

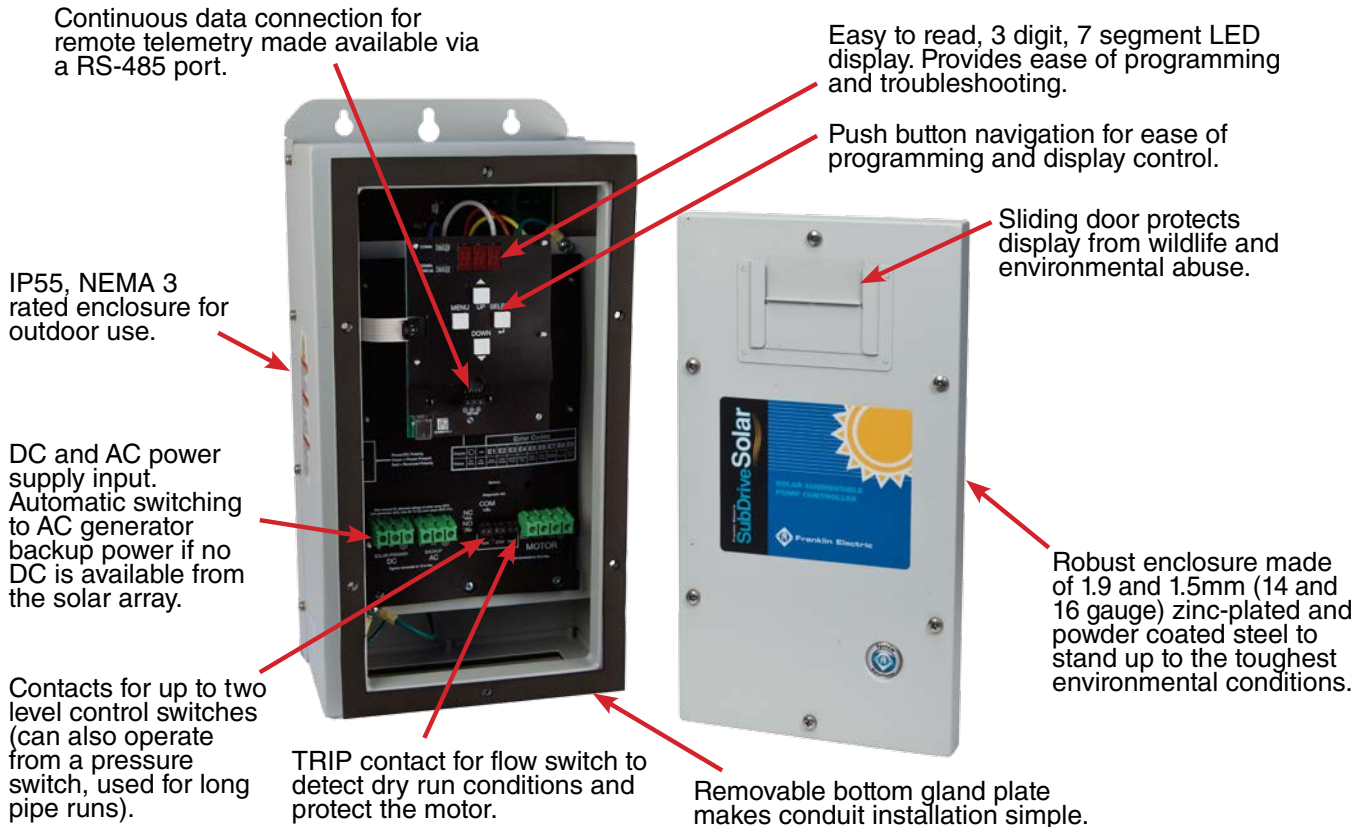
SubDrive SOLAR PAK

SOLAR PUMPING SYSTEM



SubDrive SOLARPAK

SOLAR PUMPING SYSTEM



Applications

- Livestock watering
- Tank/Cistern filling
- Wildlife refuge & game farms
- Rural water supply for villages & homesteads
- Irrigation systems
- Fountains
- Vineyards
- Renewable energy projects

Built-in Diagnostics and Protection

The SubDrive Solar QuickPAK products include diagnostic features and built-in protection from potentially harmful conditions.

- | | |
|----------------|-------------------------|
| ■ Surge | ■ Short circuit |
| ■ Underload | ■ Overheated controller |
| ■ Undervoltage | ■ Dry run |
| ■ Locked pump | ■ Reverse polarity |
| ■ Open circuit | |



All-in-One Package

The SubDrive SolarPAK is the System Solution to your solar pumping requirements. Using Franklin quality components, our technical expertise in groundwater pumping, and innovative thinking based on global market inputs, we have developed a rugged, high-output system which tackles the challenges of remote and harsh environments. No other system delivers the features, benefits, and reliability of SubDrive SolarPAK in just one package!

The SubDrive SolarPAK includes:

- Franklin Electric 4" submersible motor
- Franklin Electric 4" Solar pump
- SubDrive Solar controller
- Flow switch with 10m cable
- Variety of flow rates available in: 18, 25, 30, 45, 70, 100, 150, and 270 lpm (5, 7, 10, 15, 25, 35, 45, and 90 USGPM)
- Motor and drive ratings available in: 0.55, 1.1, and 2.2 kW (0.75, 1.5, and 3.0 hp)

Features

- High flow system for faster tank fill and significant water output
- Proven motor and pump technology and reliability
- Robust IP55, NEMA 3 drive enclosure minimizes impact of wildlife, insects, dust, and weather
- DC and AC power inputs with auto-switching to generator back-up
- Seven segment controller display shows real-time input watts and system status
- Remote telemetry capability through a RS-485 continuous data port
- MPPT – Max Power Point Tracking for maximizing efficiency of input power
- Soft start feature prevents water hammer and increases system life
- Allows use of new solar array or retrofit to existing array (subject to size and performance check)
- Simple installation and no required maintenance
- Built-in diagnostics and protection
- C-tick and UL approved



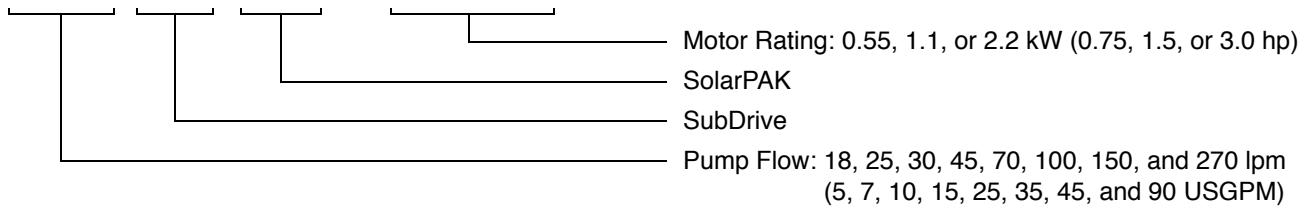
Ordering Information

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Model Number Description

XXX SD SP - X.XKW



Pump Performance

SubDrive SolarPAK Model Numbers

SolarPAK		SubDrive Solar Controller		Solar Pump - BSPB				Motor		Flow Switch	
SolarPAK Model	Order No.	Drive Model	Part No.	LPM	Stages	Solar Pump	Part No.	kW	Part No.	Model	Part No.
18SDSP-0.55KW	90030510	SD Solar 0.55KW N3	5870300553	18	18	18SL07S4-PEXB	90020504	0.55	2349029204S	C25	226014101
18SDSP-1.1KW	90030520	SD Solar 1.1KW N3	5870301113	18	30	18SL15S4-PEXB	90020508	1.1	2345049203S	C25	226014101
25SDSP-0.55KW	90030710	SD Solar 0.55KW N3	5870300553	25	13	25SL07S4-PEXB	90020704	0.55	2349029204S	C25	226014101
25SDSP-2.2KW	90030730	SD Solar 2.2KW N3	5870301223	25	30	25SL15S4-PEXB	90020711	2.2	2343062604	C25	226014101
30SDSP-0.55KW	90031010	SD Solar 0.55KW N3	5870300553	30	8	30SL07S4-PEXB	90021004	0.55	2349029204S	C25	226014101
30SDSP-1.1KW	90031020	SD Solar 1.1KW N3	5870301113	30	18	30SL15S4-PEXB	90021011	1.1	2345049203S	C25	226014101
30SDSP-2.2KW	90031030	SD Solar 2.2KW N3	5870301223	30	18	30SL15S4-PEXB	90021011	2.2	2343062604	C25	226014101
45SDSP-0.55KW	90031510	SD Solar 0.55KW N3	5870300553	45	6	45SL07S4-PEXB	90021504	0.55	2349029204S	C25	226014101
45SDSP-1.1KW	90031520	SD Solar 1.1KW N3	5870301113	45	15	45SL15S4-PEXB	90021511	1.1	2345049203S	C25	226014101
45SDSP-2.2KW	90031530	SD Solar 2.2KW N3	5870301223	45	15	45SL15S4-PEXB	90021511	2.2	2343062604	C25	226014101
70SDSP-1.1KW	90032520	SD Solar 1.1KW N3	5870301113	70	10	70SL15S4-PEXB	90022511	1.1	2345049203S	F21	226019101
70SDSP-2.2KW	90032530	SD Solar 2.2KW N3	5870301223	70	10	70SL15S4-PEXB	90022511	2.2	2343062604	F21	226019101
100SDSP-1.1KW	90033520(a)	SD Solar 1.1KW N3	5870301113	100	10	100SL15S4-PEXB	90023511	1.1	2345049203S	F21	226019101
100SDSP-2.2KW	90033530(a)	SD Solar 2.2KW N3	5870301223	100	10	100SL15S4-PEXB	90023511	2.2	2343062604	F21	226019101
150SDSP-1.1KW	90034520(a)	SD Solar 1.1KW N3	5870301113	150	7	150SL15S4-PEXB	90024511	1.1	2345049203S	F21	226019101
150SDSP-2.2KW	90034530(a)	SD Solar 2.2KW N3	5870301223	150	7	150SL15S4-PEXB	90024511	2.2	2343062604	F21	226019101
270SDSP-1.1KW	90039020(a)	SD Solar 1.1KW N3	5870301113	270	5	270SL15S4-PEXB	90029011	1.1	2345049203S	F21	226019101
270SDSP-2.2KW	90039030(a)	SD Solar 2.2KW N3	5870301223	270	5	270SL15S4-PEXB	90029011	2.2	2343062604	F21	226019101

SolarPAK		SubDrive Solar Controller		Solar Pump -NPT				Motor		Flow Switch	
SolarPAK Model	Order No.	Drive Model	Part No.	USGPM	Stages	Solar Pump	Part No.	HP	Part No.	Model	Part No.
5SDSP-0.75HP	90040510	SD Solar 0.55KW N3	5870300553	5	18	5SL07S4-PE	90020503	0.75	2349029204S	C25	226014101
5SDSP-1.5HP	90040520	SD Solar 1.1KW N3	5870301113	5	30	5SL15S4-PE	90020507	1.5	2345049203S	C25	226014102
7SDSP-0.75HP	90040710	SD Solar 0.55KW N3	5870300553	7	13	7SL07S4-PE	90020703	0.75	2349029204S	C25	226014101
7SDSP-3.0HP	90040730	SD Solar 2.2KW N3	5870301223	7	30	7SL2S4-PE	90020710	3.0	2343062604	C25	226014102
10SDSP-0.75HP	90041010	SD Solar 0.55KW N3	5870300553	10	8	10SL07S4-PE	90021003	0.75	2349029204S	C25	226014101
10SDSP-1.5HP	90041020	SD Solar 1.1KW N3	5870301113	10	18	10SL2S4-PE	90021010	1.5	2345049203S	C25	226014102
10SDSP-3.0HP	90041030	SD Solar 2.2KW N3	5870301223	10	18	10SL2S4-PE	90021010	3.0	2343062604	C25	226014102
15SDSP-0.75HP	90041510	SD Solar 0.55KW N3	5870300553	15	6	15SL07S4-PE	90021503	0.75	2349029204S	C25	226014101
15SDSP-1.5HP	90041520	SD Solar 1.1KW N3	5870301113	15	15	15SL2S4-PE	90021510	1.5	2345049203S	C25	226014102
15SDSP-3.0HP	90041530	SD Solar 2.2KW N3	5870301223	15	15	15SL2S4-PE	90021510	3.0	2343062604	C25	226014102
25SDSP-1.5HP	90042520	SD Solar 1.1KW N3	5870301113	25	10	25SL2S4-PE	90022510	1.5	2345049203S	F21	226019102
25SDSP-3.0HP	90042530	SD Solar 2.2KW N3	5870301223	25	10	25SL2S4-PE	90022510	3.0	2343062604	F21	226019102
35SDSP-1.5HP	90044520(a)	SD Solar 1.1KW N3	5870301113	35	10	35SL2S4-PE	90023510	1.5	2345049203S	F21	226019102
35SDSP-3.0HP	90044530(a)	SD Solar 2.2KW N3	5870301223	35	10	35SL2S4-PE	90023510	3.0	2343062604	F21	226019102
45SDSP-1.5HP	90044520(a)	SD Solar 1.1KW N3	5870301113	45	7	45SL2S4-PE	90024510	1.5	2345049203S	F21	226019102
45SDSP-3.0HP	90044530(a)	SD Solar 2.2KW N3	5870301223	45	7	45SL2S4-PE	90024510	3.0	2343062604	F21	226019102
90SDSP-1.5HP	90049020(a)	SD Solar 1.1KW N3	5870301113	90	5	90SL2S4-PE	90029010	1.5	2345049203S	F21	226019102
90SDSP-3.0HP	90049030(a)	SD Solar 2.2KW N3	5870301223	90	5	90SL2S4-PE	90029010	3.0	2343062604	F21	226019102

* A 10 meter (33 feet) cable for use with the flow switch is included in the controller packaging

** 316 SS Motors available on request

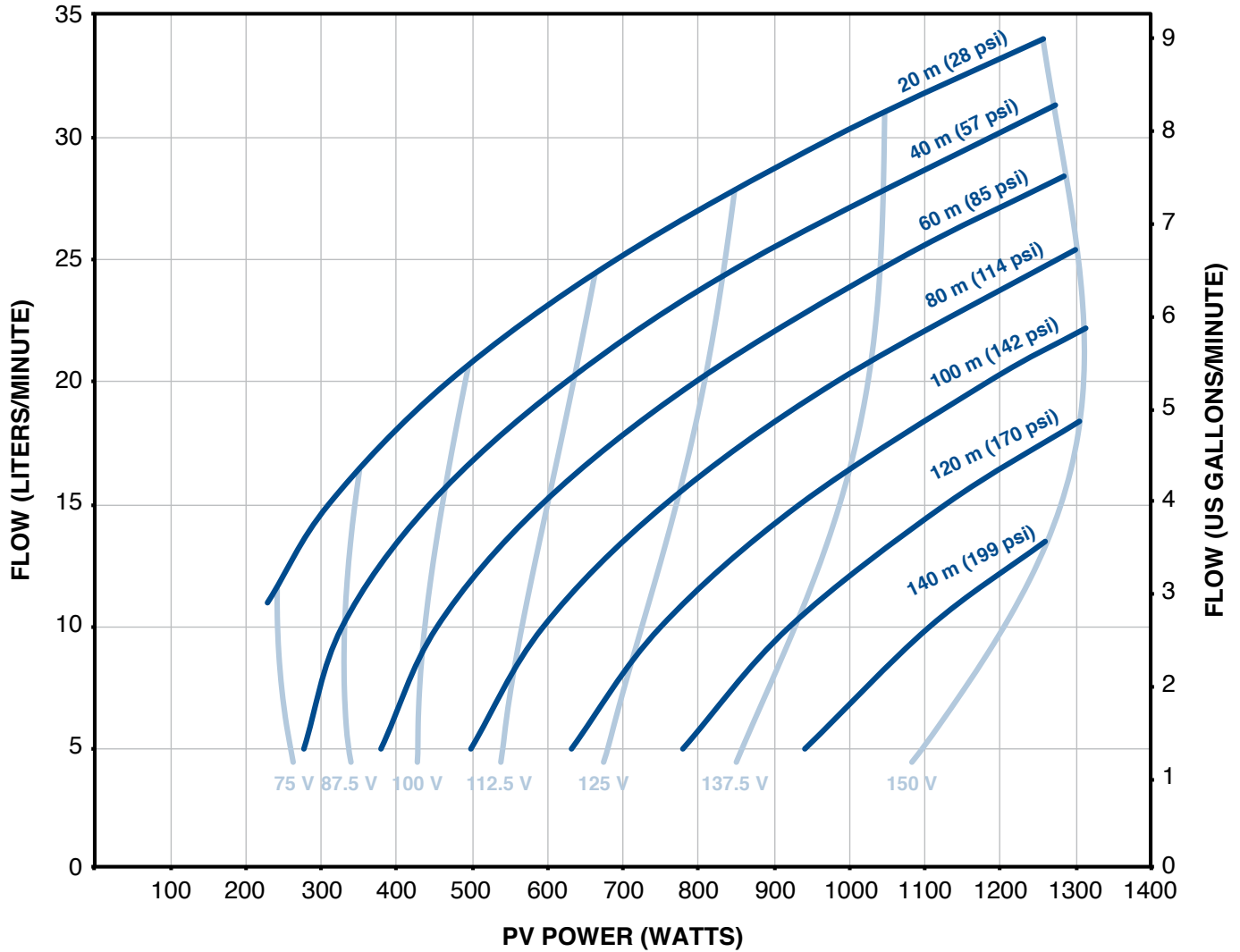
*** Motors shown above include an individual conductor lead installed in the motor. For replacement motors without a lead use part numbers: 1.5 hp / 1.1 kW (2345041903S) and 3.0 hp / 2.2 kW (2343062504)

(a) High capacity pumps, 100 lpm (35 USGPM) and higher, in a SolarPAK are not supplied with an internal check valve.

Pump Performance

18SDSP-0.55KW

SubDrive Solar 0.55 kW, 18 lpm Pump End, 0.55 kW Motor



PV Power (Watts)												
	200	300	400	500	600	700	800	900	1000	1100	1200	1300
Head (m)	Flow (LPM)											
20		14	18	21	23	25	27	29	30	32	33	
40		8	13	17	19	22	24	25	27	29	30	
60			6	12	15	18	20	22	24	25	27	
80				5	10	13	16	18	20	22	24	25
100						8	12	14	16	18	20	22
120							6	9	12	14	16	18
140									7	10	12	

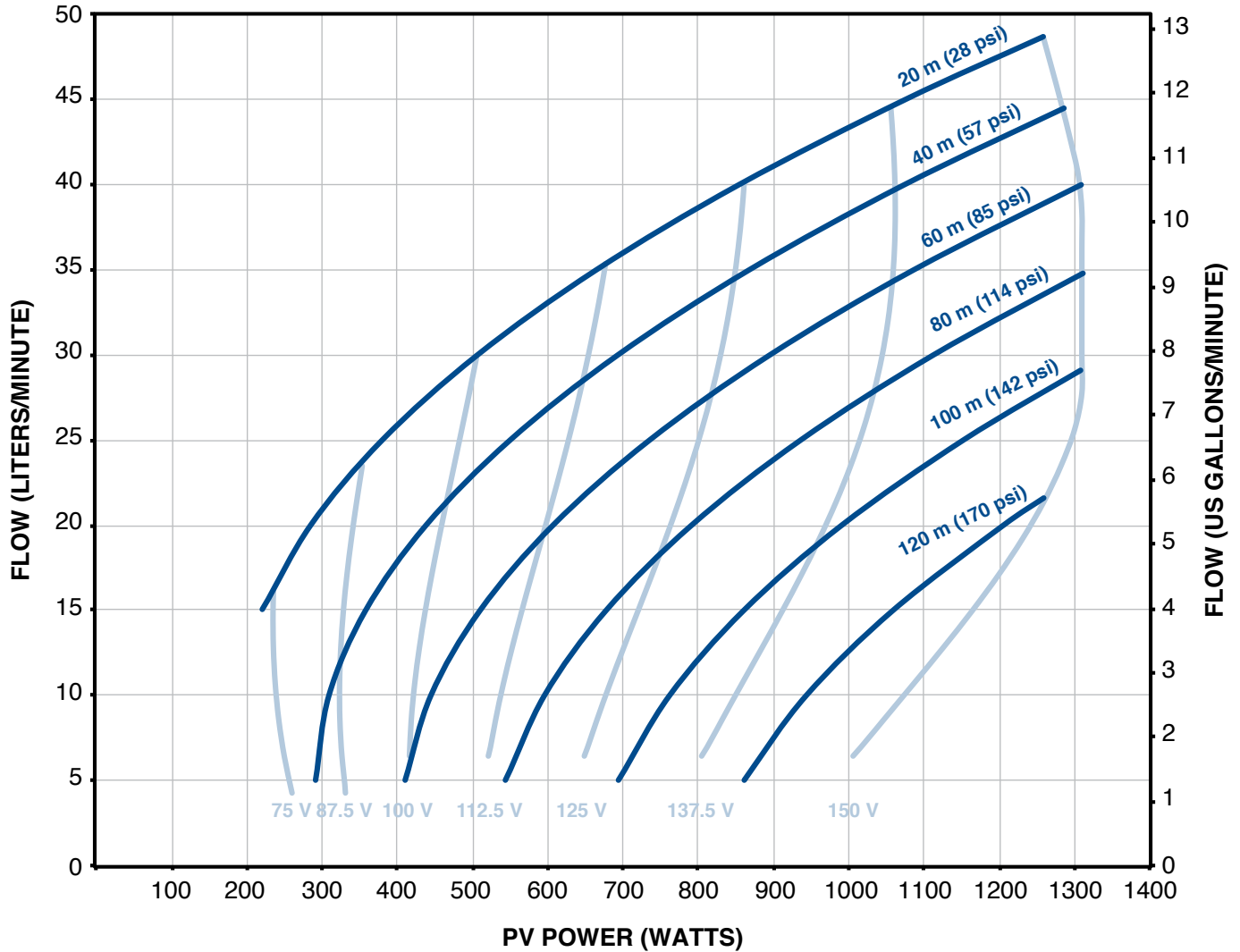
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

25SDSP-0.55KW

SubDrive Solar 0.55 kW, 25 lpm Pump End, 0.55 kW Motor



		PV Power (Watts)											
		200	300	400	500	600	700	800	900	1000	1100	1200	1300
Head (m)		Flow (LPM)											
20			21	26	30	33	36	39	41	43	45	47	
40			7	18	23	27	30	33	36	38	41	43	
60					14	20	24	27	30	33	35	37	40
80						10	16	20	24	27	30	32	34
100							5	12	17	20	23	26	29
120									7	12	16	20	

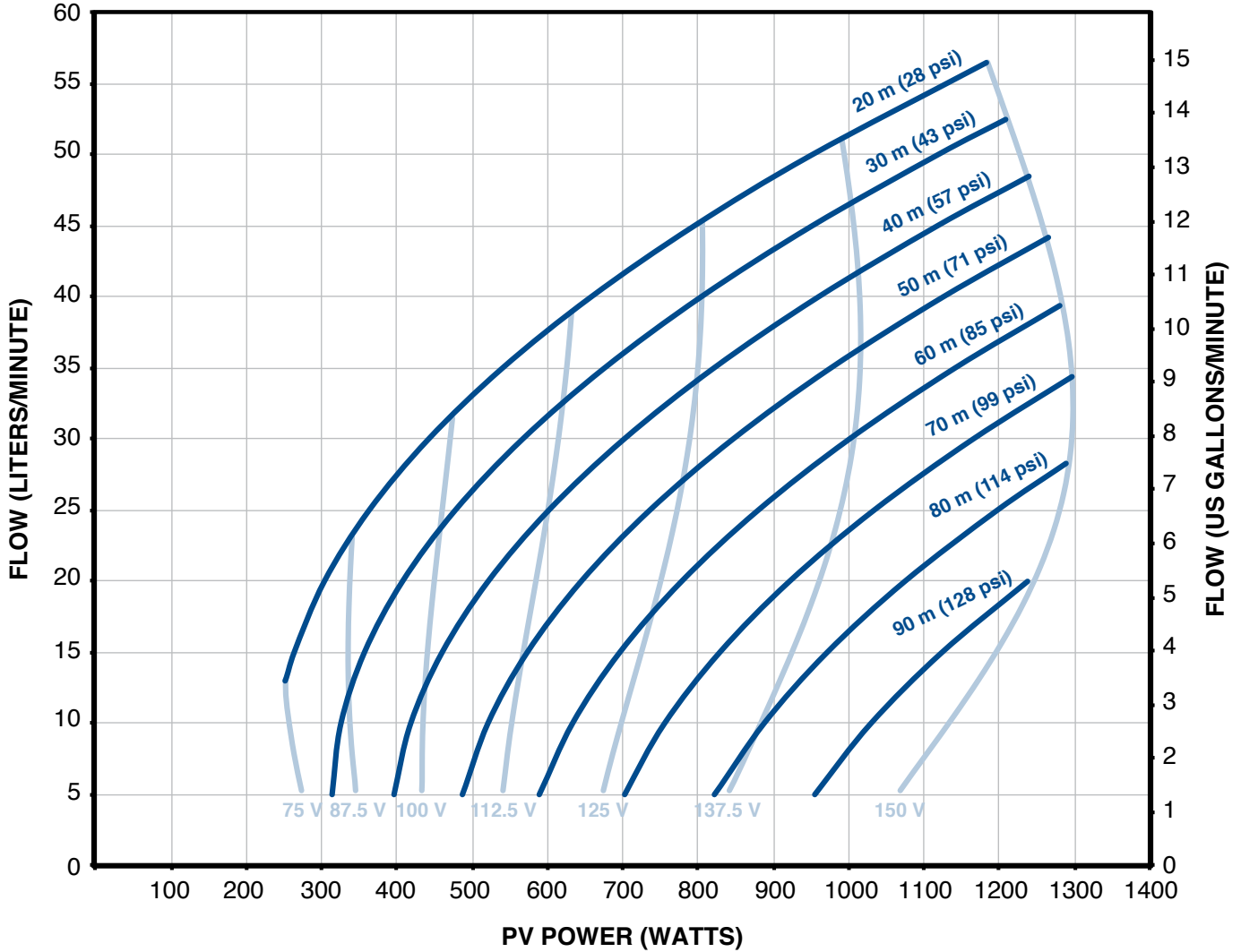
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

30SDSP-0.55KW

SubDrive Solar 0.55 kW, 30 lpm Pump End, 0.55 kW Motor



		PV Power (Watts)											
		200	300	400	500	600	700	800	900	1000	1100	1200	1300
Head (m)		Flow (LPM)											
20			20	27	33	38	42	45	48	51	54		
30				19	26	32	36	40	43	46	49	52	
40				6	18	25	30	34	38	41	44	47	
50					7	17	23	28	32	36	39	42	
60						6	15	21	26	30	34	37	
70								13	19	23	27	31	34
80									11	16	21	25	
90										8	14	18	

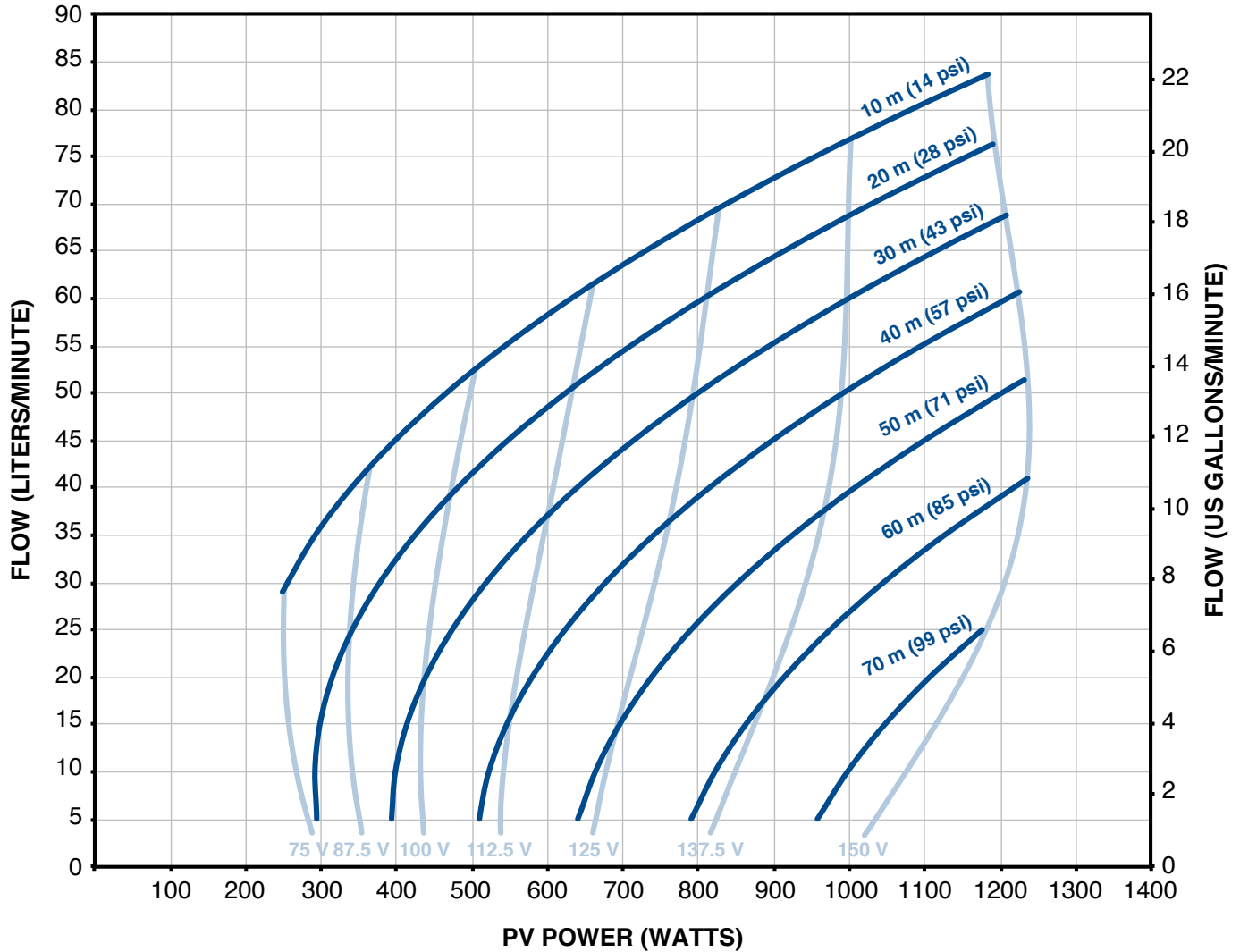
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

45SDSP-0.55KW

SubDrive Solar 0.55 kW, 45 lpm Pump End, 0.55 kW Motor



		PV Power (Watts)											
		200	300	400	500	600	700	800	900	1000	1100	1200	1300
Head (m)		Flow (LPM)											
10			36	45	52	58	64	68	73	77	81		
20			16	32	42	48	54	60	64	69	73		
30				11	28	37	44	50	55	60	64	68	
40						22	32	39	45	50	55	59	
50							16	26	33	40	45	50	
60								7	19	27	34	39	
70										10	20		

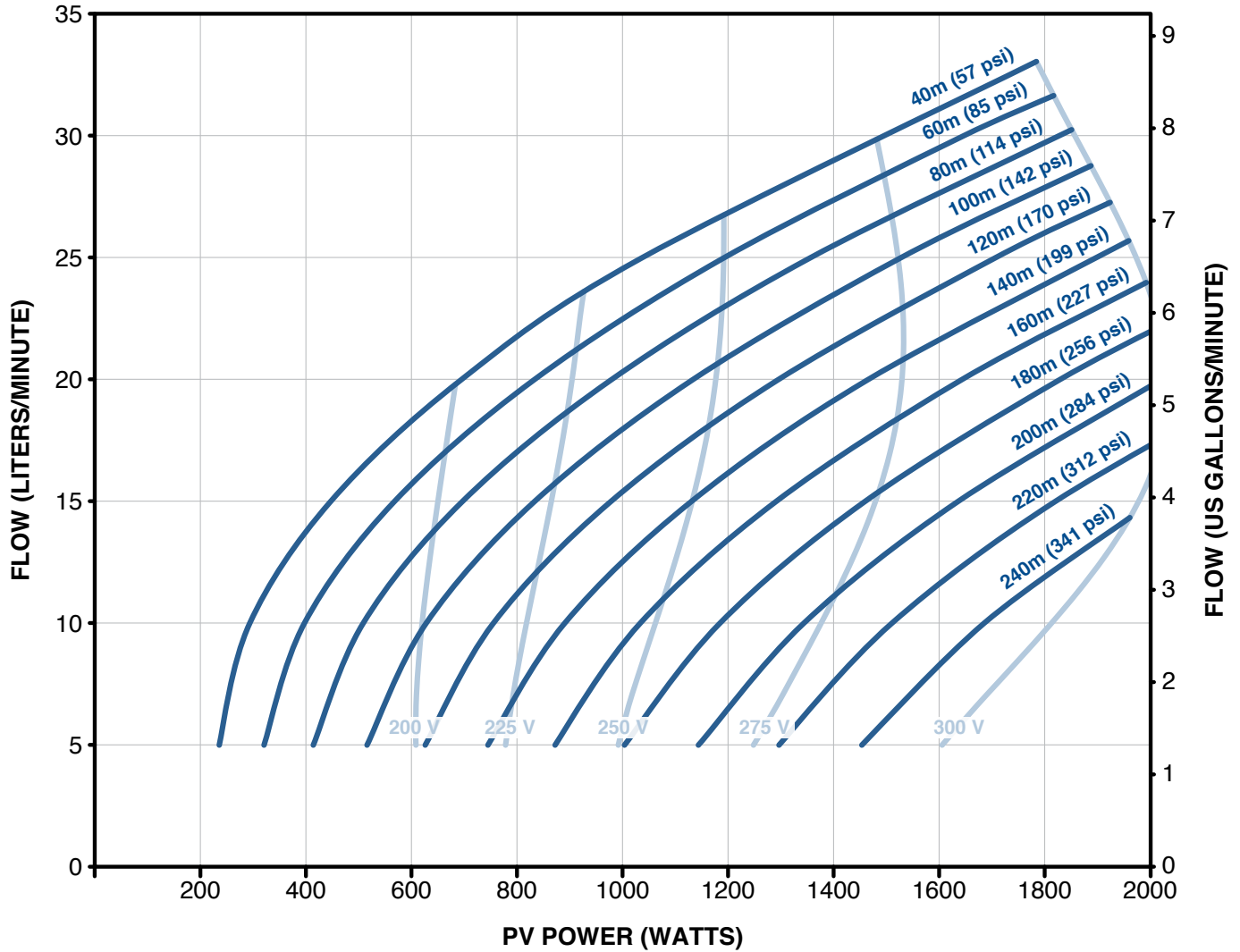
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

18SDSP-1.1KW

SubDrive Solar 1.1 kW, 18 lpm Pump End, 1.1 kW Motor



		PV Power (Watts)									
		200	400	600	800	1000	1200	1400	1600	1800	2000
Head (m)	Flow (LPM)										
40			14	18	22	25	27	29	31	33	
60			10	16	19	22	25	27	30	31	
80				13	17	20	23	26	28	30	
100				9	14	18	21	24	26	28	
120					11	15	19	21	24	26	
140					7	13	16	19	22	24	
160						9	14	17	19	22	24
180						5	10	14	17	20	22
200							6	11	15	17	20
220								8	12	15	17
240									8	12	

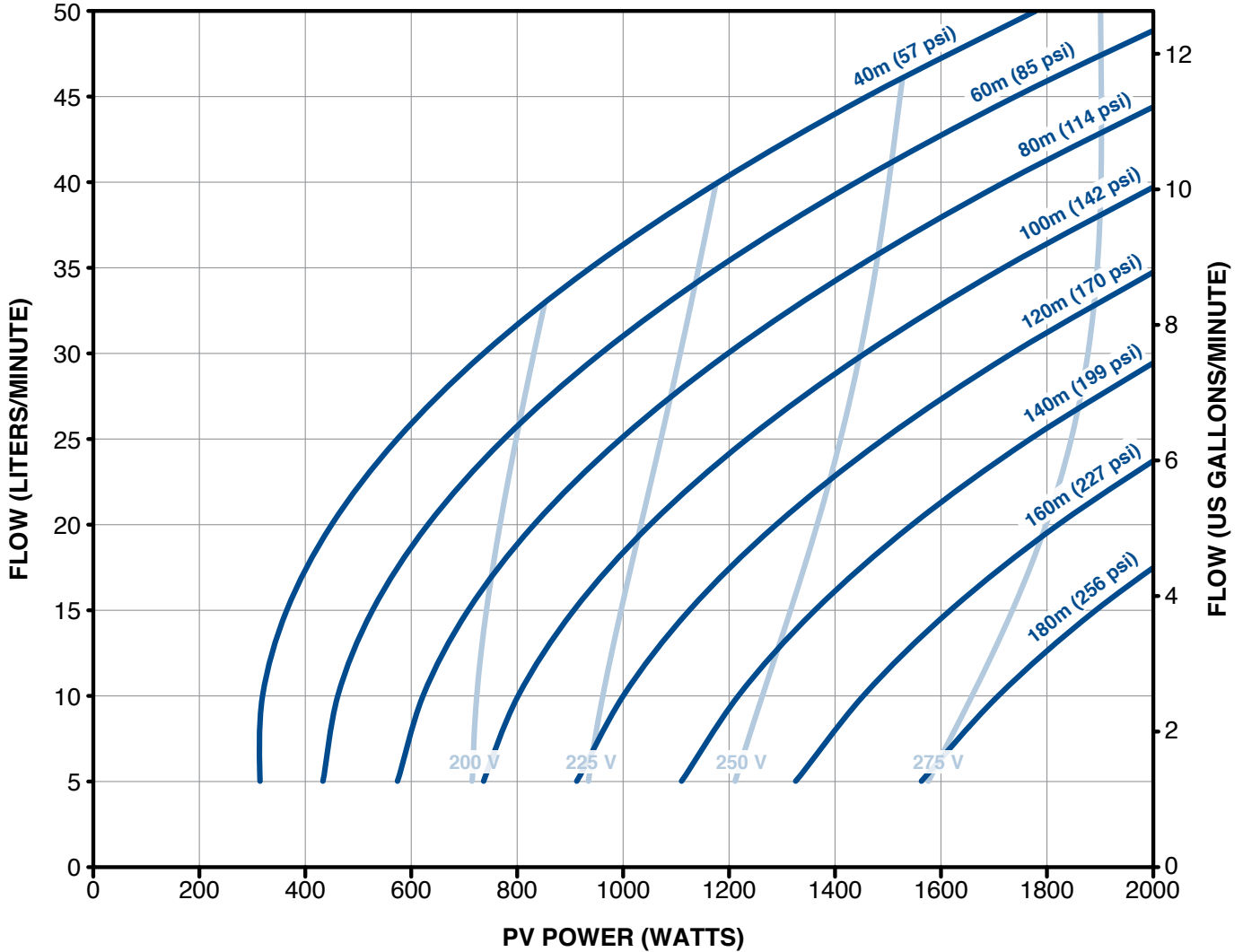
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

30SDSP-1.1kW

SubDrive Solar 1.1 kW, 30 lpm Pump End, 1.1 kW Motor



PV Power (Watts)		200	400	600	800	1000	1200	1400	1600	1800	2000
Head (m)	Flow (LPM)										
40		18	26	32	36	40	44	47	50		
60			19	26	31	35	39	43	46	49	
80			8	19	25	30	34	38	41	44	
100				10	18	24	29	33	36	40	
120					10	18	23	27	31	35	
140						9	16	21	26	29	
160							8	15	20	24	
180								7	13	18	

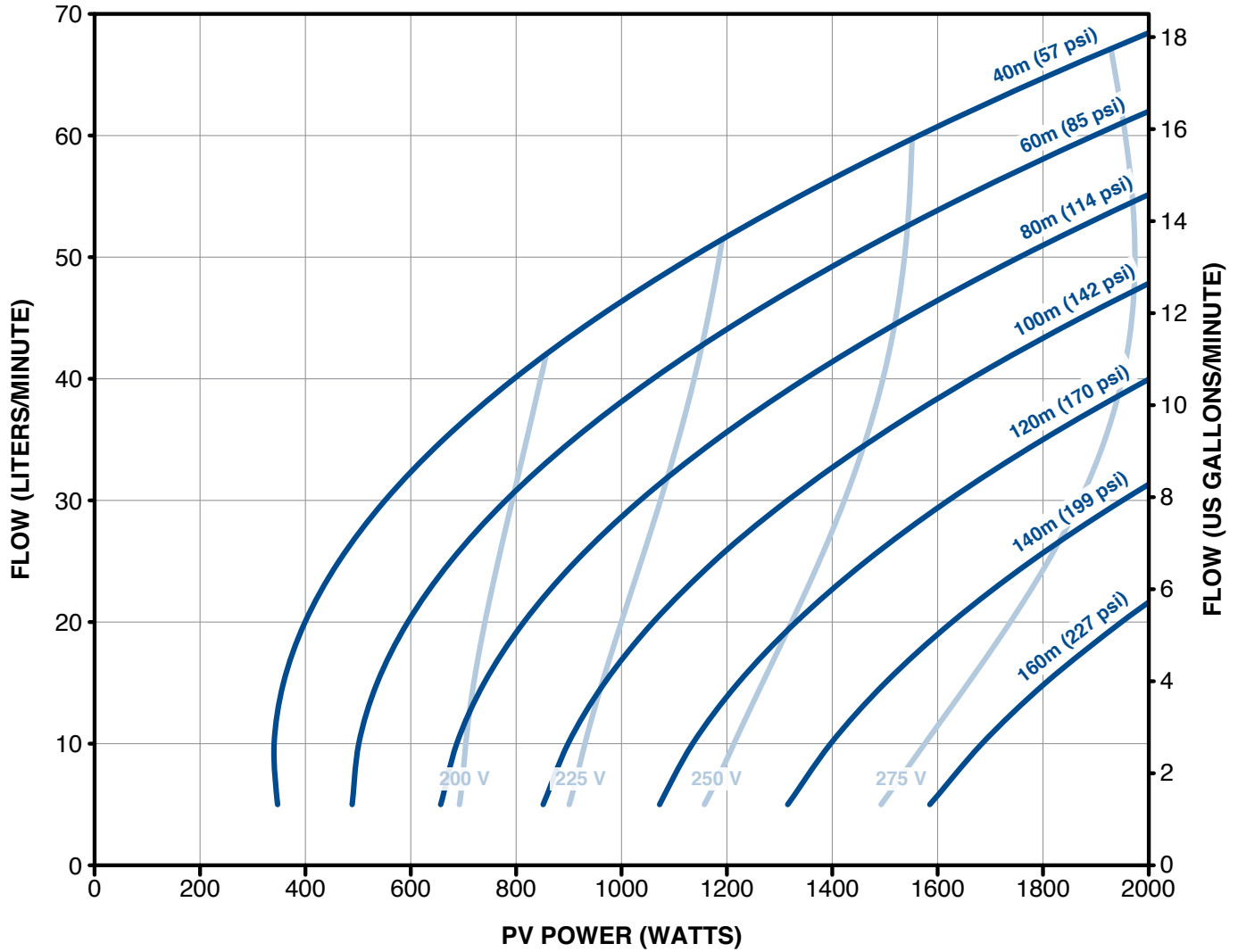
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

45SDSP-1.1kW

SubDrive Solar 1.1 kW, 45 lpm Pump End, 1.1 kW Motor



		PV Power (Watts)									
		200	400	600	800	1000	1200	1400	1600	1800	2000
Head (m)		Flow (LPM)									
40			20	32	40	46	52	56	61	65	68
60				21	31	48	44	49	54	58	62
80					19	29	36	41	46	51	55
100						17	26	33	38	43	48
120							14	23	30	35	40
140								10	19	35	31
160									6	15	22

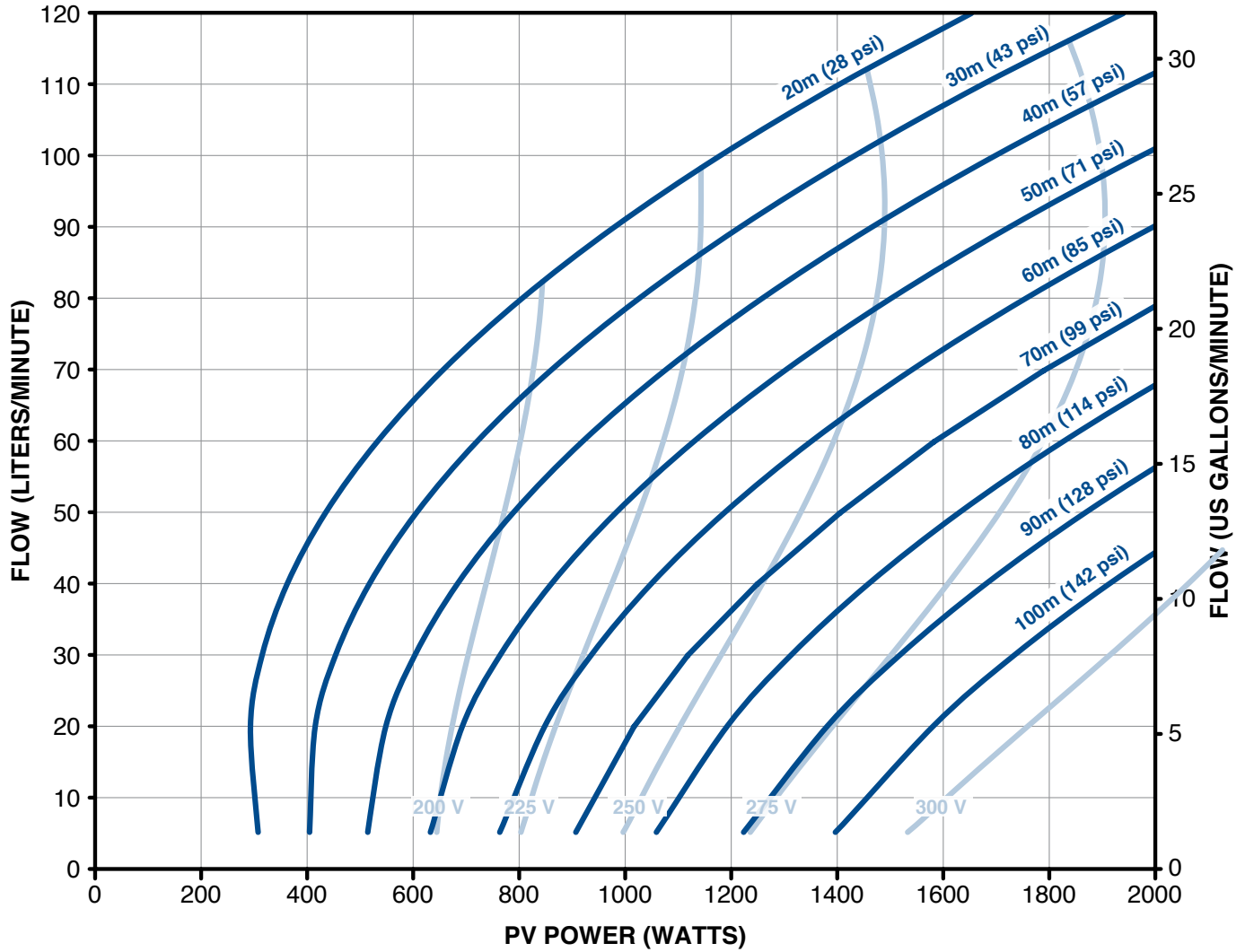
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

70SDSP-1.1kW

SubDrive Solar 1.1 kW, 70 lpm Pump End, 1.1 kW Motor



		PV Power (Watts)									
		200	400	600	800	1000	1200	1400	1600	1800	2000
Head (m)		Flow (LPM)									
20			46	66	80	92	102	110	118		
30				49	66	78	89	98	107	115	
40				30	51	65	77	87	96	104	112
50					34	52	64	75	85	93	101
60					13	36	51	63	73	82	91
70						18	36	50	61	71	80
80							21	36	48	58	68
90								22	35	46	56
100									22	34	45

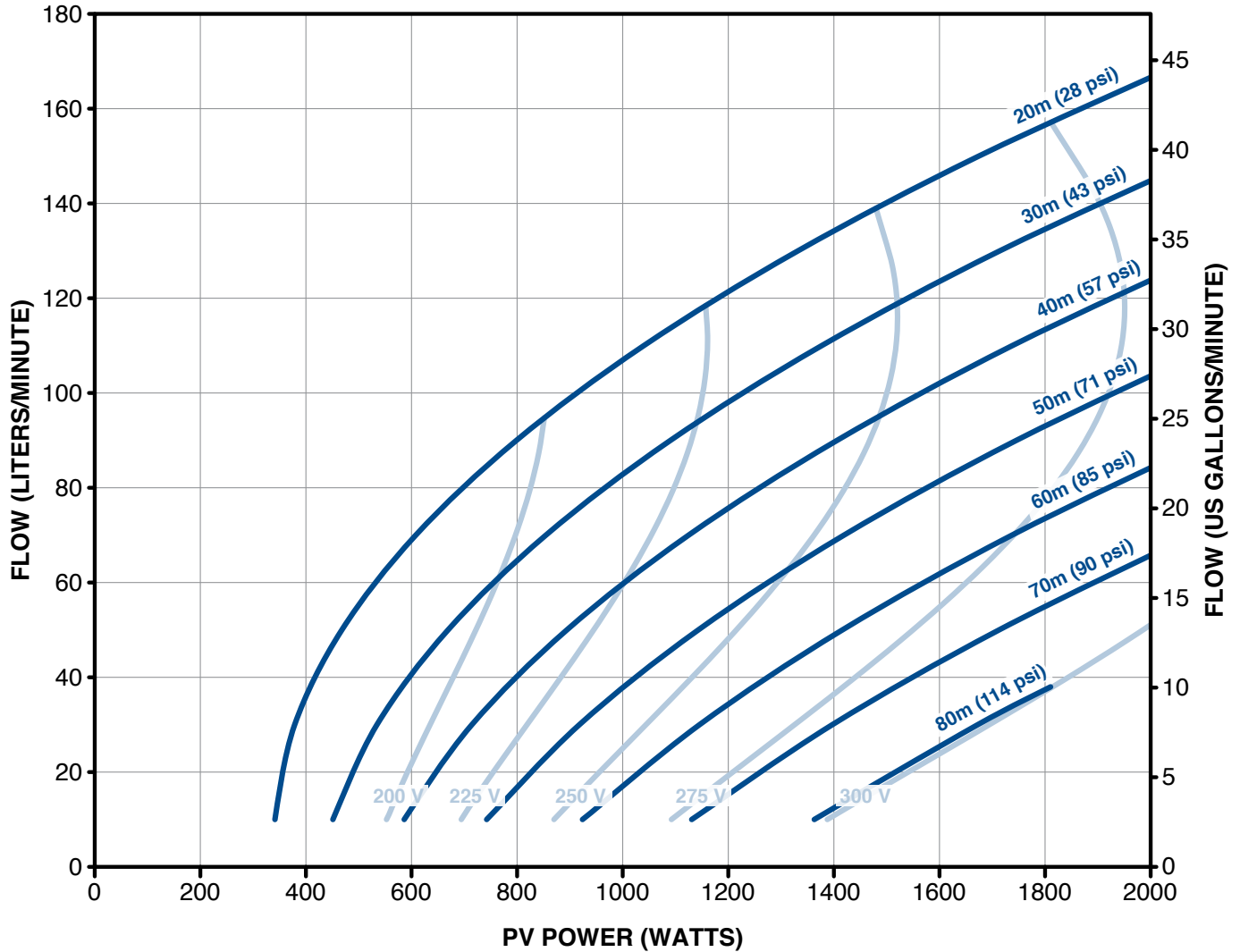
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

100SDSP-1.1kW

SubDrive Solar 1.1 kW, 100 lpm Pump End, 1.1 kW Motor



		PV Power (Watts)									
		200	400	600	800	1000	1200	1400	1600	1800	2000
Head (m)		Flow (LPM)									
20			36	69	90	107	122	135	146	157	166
30				41	65	83	98	112	124	135	145
40				13	40	60	76	90	102	114	124
50					17	38	55	68	81	93	104
60						17	35	49	62	74	85
70							15	30	43	55	66
80								13	25	37	

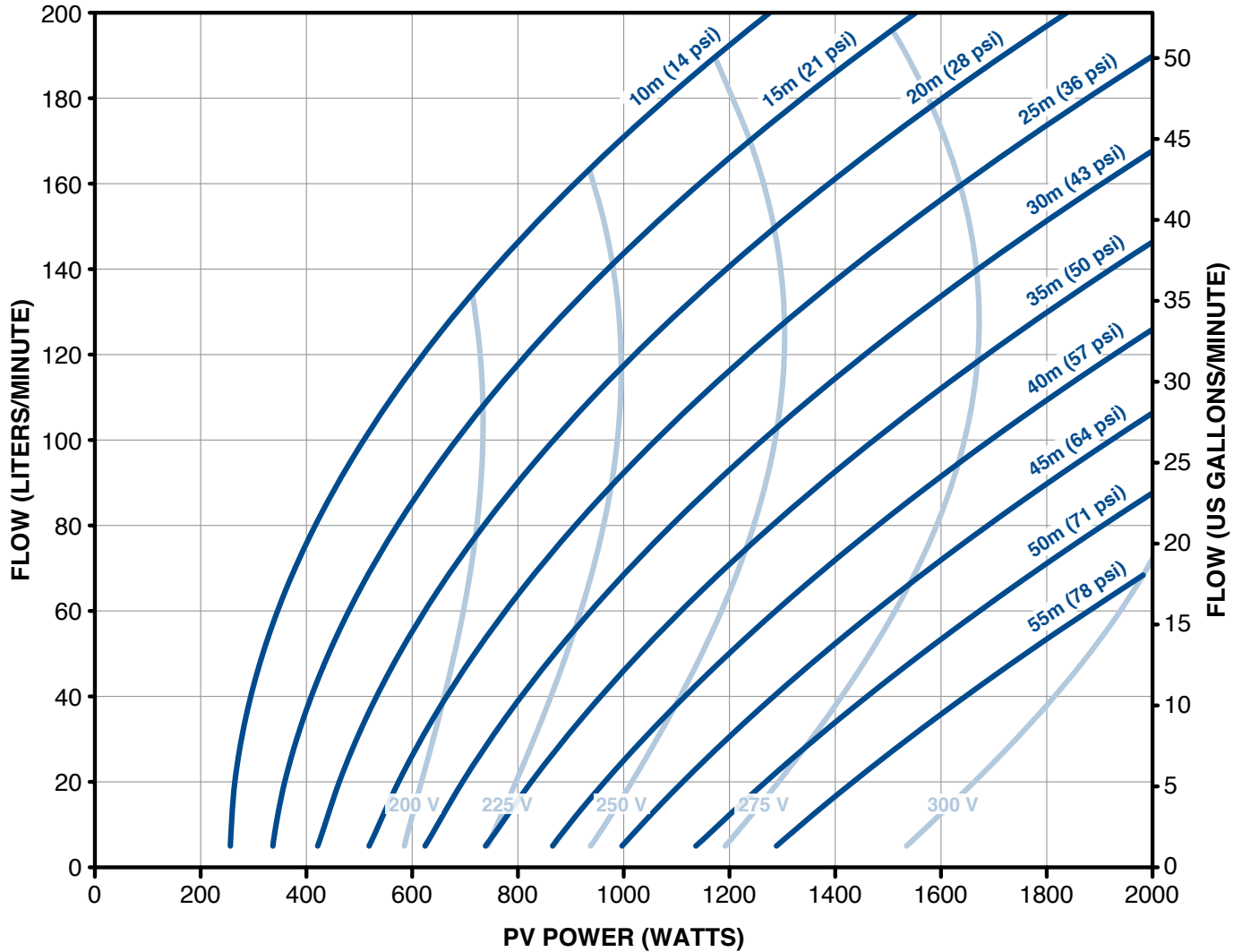
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

150SDSP-1.1kW

SubDrive Solar 1.1 kW, 150 lpm Pump End, 1.1 kW Motor



		PV Power (Watts)									
		200	400	600	800	1000	1200	1400	1600	1800	2000
Head (m)		Flow (LPM)									
10			77	117	146	172	193				
15			38	86	118	144	165	186			
20				55	90	118	141	162	180	197	
25				27	64	93	116	138	157	175	190
30					40	69	93	115	134	152	168
35					16	47	71	93	113	130	147
40						25	50	72	91	110	126
45							30	53	72	90	107
50							12	35	54	71	88
55								18	36	54	

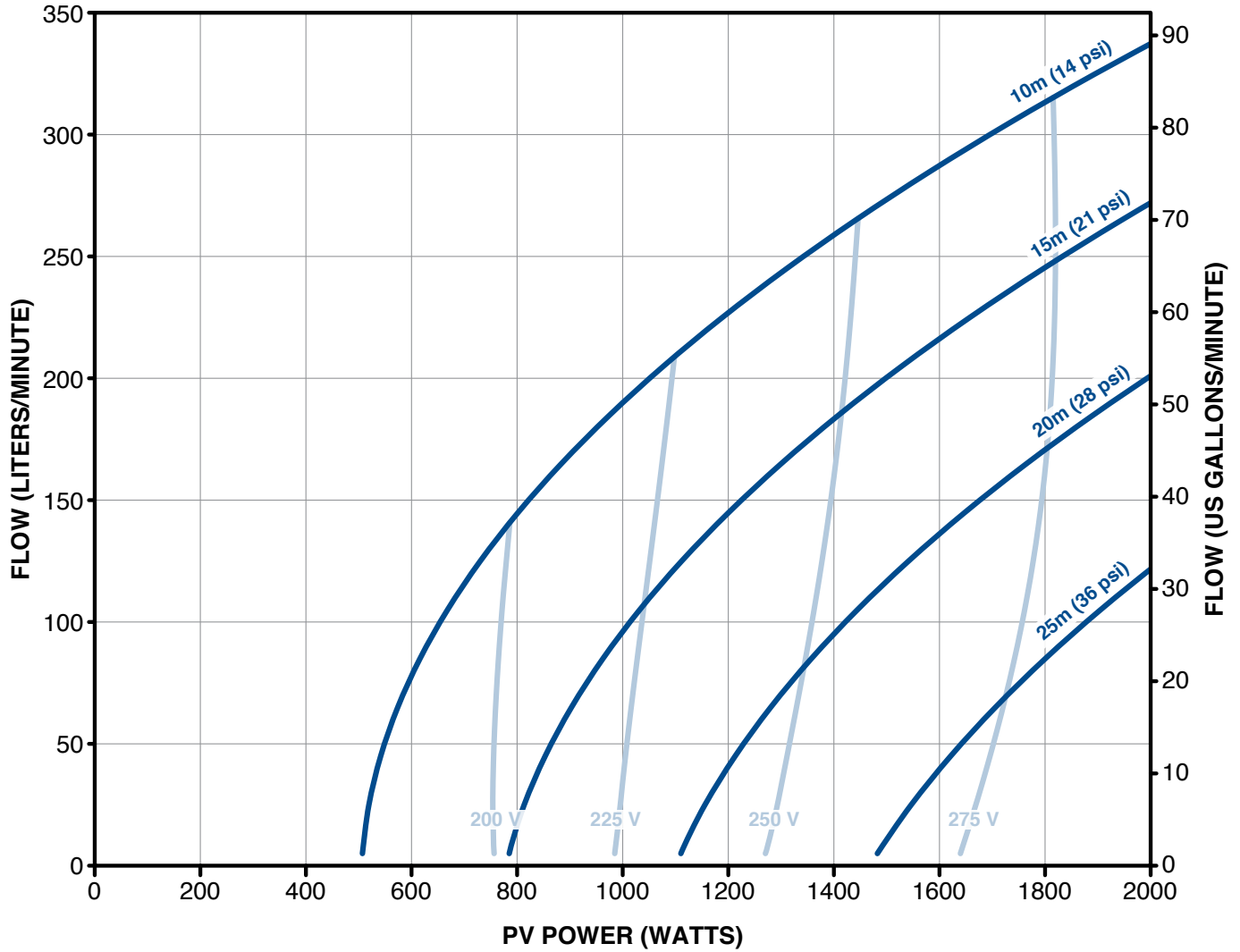
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

270SDSP-1.1kW

SubDrive Solar 1.1 kW, 270 lpm Pump End, 1.1 kW Motor



		PV Power (Watts)									
		200	400	600	800	1000	1200	1400	1600	1800	2000
Head (m)		Flow (LPM)									
10				78	145	190	227	260	289	314	344
15					18	97	145	184	217	246	272
20							45	95	137	171	202
25									40	85	122

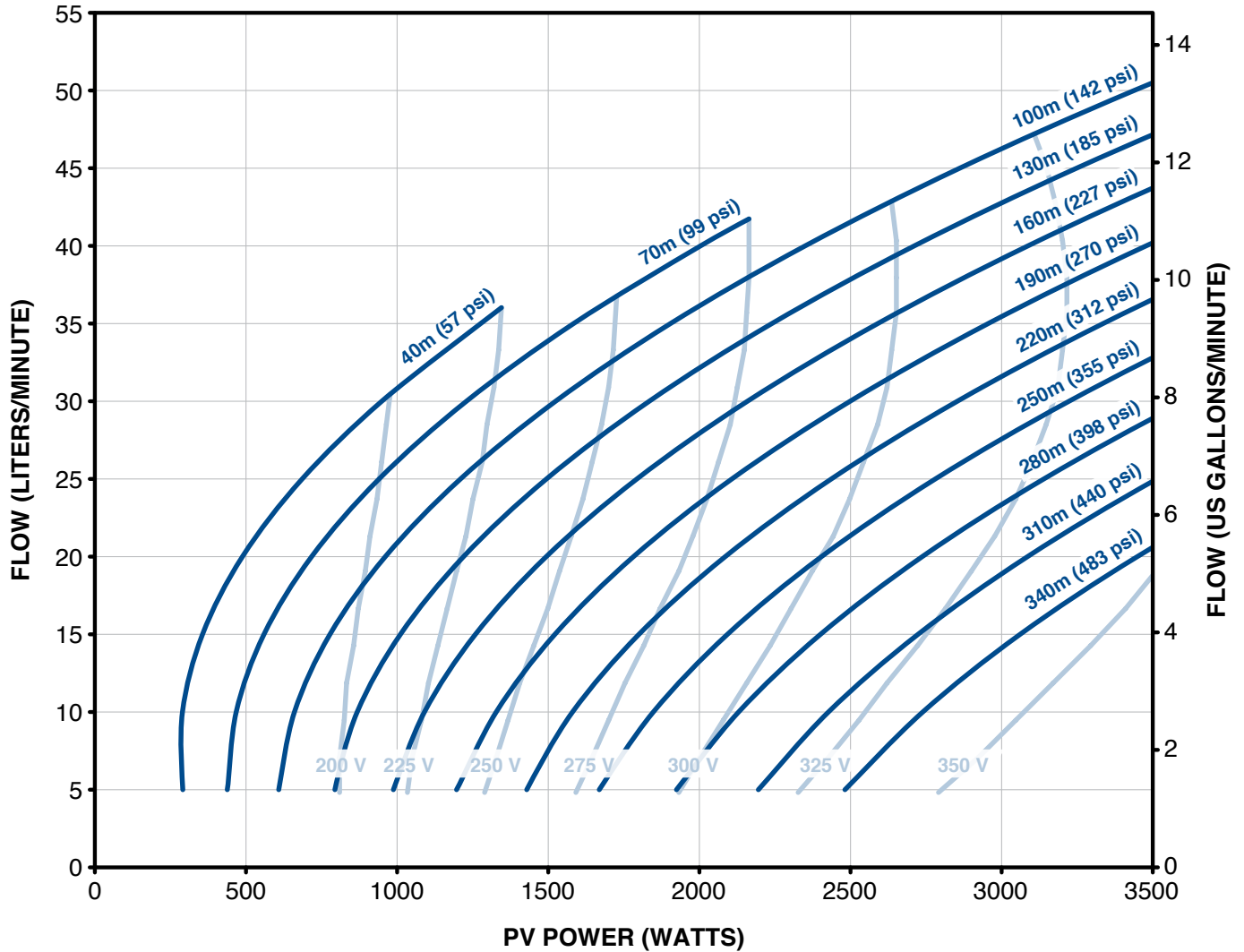
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

25SDSP-2.2kW

SubDrive Solar 2.2 kW, 25 lpm Pump End, 2.2 kW Motor



PV Power (Watts)												
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
Head (m)	Flow (LPM)											
40	26	31	34									
70	21	26	30	34	37	40	43					
100	14	21	26	30	33	36	39	42	44	46	48	50
130		15	21	25	29	32	35	38	40	43	45	47
160		6	15	20	24	28	31	34	37	39	41	44
190			7	14	19	23	27	30	33	35	38	40
220				8	14	19	22	26	29	32	34	37
250					7	13	18	21	25	28	30	33
280						7	12	17	20	23	26	29
310							6	11	15	19	22	25
340								5	10	14	18	21

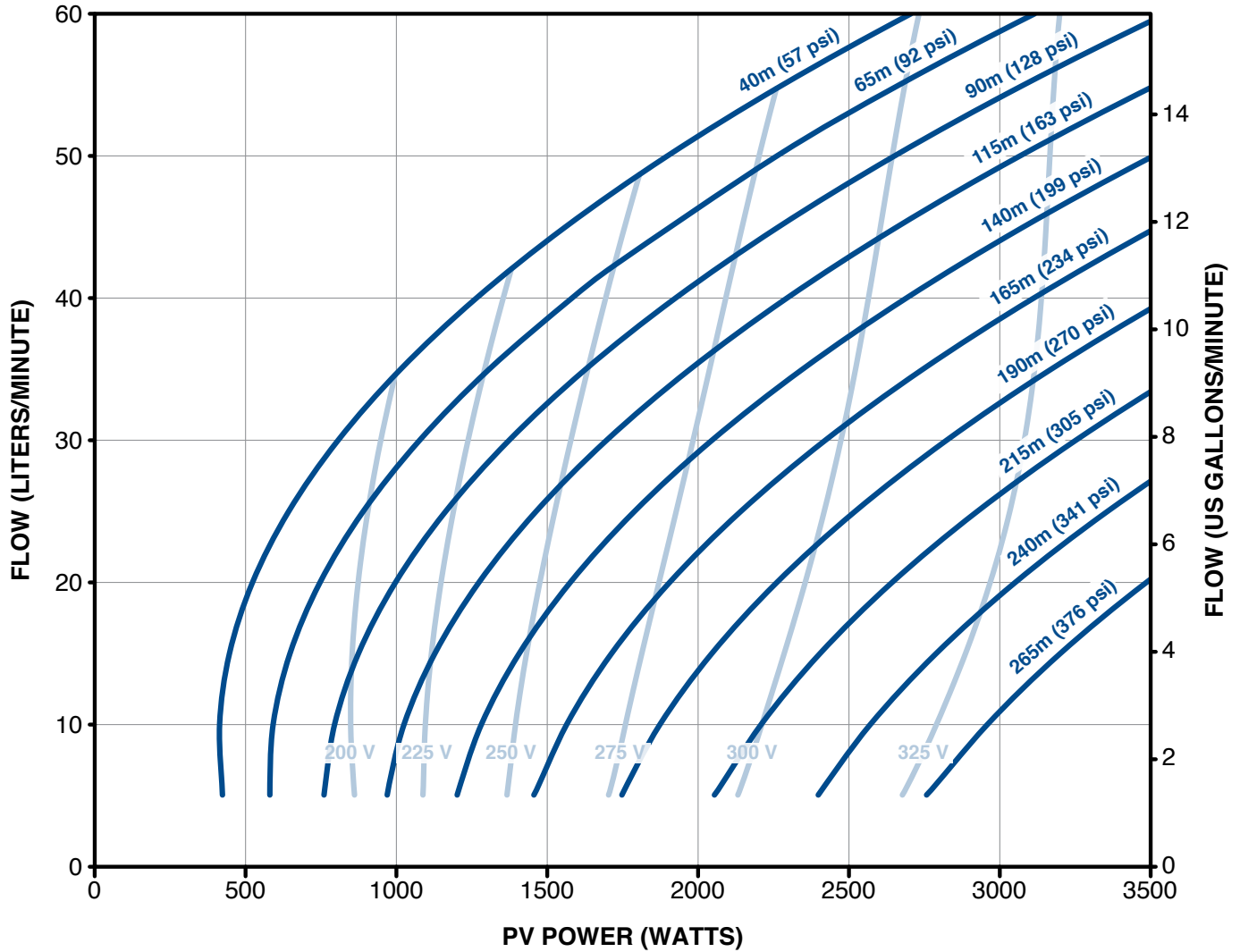
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

30SDSP-2.2kW

SubDrive Solar 2.2 kW, 30 lpm Pump End, 2.2 kW Motor



PV Power (Watts)												
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
Head (m)	Flow (LPM)											
40	28	35	40	44	48	51	55	58	60			
65	20	28	34	39	43	46	50	53	56	59		
90	5	20	27	33	37	41	45	48	51	54	57	59
115		8	19	26	31	35	39	43	46	49	52	55
140			8	18	24	29	33	37	41	44	47	50
165				7	16	22	27	31	35	38	42	45
190					5	14	20	25	29	33	36	39
215							11	17	22	26	30	34
240								8	14	19	23	27
265									5	11	16	20

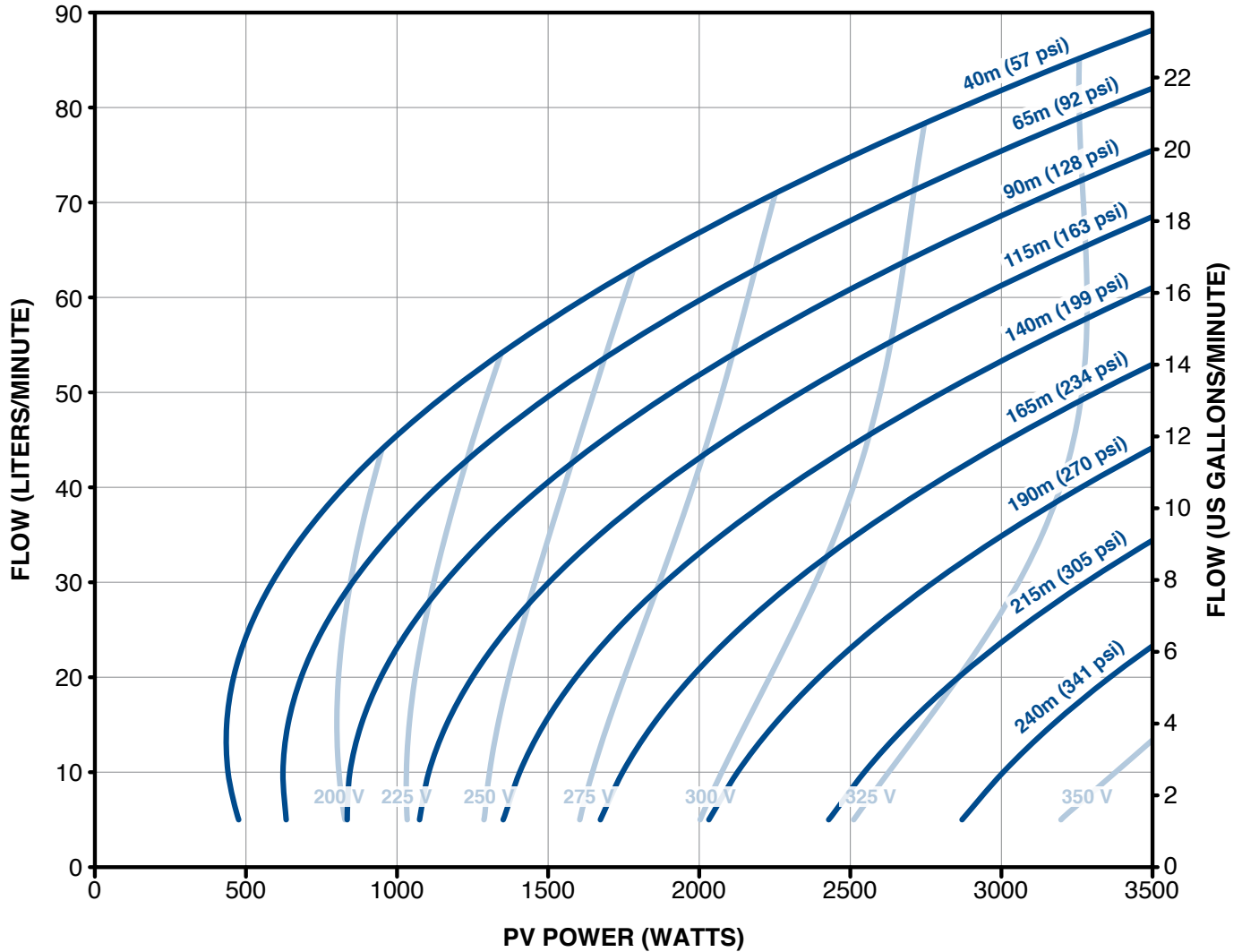
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

45SDSP-2.2kW

SubDrive Solar 2.2 kW, 45 lpm Pump End, 2.2 kW Motor



PV Power (Watts)												
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
Head (m)	Flow (LPM)											
40	38	46	52	58	63	67	71	75	78	82	85	88
65	25	36	44	50	55	60	64	68	72	76	79	82
90		23	33	41	46	52	56	61	65	69	72	76
115			20	30	37	43	48	53	57	61	65	68
140				16	26	33	39	44	49	54	57	61
165					10	21	28	34	40	45	49	53
190							15	23	30	35	40	44
215								8	17	24	30	34
240										10	17	24

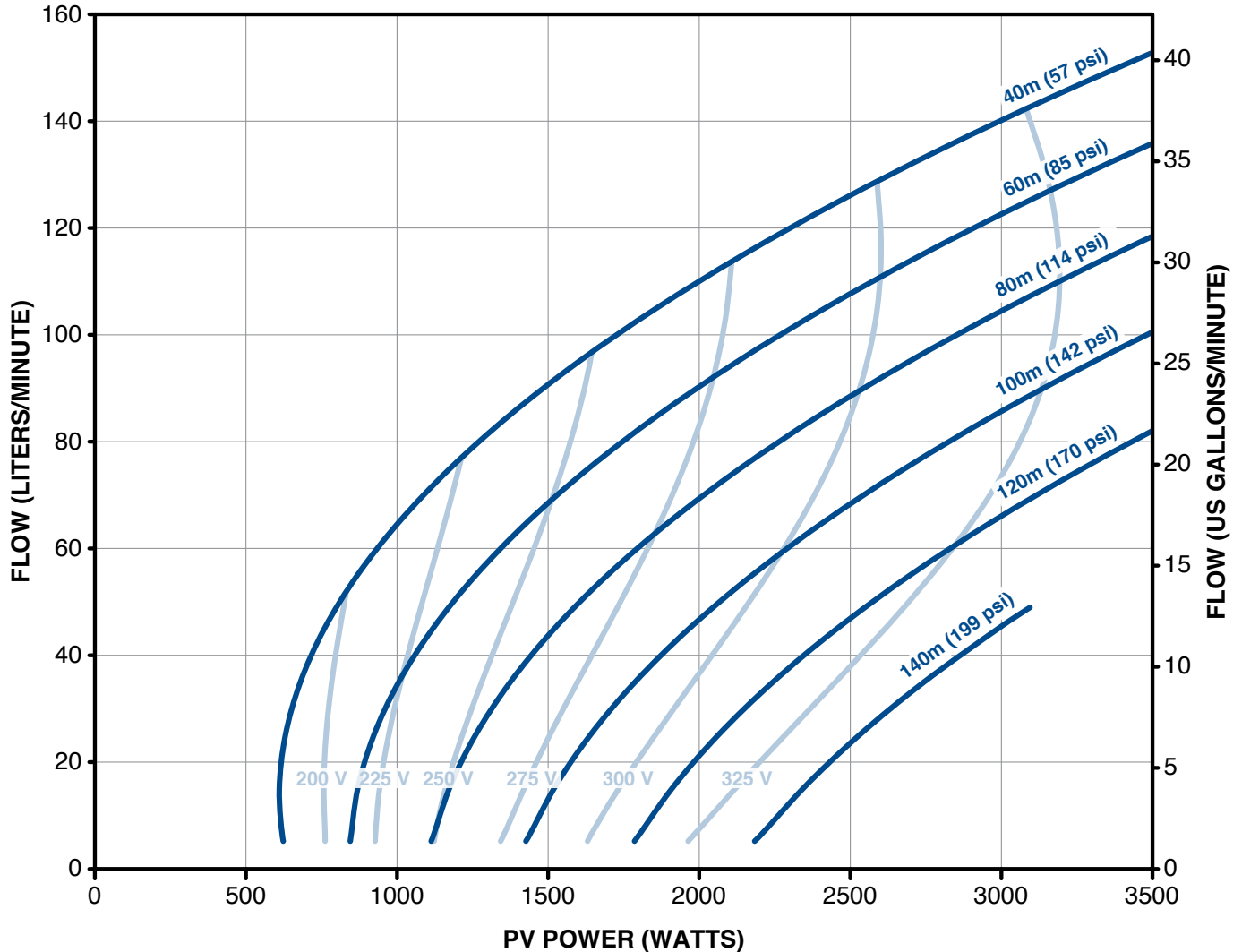
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

70SDSP-2.2kW

SubDrive Solar 2.2 kW, 70 lpm Pump End, 2.2 kW Motor



		PV Power (Watts)											
		750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
Head (m)		Flow (LPM)											
40		45	65	79	91	102	110	118	126	133	140	147	153
60			34	54	68	80	91	99	108	116	122	130	136
80				24	43	58	70	79	88	97	105	112	118
100					13	33	46	58	68	77	86	94	101
120							21	35	47	57	66	74	82
140								10	24	36	45		

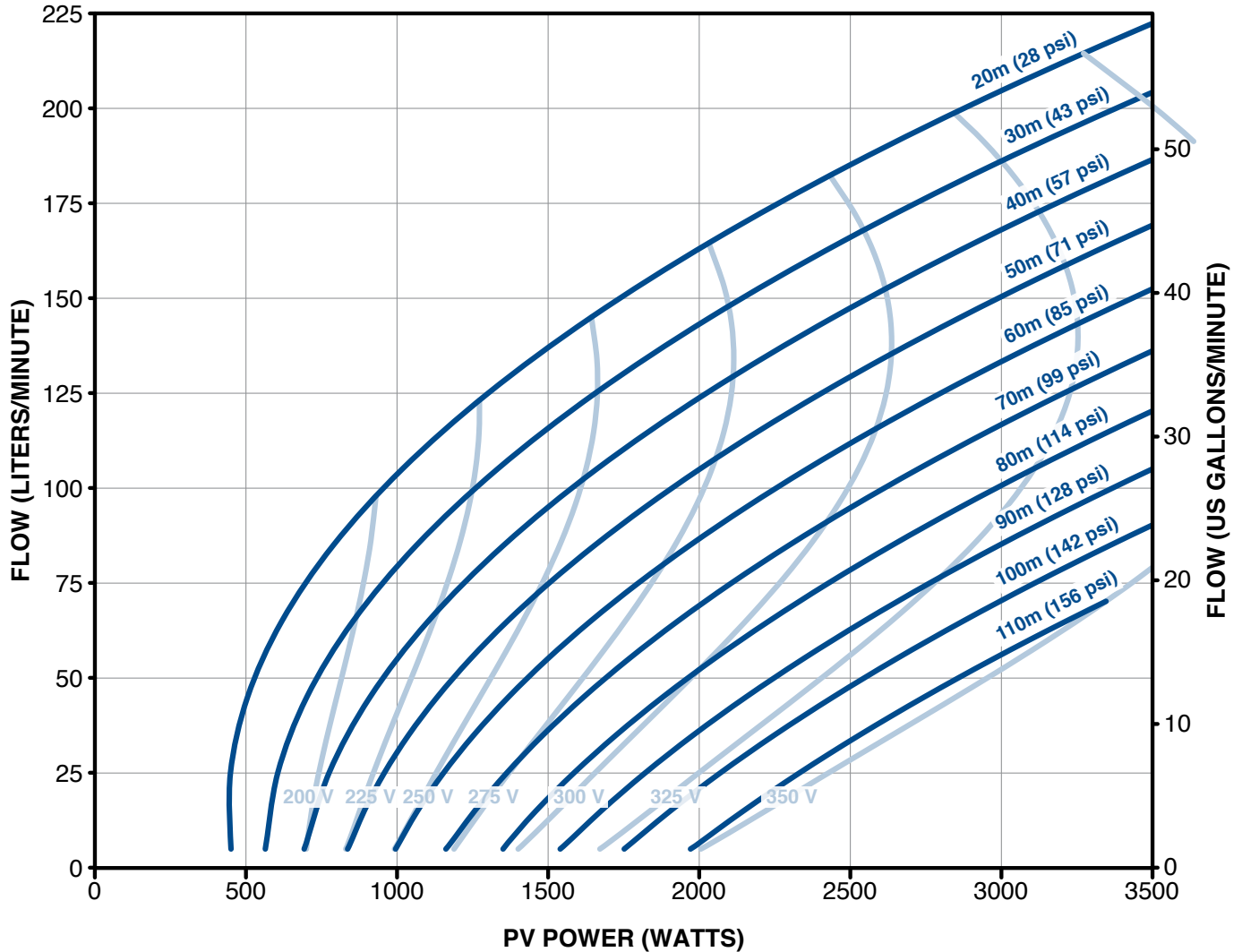
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

100SDSP-2.2kW

SubDrive Solar 2.2 kW, 100 lpm Pump End, 2.2 kW Motor



PV Power (Watts)												
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
Head (m)	Flow (LPM)											
20	82	104	122	137	151	163	175	185	195	205	214	222
30	53	80	100	116	130	143	155	166	177	186	195	205
40	20	55	77	95	110	124	136	147	158	168	178	186
50		30	56	75	91	105	118	130	140	150	160	170
60			35	55	73	86	100	112	123	134	143	152
70			15	36	54	70	83	95	106	117	126	136
80				19	36	52	66	79	90	101	111	120
90					20	36	50	63	75	85	95	105
100						21	35	48	59	70	81	90
110							21	34	45	56	66	

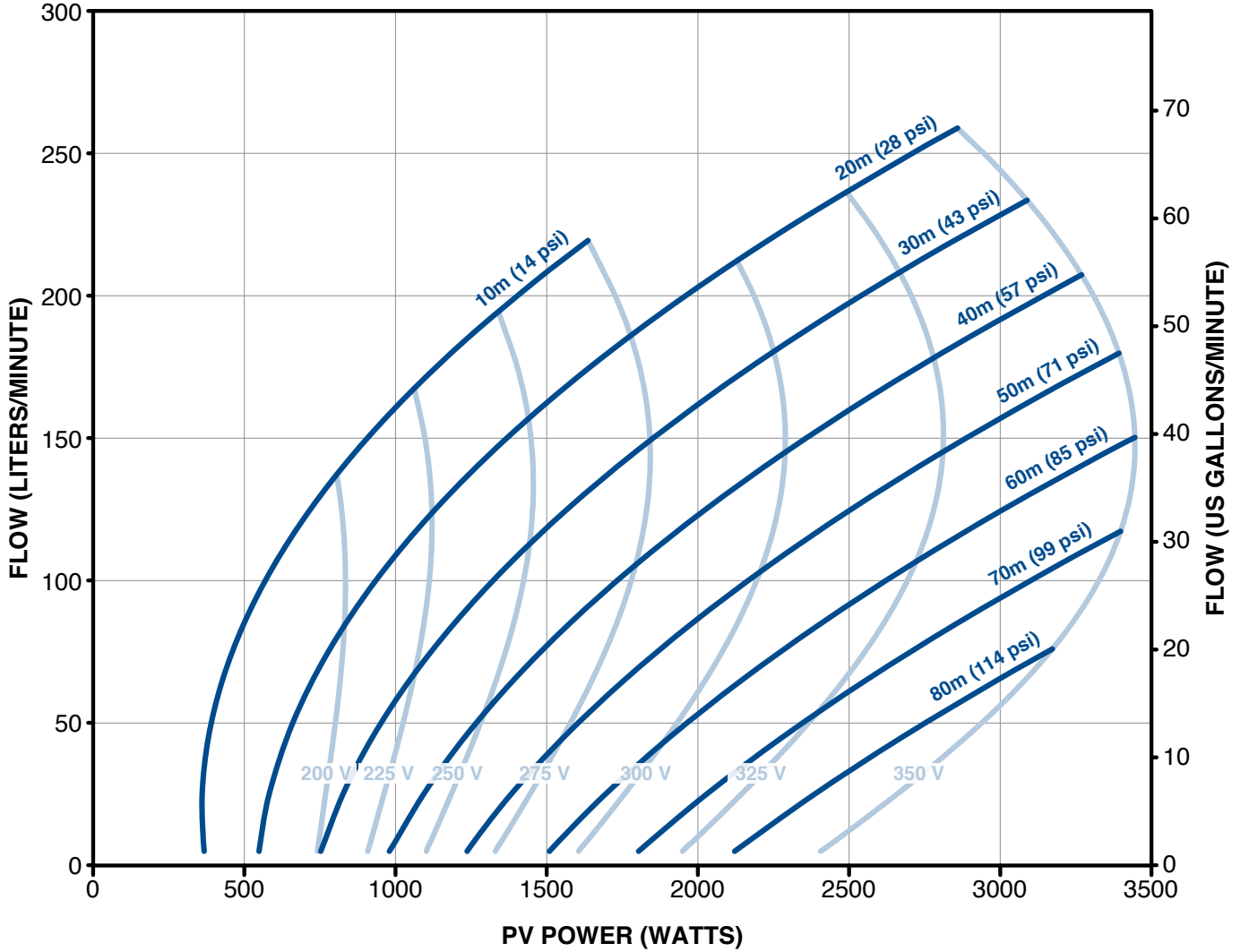
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

150SDSP-2.2kW

SubDrive Solar 2.2 kW, 150 lpm Pump End, 2.2 kW Motor



		PV Power (Watts)											
		750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
Head (m)		Flow (LPM)											
10		130	162	187	209								
20	70		109	139	162	184	204	221	237	253			
30			58	92	119	142	162	180	198	214	229		
40				48	78	102	124	143	160	176	192	207	
50					39	65	86	107	125	141	157	172	
60						31	53	73	92	109	124	140	
70							23	43	61	79	94	109	
80								15	34	50	65		

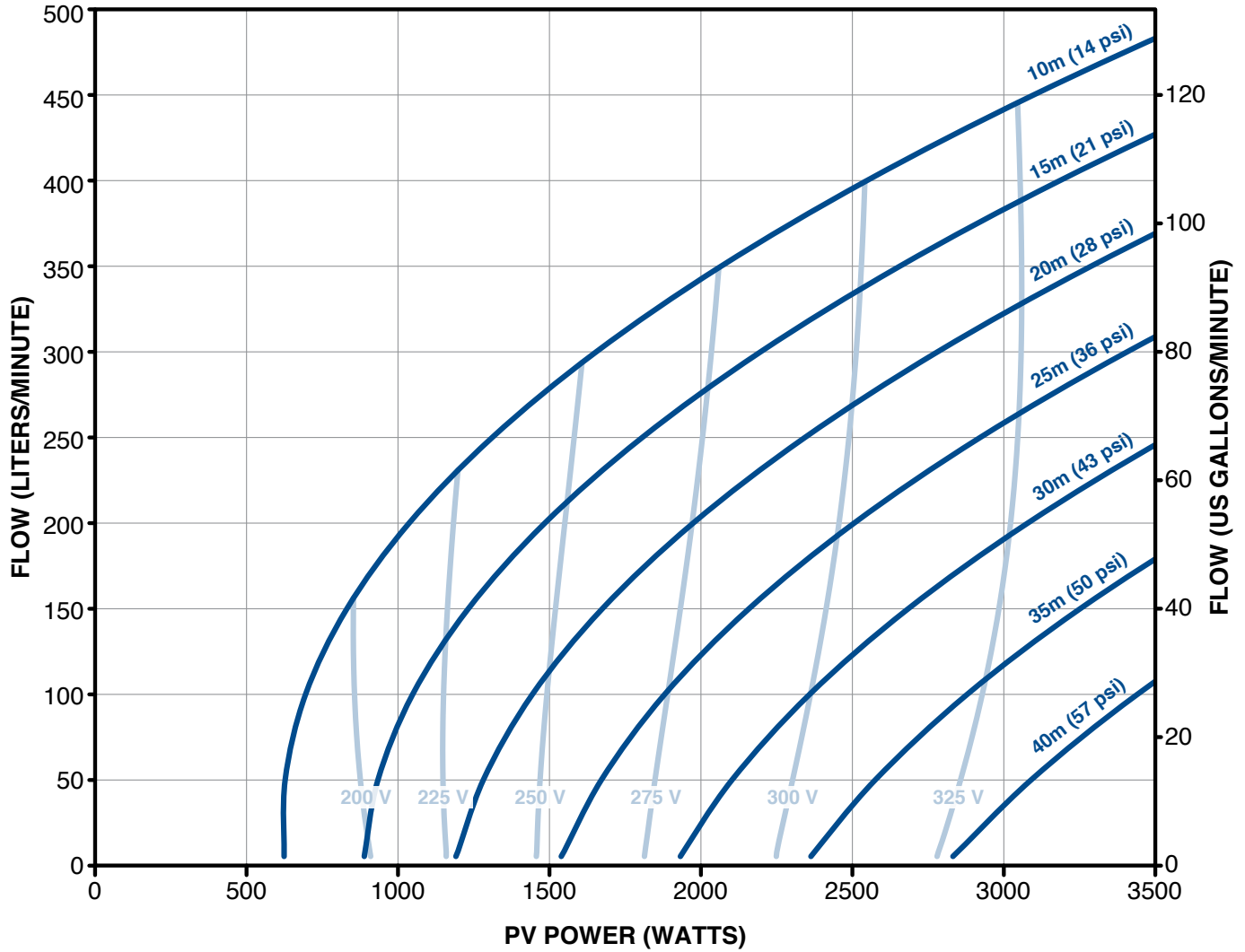
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Pump Performance

270SDSP-2.2kW

SubDrive Solar 2.2 kW, 270 lpm Pump End, 2.2 kW Motor

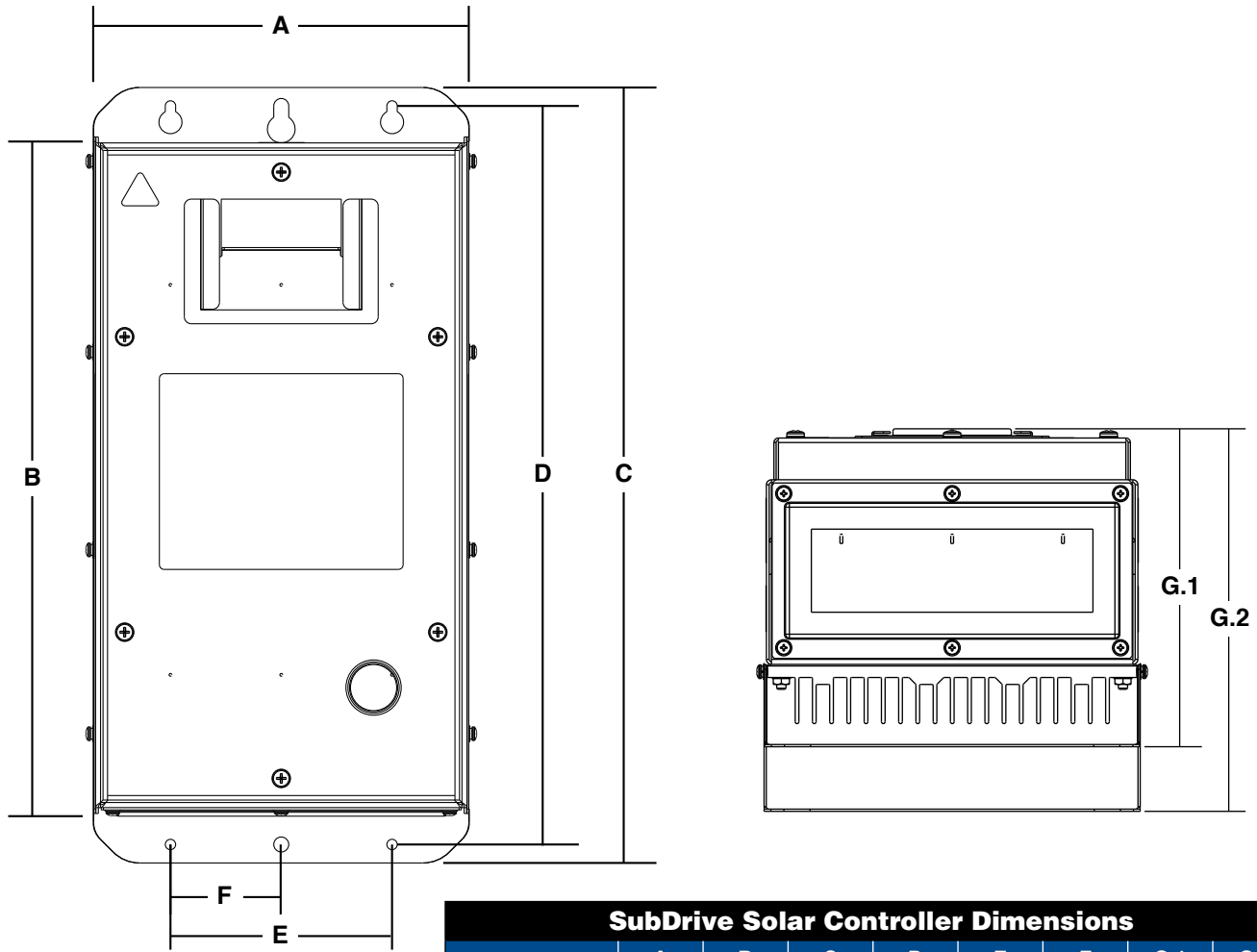


PV Power (Watts)												
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
Head (m)	Flow (LPM)											
10	125	192	240	279	312	342	370	395	420	441	463	482
15		82	155	203	242	276	307	334	360	384	406	428
20			38	114	163	204	239	270	297	323	347	370
25					71	123	165	200	230	258	285	310
30						23	80	122	160	190	220	245
35								35	80	118	150	180
40										35	74	110

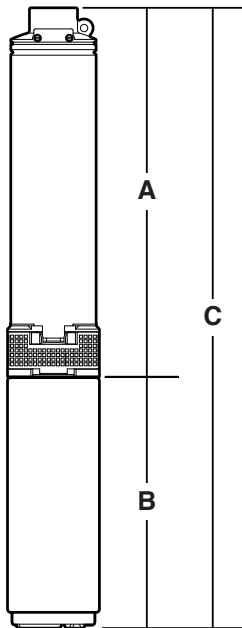
* 1 bar = 10.2 meters of head

**Refer to Drive Specifications table on page 23 for PV source power and voltage recommended operating ranges

Dimensions



SubDrive Solar Controller Dimensions								
	A	B	C	D	E	F	G.1	G.2
Centimeters	25.9	46.4	53.4	50.8	15.2	7.6	22.1	26.5
Inches	10.2	18.3	21.0	20.0	6.0	3.0	8.7	10.4



Solar PMA Dimensions															
LPM	USGPM	kW	HP	Stages	A		B		C		Discharge	PE Weight		PMA Weight	
					mm	inches	mm	inches	mm	inches		kg	lbs	kg	lbs
18	5	0.55	0.75	18	574	22.6	270	10.6	844	33.2	1 1/4"	5	12	15	33
25	7	0.55	0.75	13	467	18.4	270	10.6	737	29.0	1 1/4"	5	11	15	32
30	10	0.55	0.75	8	373	14.7	270	10.6	643	25.3	1 1/4"	4	8	13	29
45	15	0.55	0.75	6	329	13.0	270	10.6	599	23.6	1 1/4"	3	7	13	28
18	5	1.1	1.5	30	866	34.1	298	11.7	1164	45.8	1 1/4"	9	19	22	48
30	10	1.1	1.5	18	642	25.3	298	11.7	940	37.0	1 1/4"	7	16	20	45
45	15	1.1	1.5	15	521	20.5	298	11.7	819	32.2	1 1/4"	7	15	20	44
70	25	1.1	1.5	10	488	19.2	298	11.7	786	30.9	1 1/4"	5	10	18	39
150	45	1.1	1.5	7	593	23.3	298	11.7	891	35.1	2"	7	16	20	45
270	90	1.1	1.5	5	575	22.6	298	11.7	873	34.4	2"	7	15	20	44
25	7	2.2	3	30	866	34.1	408	16.1	1274	50.2	1 1/4"	9	20	28	61
30	10	2.2	3	18	645	25.3	408	16.1	1053	41.4	1 1/4"	7	16	26	57
45	15	2.2	3	15	521	20.5	408	16.1	929	36.6	1 1/4"	7	15	25	56
70	25	2.2	3	10	488	19.2	408	16.1	896	35.3	1 1/4"	5	10	23	51
150	45	2.2	3	7	593	23.3	408	16.1	1001	39.4	2"	7	16	26	57
270	90	2.2	3	5	575	22.6	408	16.1	983	38.7	2"	7	15	25	56

Note: Maximum diameter across cable guard is 99.1 mm (3.90") on all models.

Drive Specifications

SubDrive Solar Controller Specifications							
		0.55 kW model		1.1 kW model		2.2 kW model	
Controller Model No.		5870300553		5870301113		5870301223	
Output							
Output voltage, max	100 V AC, 3-phase		200 V AC, 3-phase		200 V AC, 3-phase		
Max Amps (RMS)	8.6 A, each phase		6.8 A, each phase		12.5 A, each phase		
Output Frequency	30-60 Hz		30-58 Hz		30-68 Hz		
Efficiency at Max Power	96%		96%		96%		
PV source							
Input Voltage, at mpp	*95 - 330 V DC		**190 – 330 V DC		**190 – 330 V DC		
Max Amps Input	8.7 A DC, continuous		7 A DC, continuous		12 A DC, continuous		
Power at mpp	up to 1400 watts		Up to 2000 watts		up to 3500 watts		
Alternate AC Generator							
Input voltage	230 V AC, single phase		230 V AC, single phase		230 V AC, single phase		
Max Amps (RMS)	9.6 A		16 A		25 A		
Power and VA capability	Follow instruction manual for proper generator sizing data		Follow instruction manual for proper generator sizing data		Follow instruction manual for proper generator sizing data		
For Use With							
Franklin Electric Motor		234902----		234504----		234306----	
SubDrive Solar Pumps (BSPP)	LPM	Stages	Model No.	Stages	Model No.	Stages	Model No.
	18	18	90020504	30	90020508	30	-
	25	13	90020704	30	-	30	90020711
	30	8	90021004	18	90021011	18	90021011
	45	6	90021504	15	90021511	15	90021511
	70	-	-	10	90022511	10	90022511
	100	-	-	10	90023511	10	90023511
	150	-	-	7	90024511	7	90024511
270	-	-	5	90029011	5	90029011	
SubDrive Solar Pumps (NPT)	USGPM	Stages	Model No.	Stages	Model No.	Stages	Model No.
	5	18	90020503	30	90020507	30	-
	7	13	90020703	30	-	30	90020710
	10	8	90021003	18	90021010	18	90021010
	15	6	90021503	15	90021510	15	90021510
	25	-	-	10	90022510	10	90022510
	35	-	-	10	90023510	10	90023510
	45	-	-	7	90024510	7	90024510
90	-	-	5	90029010	5	90029010	
Controller Size		L X W X D		L X W X D		L X W X D	
Centimeters		(53.34 X 25.87 X 21.87 cm)		(53.34 X 25.87 X 21.87 cm)		(53.34 X 25.87 X 26.31 cm)	
Inches		(21.00" X 10.19" X 8.61")		(21.00" X 10.19" X 8.61")		(21.00" X 10.19" X 10.36")	
Controller Weight							
		19 kg (41 lbs)		19 kg (41 lbs)		22 kg (47 lbs)	
Operating Conditions							
Temperature Range	-25 °C to 50 °C (40 °C max when using AC generator)		-25 °C to 50 °C (40 °C max when using AC generator)		-25 °C to 50 °C (40 °C max when using AC generator)		
Relative Humidity Range	0 to 100% Condensing		0 to 100% Condensing		0 to 100% Condensing		

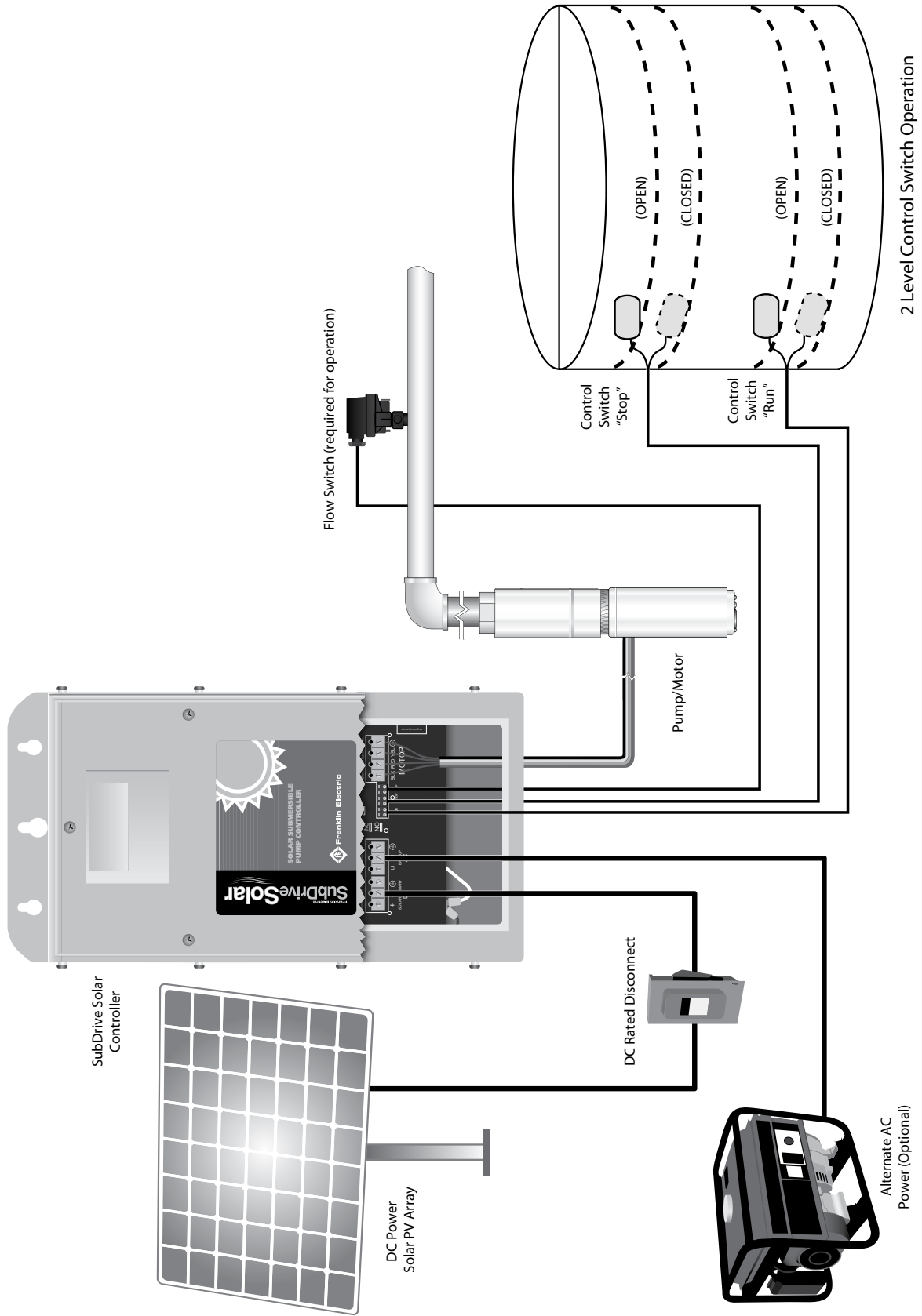
* Drive will attempt to start the pump/motor at 95 V DC, and attempt to continue operation down to 75 V DC.

** Drive will attempt to start the pump/motor at 190 V DC, and attempt to continue operation down to 150 V DC.

Absolute maximum open circuit voltage input to the controller = 410 Voc for all controller models.

*** Motors shown above include an individual conductor lead installed in the motor. For replacement motors without a lead use part numbers: 1.5 hp / 1.1 kW (2345041903S) and 3.0 hp / 2.2 kW (2343062504)

System Quick Install Guide



SubDrive SolarPAK Selector:

Franklin's user-friendly SubDrive SolarPAK Selector helps you determine the optimal system for your solar project. Simply input your location, duty requirements, and solar panel characteristics (if known) and the system will automatically recommend the SolarPAK model and array configuration best for your application.

The screenshot shows the Franklin Electric SubDrive SolarPAK Selector interface. At the top, there is a navigation bar with the Franklin Electric logo and the product name 'SUBDRIVE SOLARPAK SELECTOR'. Below this, there are two tabs: 'User Requirements' and 'Solar Panel Options'. The 'User Requirements' section is active and contains three main input areas: 'LOCATION', 'INPUT REQUIREMENTS', and 'OUTPUT REQUIREMENT'. The 'LOCATION' section has input fields for Degrees Latitude* (41) and Degrees Longitude* (-85). The 'INPUT REQUIREMENTS' section has a Total Dynamic Head* input field (19) and a unit dropdown menu (Meters). The 'OUTPUT REQUIREMENT' section has a 'Solve to:' dropdown menu (Volume selected) and a Water Volume / Day* input field (44) with a unit dropdown menu (m³). Below these inputs is a 'Look up your location' button. The 'Solar Hours' section features a bar chart showing solar hours per month: Jan (3.08), Feb (3.62), Mar (4.10), Apr (4.59), May (4.77), Jun (5.19), Jul (5.33), Aug (4.95), Sep (4.93), Oct (4.05), Nov (2.74), and Dec (2.51). Below the chart is a 'Select peak month for sizing or use annual average value.' section with a radio button for 'Average: 4.16' and a 'Month' dropdown menu. There is also a 'Solar Array Tracker used.' section with radio buttons for 'Yes' and 'No'. The 'SolarPAK Options' section has tabs for 'BSP' and 'NPT', with 'BSP' selected. Below this are tabs for 'Recommended + Alternative' and 'All Product', with 'Recommended + Alternative' selected. This section displays four product options: '150SDSP-1.1KW *', '270SDSP-1.1KW', '150SDSP-2.2KW', and '270SDSP-2.2KW'. Below the product options are tabs for 'Overview', 'Curve Chart', 'Flow Rate Chart', and 'Cable Size Chart', with 'Overview' selected. The 'Overview' section shows an image of the 150SDSP-1.1KW solar pump and its specifications: Part#: 90034520, LPM: 176, Minimum Array Requirements, Vmpp (Volts): 272, and Power (Watts): 1511.

* Above screen shot is illustrative only and is subject to continuous improvement

The Franklin Electric SubDrive Solar Selector and other information on our series of solar products can be found on Franklin Electric's Solar Website:

www.franklin-electric.com/solar

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