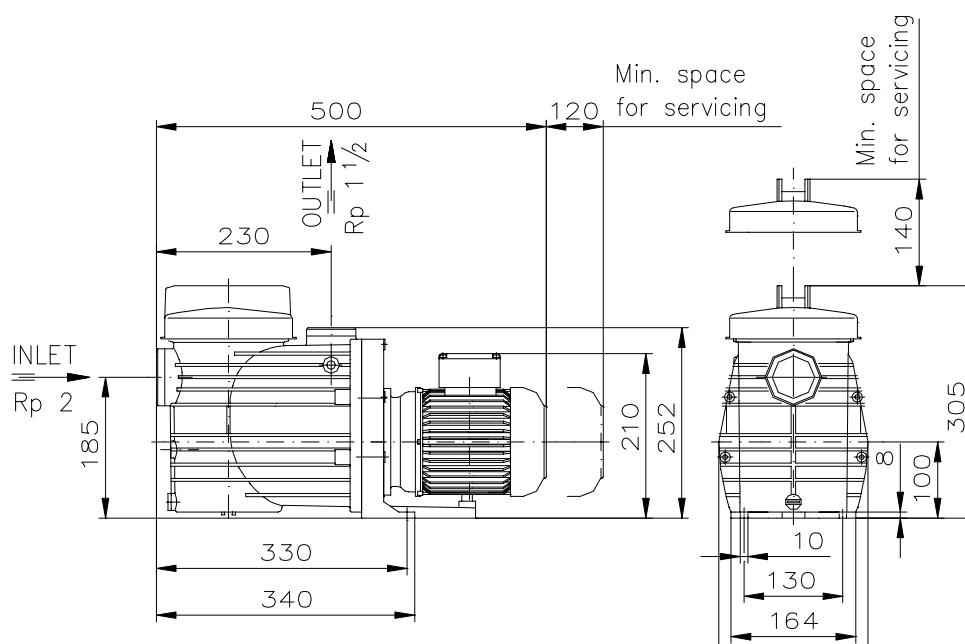
Pump system	PS600 BADU Top 12
article no.	2921
controller	PS600
motor	ECDRIVE 600 BADU Top
pump end (PE)	BADU Top 12 (manufacturer Speck-Pumps)
source of energy (not contained in the delivery)	solar generator (340 – 900 WP) / battery / DC source

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Technical data

PS600 BADU Top 12	Solar operation	Battery operation
flow rate, max.	15 m ³ /h / 4.000 US gal/h	13 m ³ /h / 3.400 US gal/h
lift, max.	14 m / 46 ft	13 m / 43 ft
ambient temperature	-30 °C to +45 °C	
Controller	PS600	
input voltage	solar generator: nominal voltage 48 to 72V DC open circuit voltage max. 150V DC	battery, DC source: nominal voltage 48V DC
type of enclosure	IP 54	
dimensions (net / packing)	400 x 180 x 150 mm / 450 x 250 x 250 mm (0,028m ³)	
weight (net / gross)	4,5 kg / 5,3 kg	
Motor	ECDRIVE 600 BADU Top	
power input, max.	600 W	
type of enclosure	IP X4	
class of insulation	F	
Pump end	BADU Top 12 (manufacturer Speck-Pumps)	
suction / positive inlet lift max.	3 m	
casing pressure, max.	2,5 bar	
water temperature, max.	60 °C	
Motor + Pump end	ECDRIVE 600 BADU Top + BADU Top 12	
dimensions (net / packing)	see dimensioned drawing (below) / 520 x 220 x 350 mm (0,0400 m ³)	
weight (net / gross)	8,7 kg / 9,7 kg	



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Sizing tables/charts

Solar operation

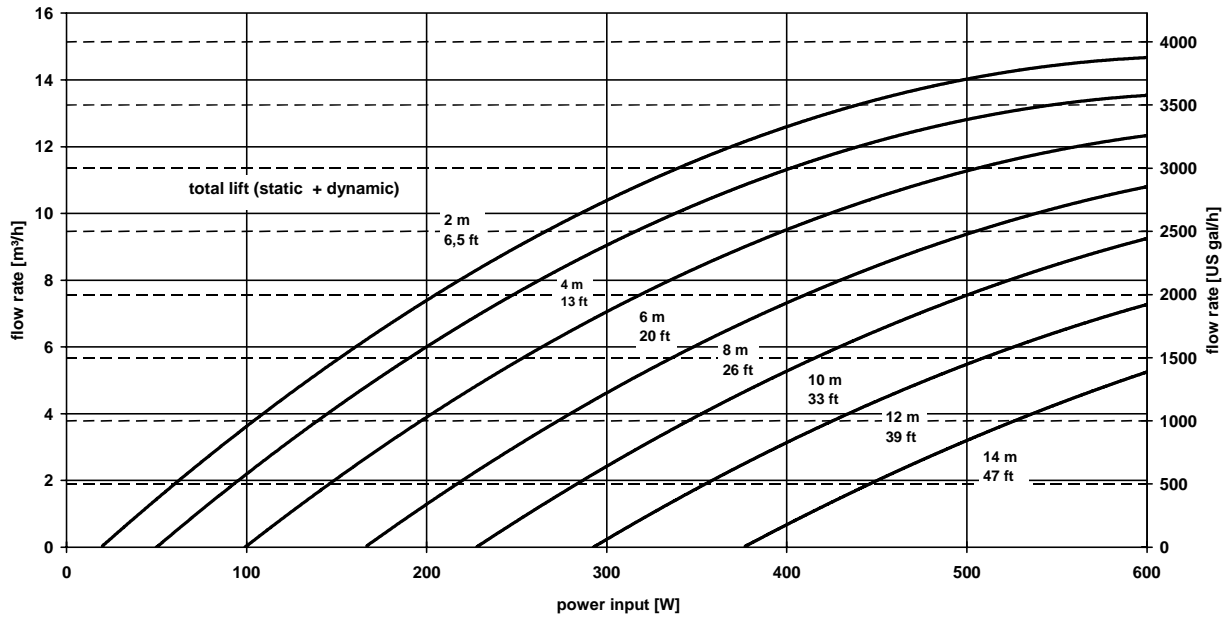
solar generator: nominal voltage 48 – 72V DC, open circuit voltage max. 150V DC

Basis of the calculation: The power output of the solar generator is reduced by 17% (degradation caused by ageing, dust, temperature influences, etc. is considered)
10 sun hours per day

total lift (static+ dynamic) [m / ft]	Solar-Generator [Wp]	irradiation [KWh/m ² /day]	Solar-Generator none tracked				Solar-Generator singleaxis tracked		
			[m ² /day]	flow rate		[m ² /day]	flow rate		
				[US gal/day x 1000]	[Imp. gal/day x 1000]		[US gal/day x 1000]	[Imp. gal/day x 1000]	
2 / 6.5	340	4.5	54.0	14.3	11.9	76.7	20.3	16.9	
		6.0	70.0	18.5	15.4	105.0	27.7	23.1	
		7.5	82.0	21.7	18.0	131.2	34.7	28.9	
	400	4.5	61.0	16.1	13.4	86.6	22.9	19.1	
		6.0	78.0	20.6	17.2	117.0	30.9	25.7	
		7.5	92.0	24.3	20.2	147.2	38.9	32.4	
	480	4.5	71.0	18.8	15.6	100.8	26.6	22.2	
		6.0	90.0	23.8	19.8	135.0	35.7	29.7	
		7.5	105.0	27.7	23.1	168.0	44.4	37.0	
	600	4.5	85.0	22.5	18.7	120.7	31.9	26.6	
		6.0	105.0	27.7	23.1	157.5	41.6	34.6	
		7.5	120.0	31.7	26.4	192.0	50.7	42.2	
	720	4.5	95.0	25.1	20.9	134.9	35.6	29.7	
		6.0	117.0	30.9	25.7	175.5	46.4	38.6	
		7.5	129.0	34.1	28.4	206.4	54.5	45.4	
	4 / 13	340	4.5	27.0	7.1	5.9	38.3	10.1	8.4
			6.0	43.0	11.4	9.5	64.5	17.0	14.2
			7.5	56.0	14.8	12.3	89.6	23.7	19.7
		400	4.5	36.0	9.5	7.9	51.1	13.5	11.2
			6.0	52.0	13.7	11.4	78.0	20.6	17.2
			7.5	67.0	17.7	14.7	107.2	28.3	23.6
		480	4.5	46.0	12.2	10.1	65.3	17.3	14.4
			6.0	65.0	17.2	14.3	97.5	25.8	21.4
			7.5	80.0	21.1	17.6	128.0	33.8	28.2
600		4.5	60.0	15.9	13.2	85.2	22.5	18.7	
		6.0	80.0	21.1	17.6	120.0	31.7	26.4	
		7.5	97.0	25.6	21.3	155.2	41.0	34.1	
720		4.5	73.0	19.3	16.1	103.7	27.4	22.8	
		6.0	94.0	24.8	20.7	141.0	37.3	31.0	
		7.5	108.0	28.5	23.8	172.8	45.7	38.0	
6 / 20		340	4.5	10.0	2.6	2.2	14.2	3.8	3.1
			6.0	24.0	6.3	5.3	36.0	9.5	7.9
			7.5	36.0	9.5	7.9	57.6	15.2	12.7
		400	4.5	17.0	4.5	3.7	24.1	6.4	5.3
			6.0	33.0	8.7	7.3	49.5	13.1	10.9
			7.5	47.0	12.4	10.3	75.2	19.9	16.5
		480	4.5	26.0	6.9	5.7	36.9	9.8	8.1
			6.0	44.0	11.6	9.7	66.0	17.4	14.5
			7.5	60.0	15.9	13.2	96.0	25.4	21.1
	600	4.5	40.0	10.6	8.8	56.8	15.0	12.5	
		6.0	61.0	16.1	13.4	91.5	24.2	20.1	
		7.5	77.0	20.3	16.9	123.2	32.5	27.1	
	720	4.5	52.0	13.7	11.4	73.8	19.5	16.2	
		6.0	75.0	19.8	16.5	112.5	29.7	24.7	
		7.5	91.0	24.0	20.0	145.6	38.5	32.0	
	8 / 26	340	4.5	6.0	1.6	1.3	9.0	2.4	2.0
			6.0	17.0	4.5	3.7	27.2	7.2	6.0
			7.5	3.0	0.8	0.7	4.3	1.1	0.9
		400	4.5	13.0	3.4	2.9	19.5	5.2	4.3
			6.0	26.0	6.9	5.7	41.6	11.0	9.2
			7.5	10.0	2.6	2.2	14.2	3.8	3.1
		480	4.5	24.0	6.3	5.3	36.0	9.5	7.9
			6.0	38.0	10.0	8.4	60.8	16.1	13.4
			7.5	20.0	5.3	4.4	28.4	7.5	6.2
600		4.5	39.0	10.3	8.6	58.5	15.5	12.9	
		6.0	56.0	14.8	12.3	89.6	23.7	19.7	
		7.5	31.0	8.2	6.8	44.0	11.6	9.7	
720		4.5	53.0	14.0	11.7	79.5	21.0	17.5	
		6.0	70.0	18.5	15.4	112.0	29.6	24.6	
		7.5	7.0	1.8	1.5	11.2	3.0	2.5	
10 / 33		600	6.0	23.0	6.1	5.1	36.8	9.7	8.1
			7.5	39.0	10.3	8.6	62.4	16.5	13.7
			4.5	16.0	4.2	3.5	25.6	6.8	5.6
		720	6.0	36.0	9.5	7.9	57.6	15.2	12.7
			7.5	54.0	14.3	11.9	86.4	22.8	19.0
			4.5	1.0	0.3	0.2	1.6	0.4	0.4
12 / 39		600	6.0	10.0	2.6	2.2	16.0	4.2	3.5
			7.5	24.0	6.3	5.3	38.4	10.1	8.4
			4.5	6.0	1.6	1.3	9.6	2.5	2.1
	720	6.0	20.0	5.3	4.4	32.0	8.5	7.0	
		7.5	37.0	9.8	8.1	59.2	15.6	13.0	
		4.5	17.0	4.5	3.7	27.2	7.2	6.0	
900	6.0	37.0	9.8	8.1	59.2	15.6	13.0		
	7.5	50.0	13.2	11.0	80.0	21.1	17.6		
	4.5	8.0	2.1	1.8	12.8	3.4	2.8		
14 / 46	600	6.0	3.0	0.8	0.7	4.8	1.3	1.1	
		7.5	8.0	2.1	1.8	12.8	3.4	2.8	
		4.5	7.0	1.8	1.5	11.2	3.0	2.5	
	720	6.0	21.0	5.5	4.6	33.6	8.9	7.4	
		7.5	5.0	1.3	1.1	8.0	2.1	1.8	
		4.5	21.0	5.5	4.6	33.6	8.9	7.4	
900	6.0	21.0	5.5	4.6	33.6	8.9	7.4		
	7.5	33.0	8.7	7.3	52.8	13.9	11.6		

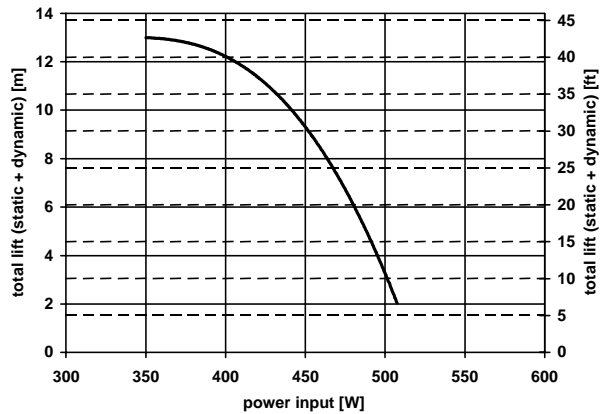
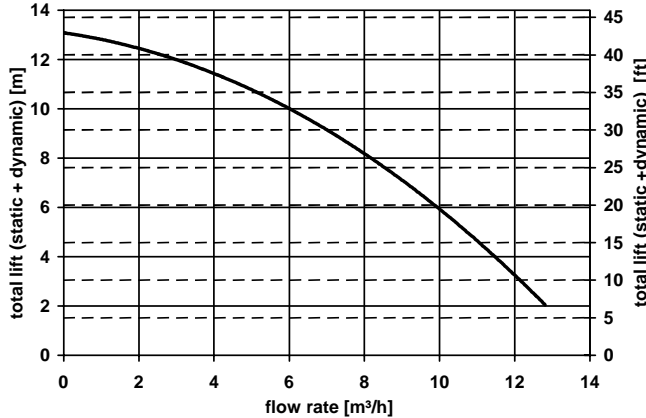
Solar operation

solar generator: nominal voltage 48 - 72 V DC, open circuit voltage max. 150V DC



Battery operation

battery, DC power supply: nominal voltage 48V DC



total lift (static + dynamic)		flow rate			power input [W]	current input [A]
[m]	[ft]	[m³/h]	[US gal/h]	[Imp. gal/h]		
2	6,6	12,8	3382	2816	507	10,6
3	9,8	12,3	3250	2706	502	10,5
4	13,1	11,4	3022	2516	496	10,3
5	16,4	10,6	2801	2332	489	10,2
6	19,7	9,9	2616	2178	480	10,0
7	23,0	9,2	2431	2024	471	9,8
8	26,2	8,2	2166	1804	464	9,7
9	29,5	7,2	1902	1584	454	9,5
10	32,8	6,0	1585	1320	443	9,2
11	36,1	4,8	1268	1056	426	8,9
12	39,4	3,0	793	660	406	8,5
13	42,7	0,0	0	0	350	7,3

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