SubDrive SOLARPAK

SOLAR PUMPING SYSTEM

Franklin Electric

franklinwater.com

SubDrive SOLARPAK
SOLAR PUMPING SYSTEM

Continuous data connection for remote telemetry made available via a RS-485 port.

Easy to read, 3 digit, 7 segment LED display. Provides ease of programming and troubleshooting.

Push button navigation for ease of programming and display control.

Sliding door protects display from wildlife and environmental abuse.

IP55, NEMA 3 rated enclosure for outdoor use.

DC and AC power supply input. Automatic switching to AC generator backup power if no DC is available from the solar array.

Robust enclosure made of 1.9 and 1.5mm (14 and 16 gauge) zinc-plated and powder coated steel to stand up to the toughest environmental conditions.

Contacts for up to two level control switches (can also operate from a pressure switch, used for long pipe runs).

TRIP contact for flow switch to detect dry run conditions and protect the motor.

Removable bottom gland plate makes conduit installation simple.

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

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

FEATURES

- High flow system for faster tank fill and significant water output
- Proven motor and pump technology for long-term reliability
- Robust IP55, NEMA 3 drive enclosure minimizes impact of wildlife, insects, dust, and weather
- DC and AC power inputs with auto-switching between the solar array and an AC backup source
- 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

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MODEL NUMBER DESCRIPTIONS

XXX SD SP - X.XHP

- Motor Rating: 0.75, 1.5, or 3.0 hp (0.55, 1.1, or 3.0 kW)
- SolarPAK
- SubDrive
- Pump Flow: 5, 7, 10, 15, 25, 35, 45, or 90 US gpm (18, 25, 30, 45, 70, 100, 150, or 270 lpm)

SubDrive SOLARPAK SOLAR PUMPING SYSTEM

SUBDRIVE SOLARPAK MODEL NUMBERS

SolarPAK		SubDrive Solar Controller		Solar Pump – NPT				Motor		Flow Switch NPT	
SolarPAK Model	Order No.	Drive Model	Part No.	US GPM	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	226014102
5SDSP-1.5HP	90040520	SD Solar 1.1 kW 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	226014102
7SDSP-3.0HP	90040730	SD Solar 2.2 kW 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	226014102
10SDSP-1.5HP	90041020	SD Solar 1.1 kW N3	5870301113	10	18	10SL2S4-PE	90021010	1.5	2345049203S	C25	226014102
10SDSP-3.0HP	90041030	SD Solar 2.2 kW 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	226014102
15SDSP-1.5HP	90041520	SD Solar 1.1 kW N3	5870301113	15	15	15SL2S4-PE	90021510	1.5	2345049203S	C25	226014102
15SDSP-3.0HP	90041530	SD Solar 2.2 kW N3	5870301223	15	15	15SL2S4-PE	90021510	3.0	2343062604	C25	226014102
25SDSP-1.5HP	90042520	SD Solar 1.1 kW N3	5870301113	25	10	25SL2S4-PE	90022510	1.5	2345049203S	F21	226019102
25SDSP-3.0HP	90042530	SD Solar 2.2 kW N3	5870301223	25	10	25SL2S4-PE	90022510	3.0	2343062604	F21	226019102
35SDSP-1.5HP	90043520(a)	SD Solar 1.1 kW N3	5870301113	35	10	35SL2S4-PE	90023510	1.5	2345049203S	F21	226019102
35SDSP-3.0HP	90043530(a)	SD Solar 2.2 kW N3	5870301223	35	10	35SL2S4-PE	90023510	3.0	2343062604	F21	226019102
45SDSP-1.5HP	90044520(a)	SD Solar 1.1 kW N3	5870301113	45	7	45SL2S4-PE	90024510	1.5	2345049203S	F21	226019102
45SDSP-3.0HP	90044530(a)	SD Solar 2.2 kW N3	5870301223	45	7	45SL2S4-PE	90024510	3.0	2343062604	F21	226019102
90SDSP-1.5HP	90049020(a)	SD Solar 1.1 kW N3	5870301113	90	5	90SL2S4-PE	90029010	1.5	2345049203S	F21	226019102
90SDSP-3.0HP	90049030(a)	SD Solar 2.2 kW N3	5870301223	90	5	90SL2S4-PE	90029010	3.0	2343062604	F21	226019102

SolarPAK		SubDrive Solar Controller		Solar Pump – BSPP				Motor		Flow Switch BSPP	
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 1.1 kW N3	5870301113	18	30	18SL1S4-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 2.2 kW 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 1.1 kW N3	5870301113	30	18	30SL15S4-PEXB	90021011	1.1	2345049203S	C25	226014101
30SDSP-2.2KW	90031030	SD Solar 2.2 kW 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 1.1 kW N3	5870301113	45	15	45SL15S4-PEXB	90021511	1.1	2345049203S	C25	226014101
45SDSP-2.2KW	90031530	SD Solar 2.2 kW N3	5870301223	45	15	45SL15S4-PEXB	90021511	2.2	2343062604	C25	226014101
70SDSP-1.1KW	90032520	SD Solar 1.1 kW N3	5870301113	70	10	70SL15S4-PEXB	90022511	1.1	2345049203S	F21	226019101
70SDSP-2.2KW	90032530	SD Solar 2.2 kW N3	5870301223	70	10	70SL15S4-PEXB	90022511	2.2	2343062604	F21	226019101
100SDSP-1.1KW	90033520(a)	SD Solar 1.1 kW N3	5870301113	100	10	100SL15S4-PEXB	90023511	1.1	2345049203S	F21	226019101
100SDSP-2.2KW	90033530(a)	SD Solar 2.2 kW N3	5870301223	100	10	100SL15S4-PEXB	90023511	2.2	2343062604	F21	226019101
150SDSP-1.1KW	90034520(a)	SD Solar 1.1 kW N3	5870301113	150	7	150SL15S4-PEXB	90024511	1.1	2345049203S	F21	226019101
150SDSP-2.2KW	90034530(a)	SD Solar 2.2 kW N3	5870301223	150	7	150SL15S4-PEXB	90024511	2.2	2343062604	F21	226019101
270SDSP-1.1KW	90039020(a)	SD Solar 1.1 kW N3	5870301113	270	5	270SL15S4-PEXB	90029011	1.1	2345049203S	F21	226019101
270SDSP-2.2KW	90039030(a)	SD Solar 2.2 kW N3	5870301223	270	5	270SL15S4-PEXB	90029011	2.2	2343062604	F21	226019101

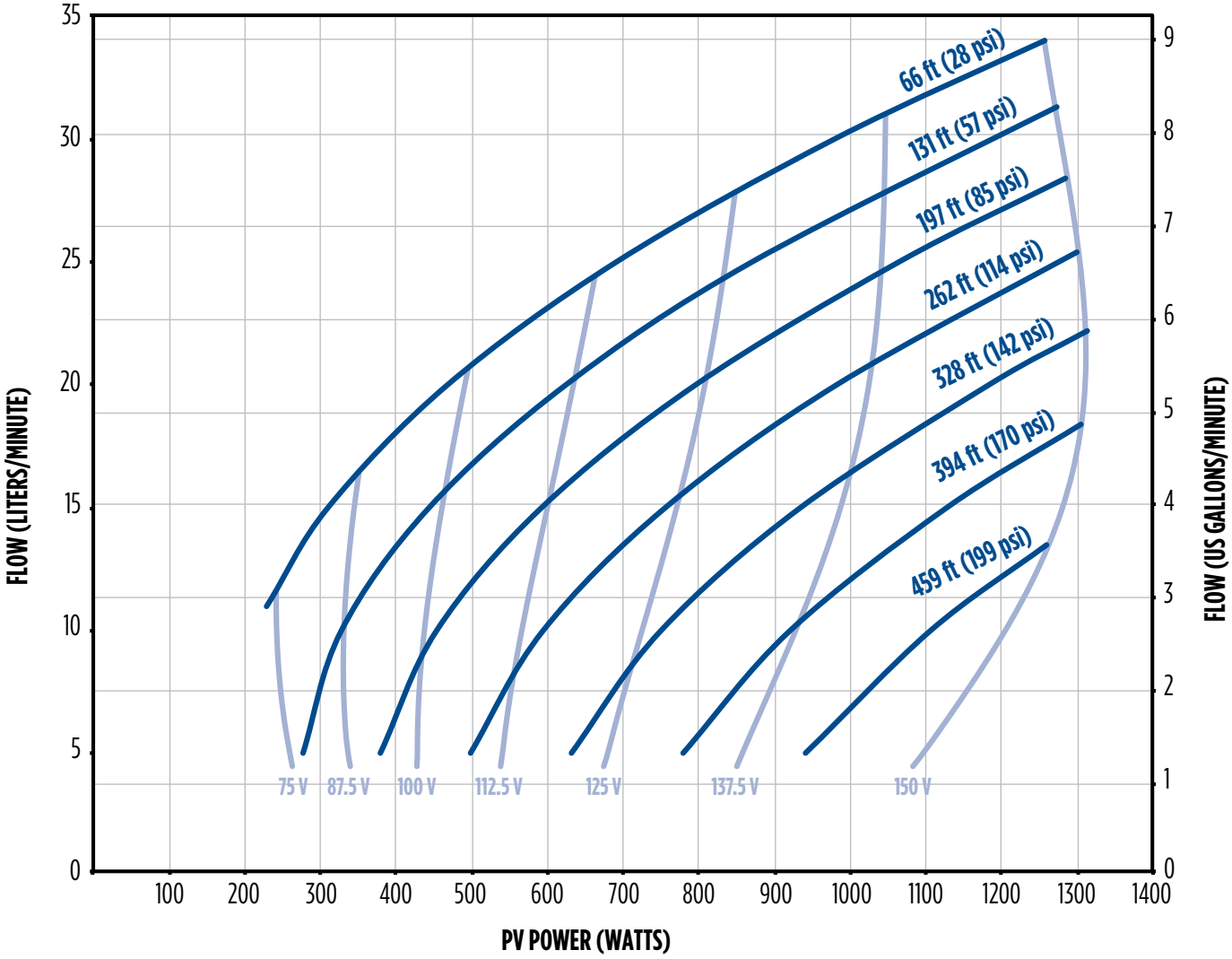
* A-30 foot (10 meter) cable for use with the flow switch is included in the controller packaging

** 316SS 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, 35 US gpm (100 lpm) and higher, in a SolarPAK are not supplied with an internal check valve.

5SDSP-0.75HP

SubDrive Solar 0.75 hp Controller, 5 US gpm 0.75 hp Pump End, 0.75 hp Motor



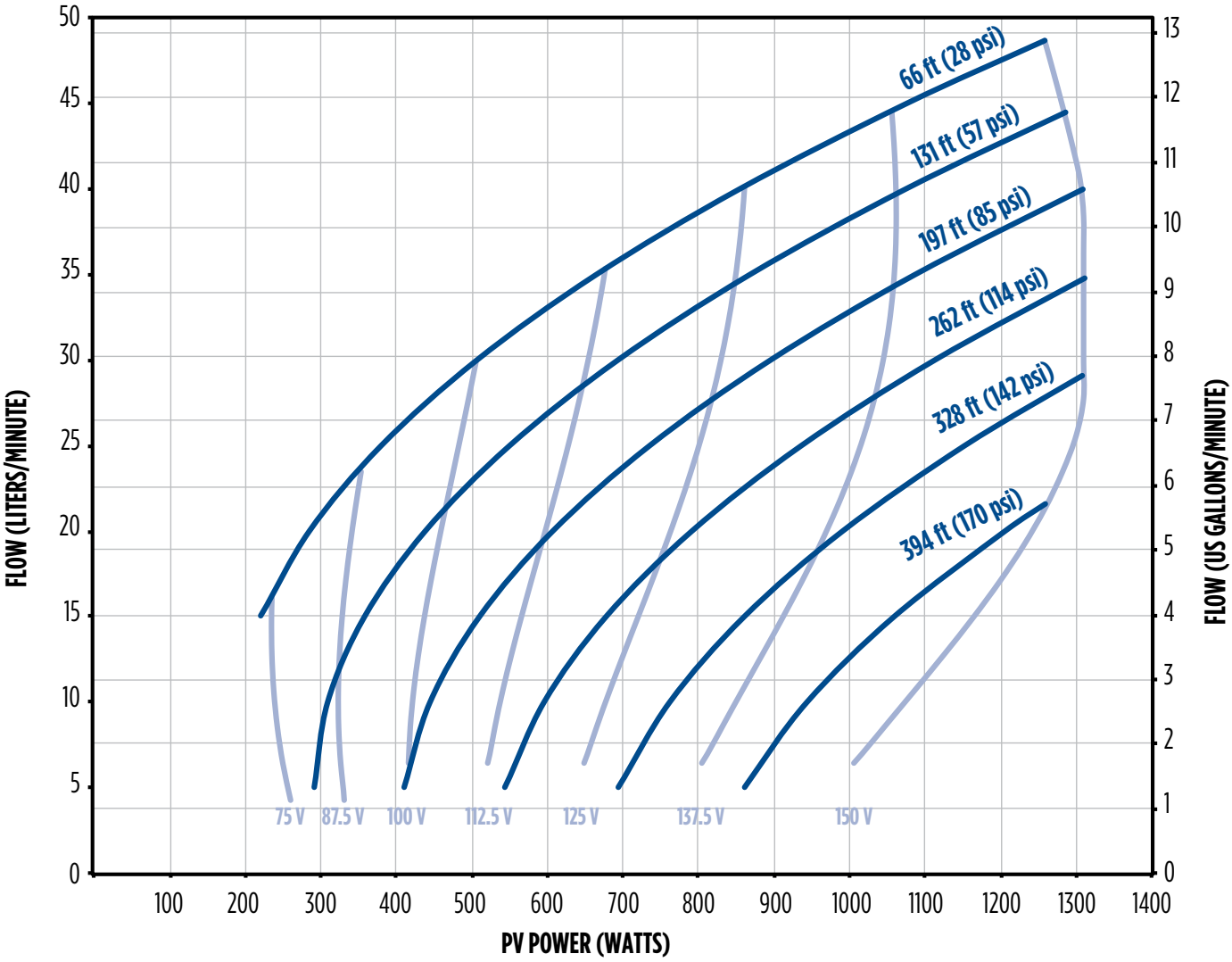
	PV Power (Watts)											
	200	300	400	500	600	700	800	900	1000	1100	1200	1300
TDH (ft)	Flow (US GPM)											
66		4	5	5	6	6	7	7	8	8	9	
131		2	3	4	5	6	6	7	7	8	8	
197			2	3	4	5	5	6	6	7	7	
262				1	3	3	4	5	5	6	6	7
328						2	3	4	4	5	5	6
394							2	2	3	4	4	5
459									2	3	3	

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

SubDrive SOLARPAK SOLAR PUMPING SYSTEM

7SDSP-0.75HP

SubDrive Solar 0.75 hp Controller, 7 US gpm 0.75 hp Pump End, 0.75 hp Motor

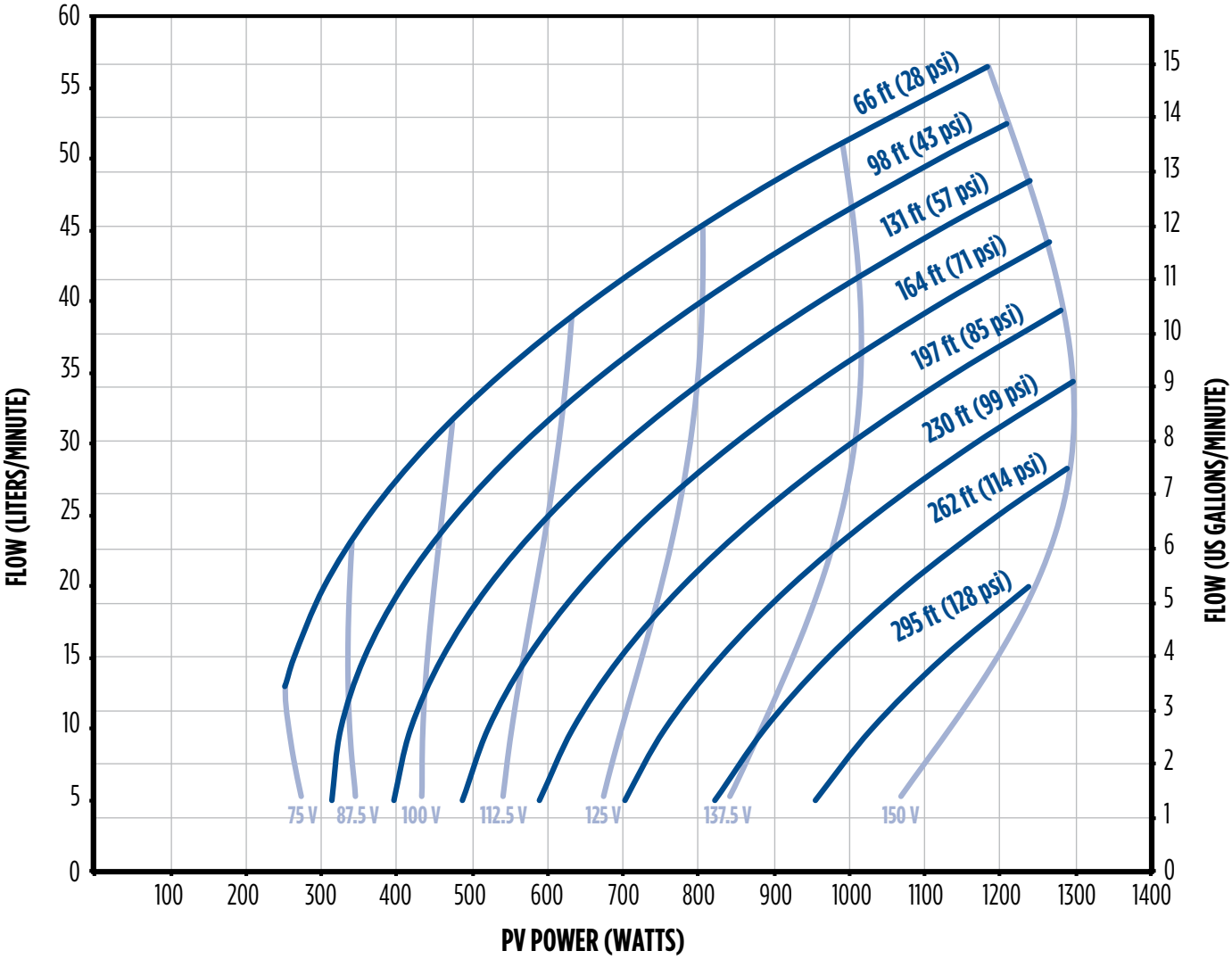


PV Power (Watts)												
	200	300	400	500	600	700	800	900	1000	1100	1200	1300
TDH (ft)	Flow (US GPM)											
66		5	7	8	9	9	10	11	11	12	12	
131		2	5	6	7	8	9	9	10	11	11	
197				4	5	6	7	8	9	9	10	10
262					3	4	5	6	7	8	8	9
328						1	3	4	5	6	7	8
394								2	3	4	5	

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

10SDSP-0.75HP

SubDrive Solar 0.75 hp Controller, 10 US gpm 0.75 hp Pump End, 0.75 hp Motor

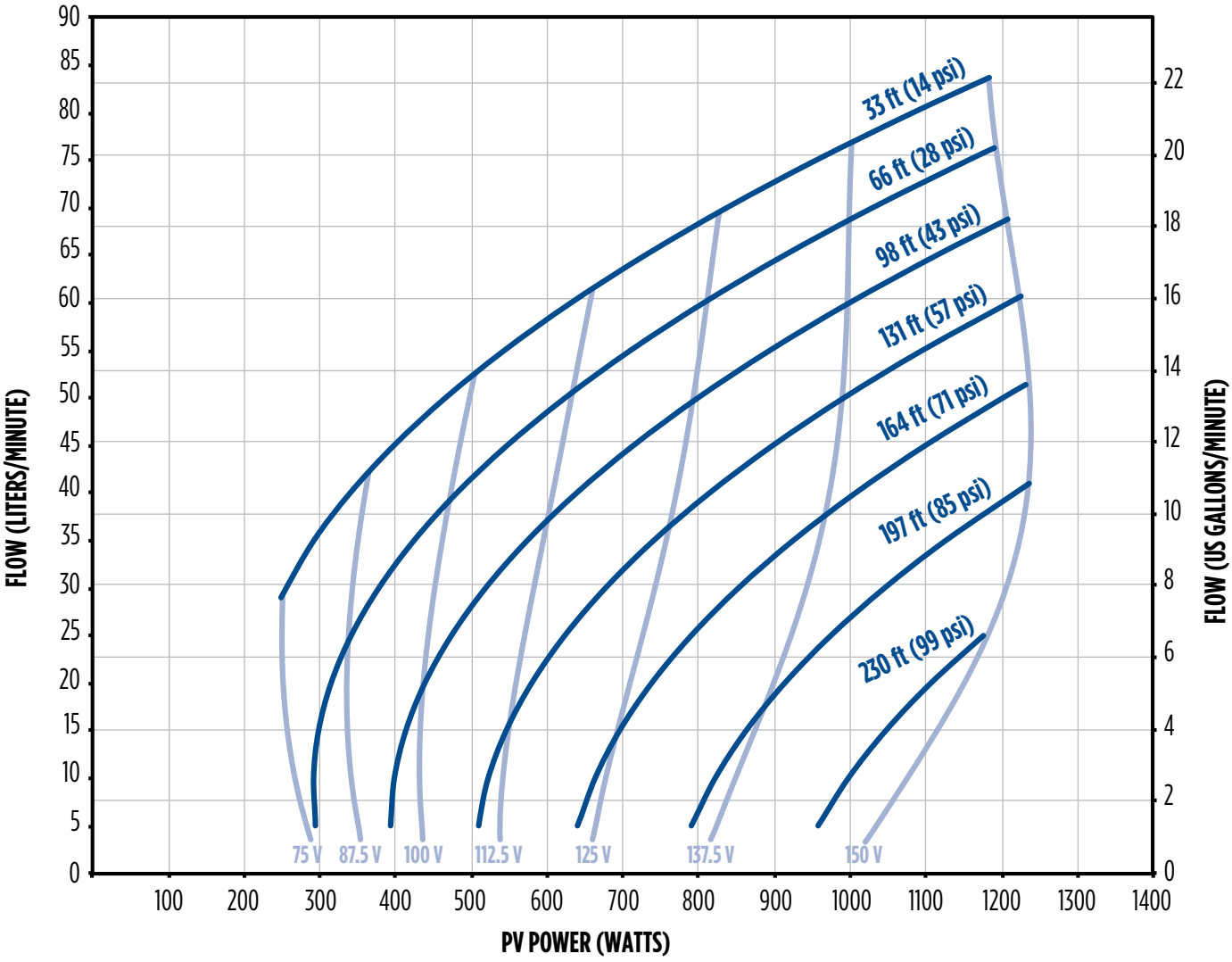


	PV Power (Watts)											
	200	300	400	500	600	700	800	900	1000	1100	1200	1300
TDH (ft)	Flow (US GPM)											
66		5	7	9	10	11	12	13	13	14		
98			5	7	8	9	10	11	12	13	14	
131			2	5	6	8	9	10	11	12	12	
164				2	4	6	7	8	9	10	11	
197					2	4	5	7	8	9	10	
230							3	5	6	7	8	9
262								3	4	5	6	
295									2	3	5	

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

15SDSP-0.75HP

SubDrive Solar 0.75 hp Controller, 15 US gpm 0.75 hp Pump End, 0.75 hp Motor

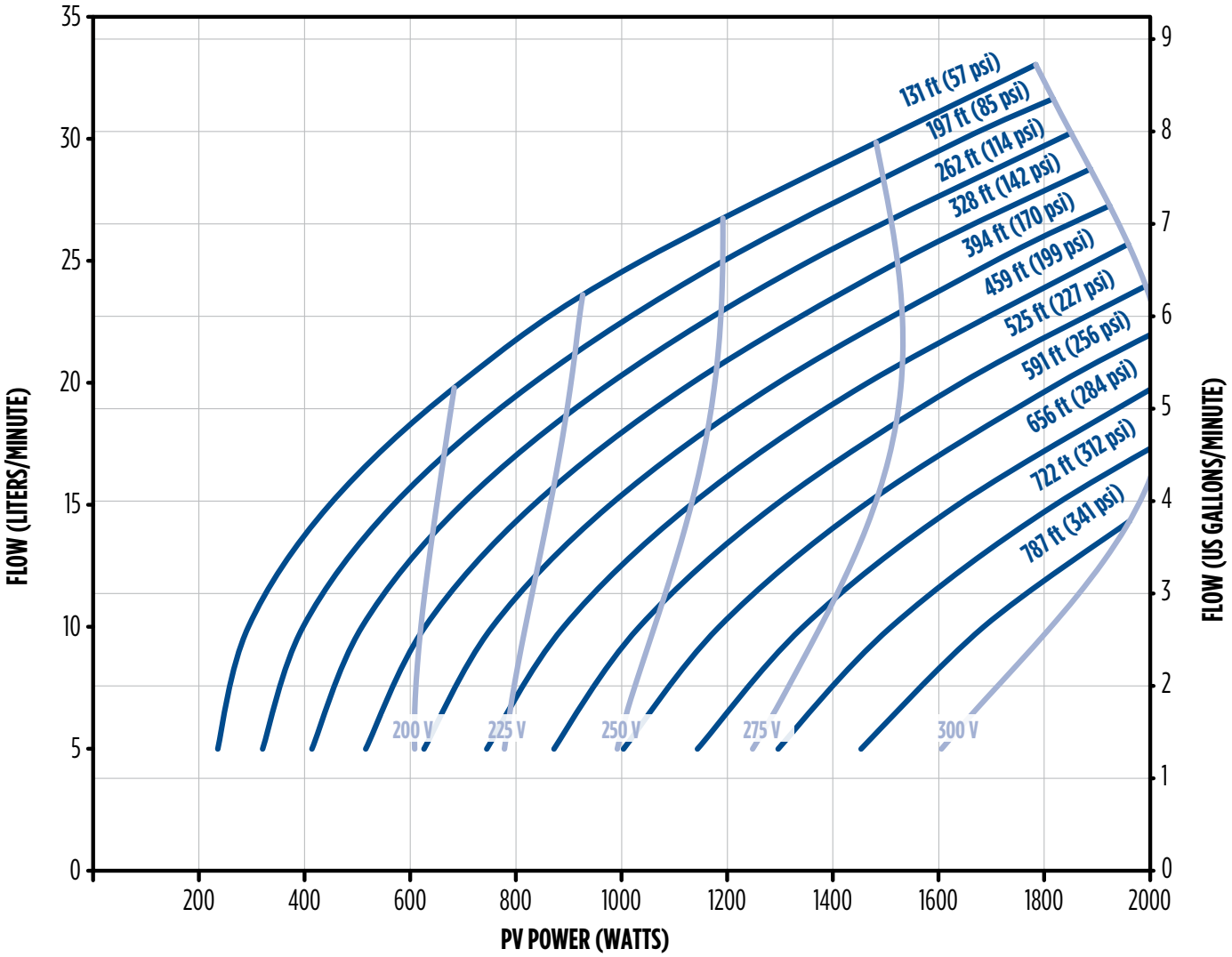


	PV Power (Watts)											
	200	300	400	500	600	700	800	900	1000	1100	1200	1300
TDH (ft)	Flow (US GPM)											
33		9	12	14	15	17	18	19	20	21		
66		4	8	11	13	14	16	17	18	19		
98			3	7	10	12	13	15	16	17	18	
131					6	8	10	12	13	14	16	
164						4	7	9	10	12	13	
197							2	5	7	9	10	
230									3	5		

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

5SDSP-1.5HP

SubDrive Solar 1.5 hp Controller, 5 US gpm 1.5 hp Pump End, 1.5 hp Motor

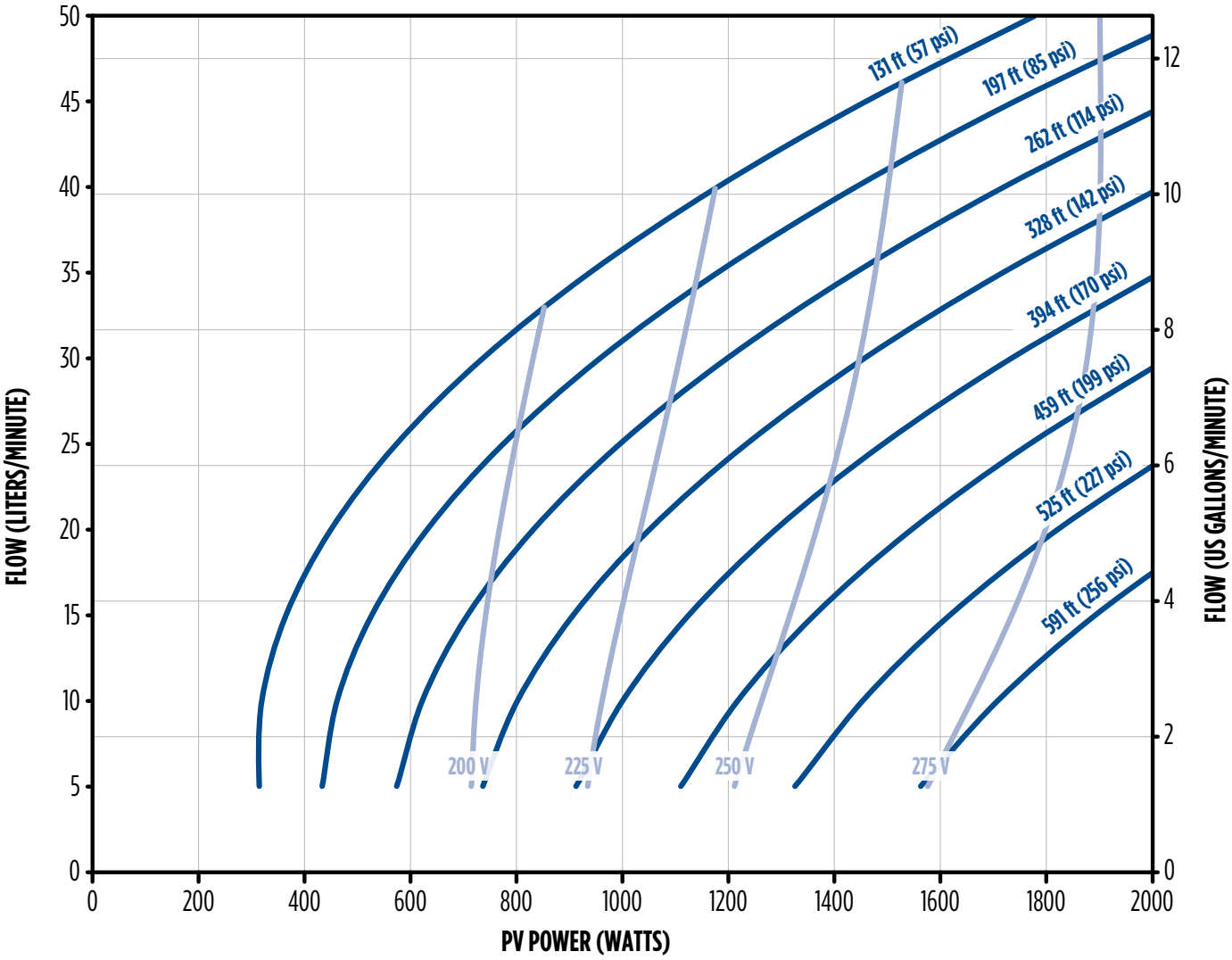


PV Power (Watts)										
	200	400	600	800	1000	1200	1400	1600	1800	2000
TDH (ft)	Flow (US GPM)									
131		4	5	6	6	7	8	8	9	
197		3	4	5	6	7	7	8	8	
262			3	5	5	6	7	7	8	
328			2	4	5	6	6	7	7	
394				3	4	5	6	6	7	
459				2	3	4	5	6	6	
525					2	4	4	5	6	6
591					1	3	4	4	5	6
656						2	3	4	5	5
722							2	3	4	5
787								2	3	

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

10SDSP-1.5HP

SubDrive Solar 1.5 hp Controller, 10 US gpm 2.0 hp Pump End, 1.5 hp Motor

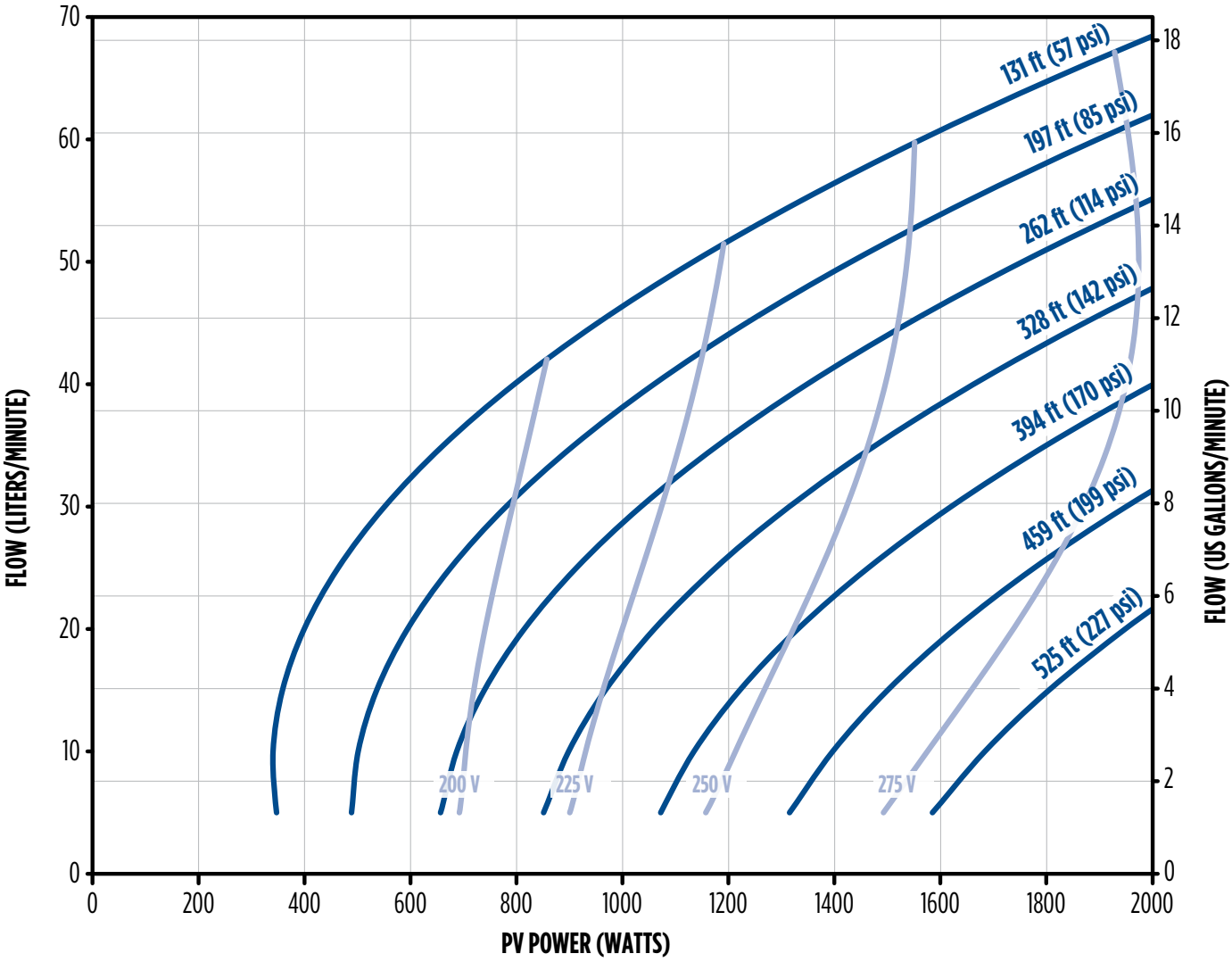


PV Power (Watts)										
	200	400	600	800	1000	1200	1400	1600	1800	2000
TDH (ft)	Flow (US GPM)									
131		5	7	8	10	11	12	12	13	
197			5	7	8	9	10	11	12	13
262			2	5	7	8	9	10	11	12
328				3	5	6	8	9	10	11
394					3	5	6	7	8	9
459						2	4	6	7	8
525							2	4	5	6
591								2	3	5

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

15SDSP-1.5HP

SubDrive Solar 1.5 hp Controller, 15 US gpm 2.0 hp Pump End, 1.5 hp Motor

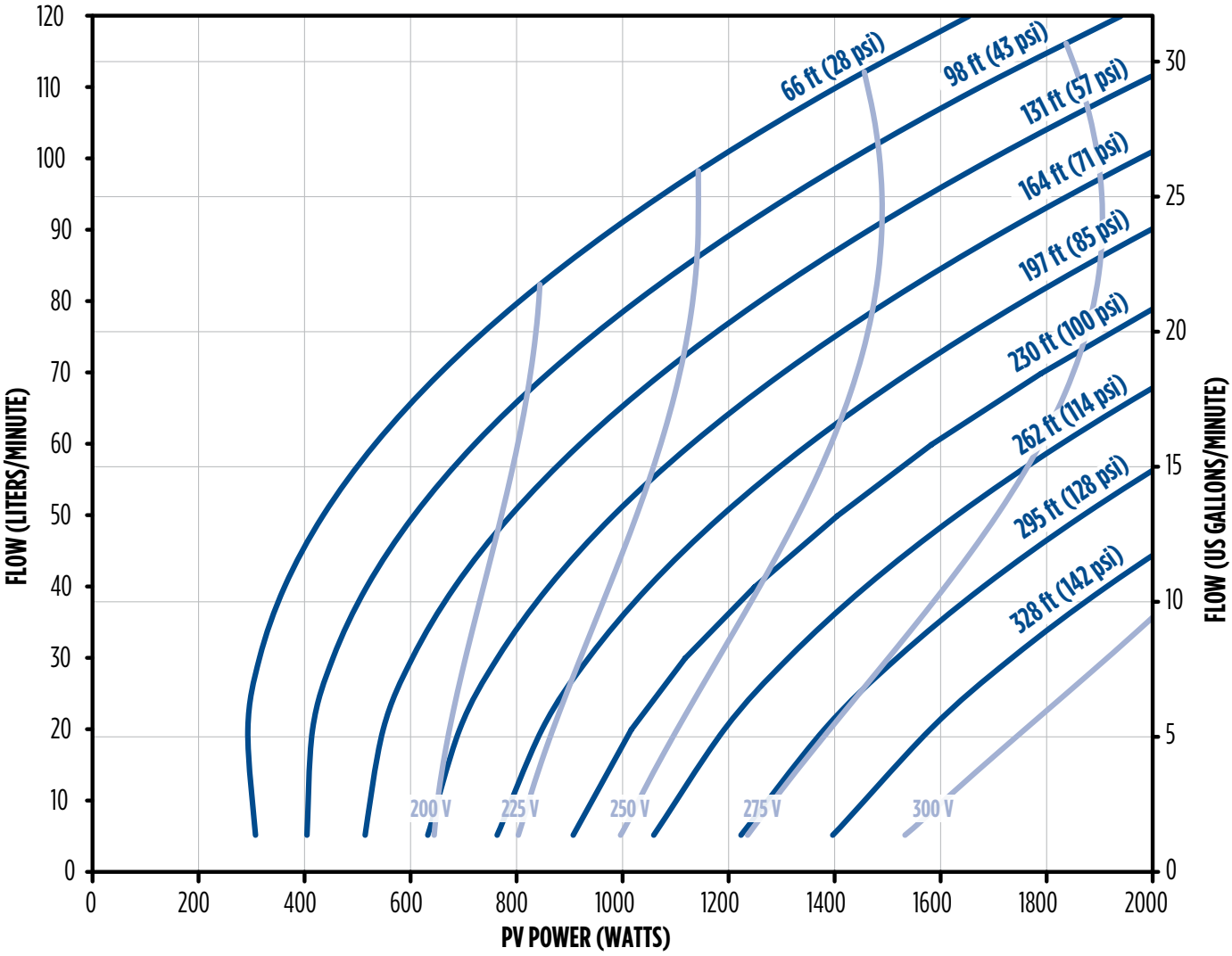


	PV Power (Watts)									
	200	400	600	800	1000	1200	1400	1600	1800	2000
TDH (ft)	Flow (US GPM)									
131		5	8	11	12	14	15	16	17	18
197			6	8	13	12	13	14	15	16
262				5	8	10	11	12	13	15
328					4	7	9	10	11	13
394						4	6	8	9	11
459							3	5	9	8
525								2	4	6

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

25SDSP-1.5HP

SubDrive Solar 1.5 hp Controller, 25 US gpm 2.0 hp Pump End, 1.5 hp Motor

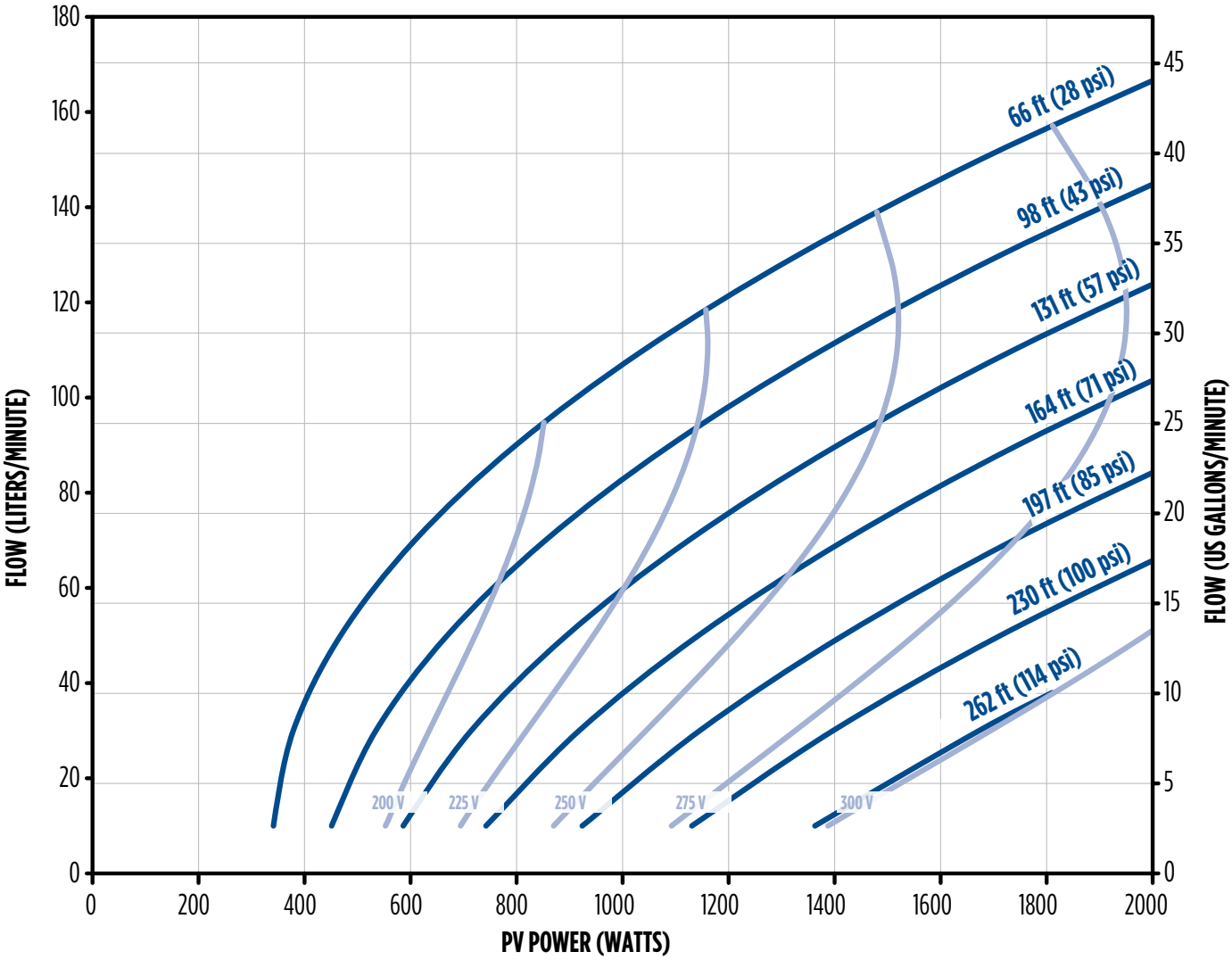


	PV Power (Watts)									
	200	400	600	800	1000	1200	1400	1600	1800	2000
TDH (ft)	Flow (US GPM)									
66		12	17	21	24	27	29	31		
98			13	17	21	24	26	28	30	
131			8	13	17	20	23	25	27	30
164				9	14	17	20	22	25	27
197				3	10	13	17	19	22	24
230					5	10	13	16	19	21
262						6	10	13	15	18
295							6	9	12	15
328							1	6	9	12

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

35SDSP-1.5HP

SubDrive Solar 1.5 hp Controller, 35 US gpm 2.0 hp Pump End, 1.5 hp Motor

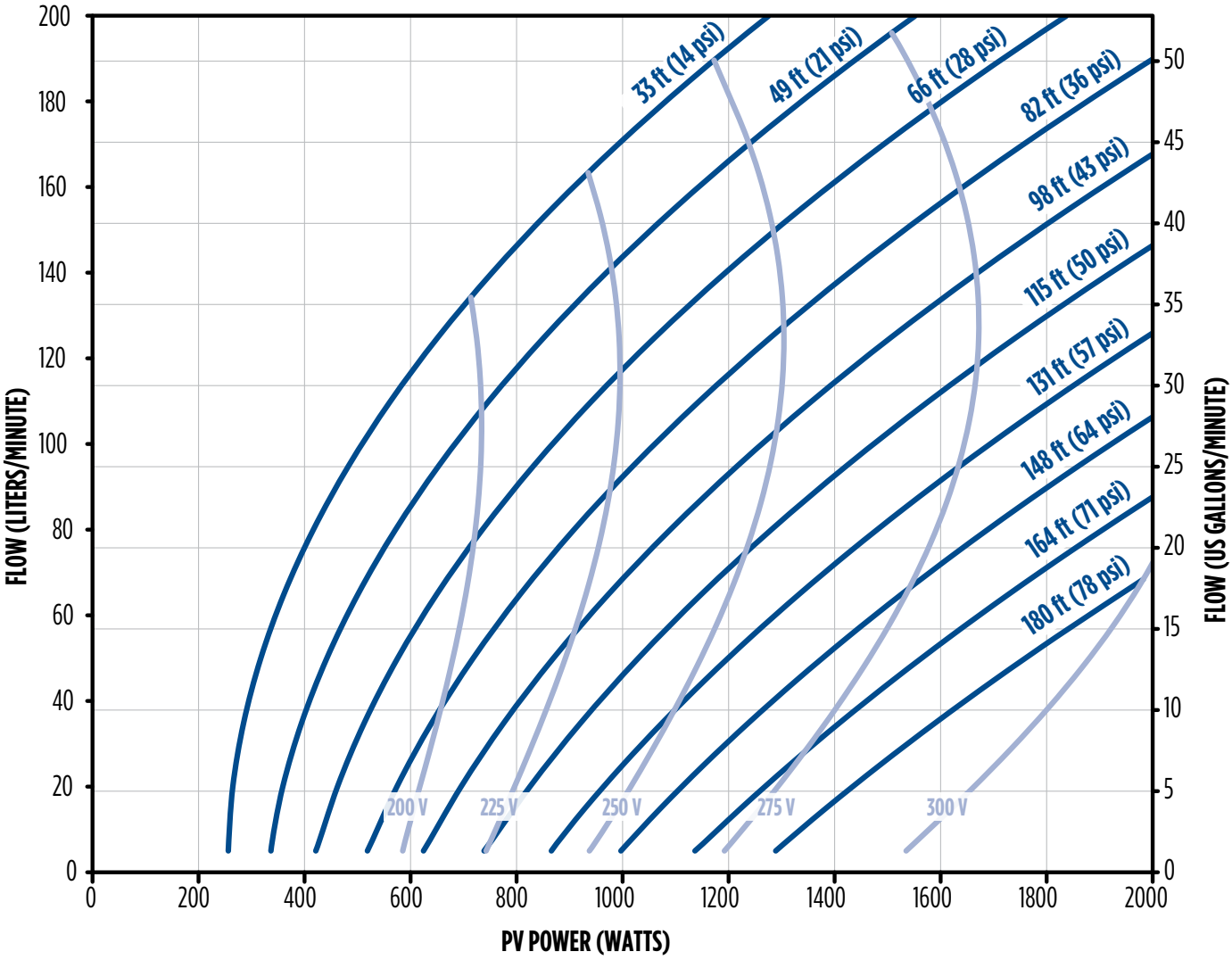


	PV Power (Watts)									
	200	400	600	800	1000	1200	1400	1600	1800	2000
TDH (ft)	Flow (US GPM)									
66		10	18	24	28	32	36	39	41	44
98			11	17	22	26	30	33	36	38
131			3	11	16	20	24	27	30	33
164				4	10	15	18	21	25	27
197					4	9	13	16	20	22
230						4	8	11	15	17
262							3	7	10	

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

45SDSP-1.5HP

SubDrive Solar 1.5 hp Controller, 45 US gpm 2.0 hp Pump End, 1.5 hp Motor

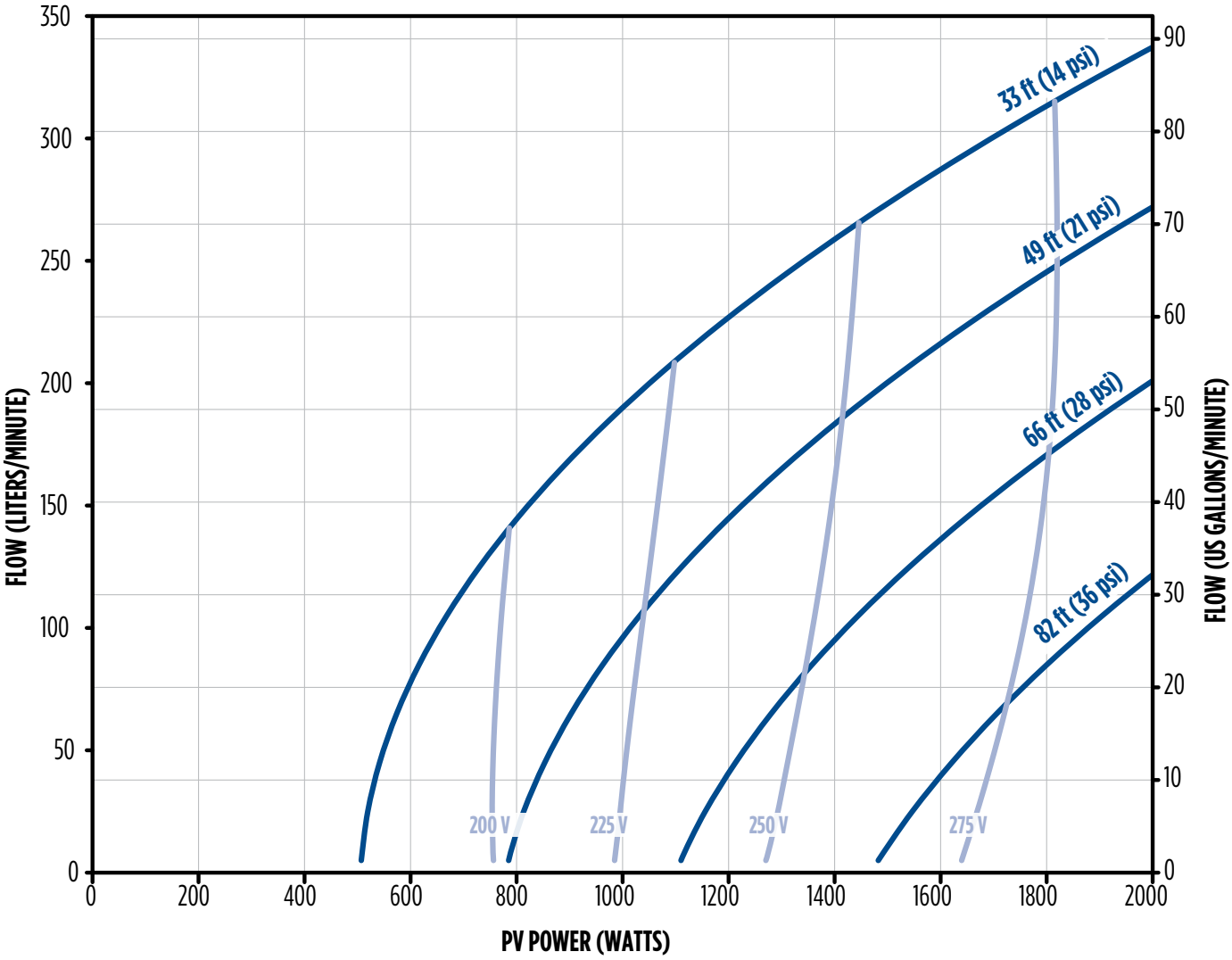


PV Power (Watts)										
	200	400	600	800	1000	1200	1400	1600	1800	2000
TDH (ft)	Flow (US GPM)									
33		20	31	39	45	51				
49		10	23	31	38	44	49			
66			15	24	31	37	43	48	52	
82			7	17	25	31	36	41	46	50
98				11	18	25	30	35	40	44
115				4	12	19	25	30	34	39
131					7	13	19	24	29	33
148						8	14	19	24	28
164						3	9	14	19	23
180							5	10	14	

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

90SDSP-1.5HP

SubDrive Solar 1.5 hp Controller, 90 US gpm 2.0 hp Pump End, 1.5 hp Motor

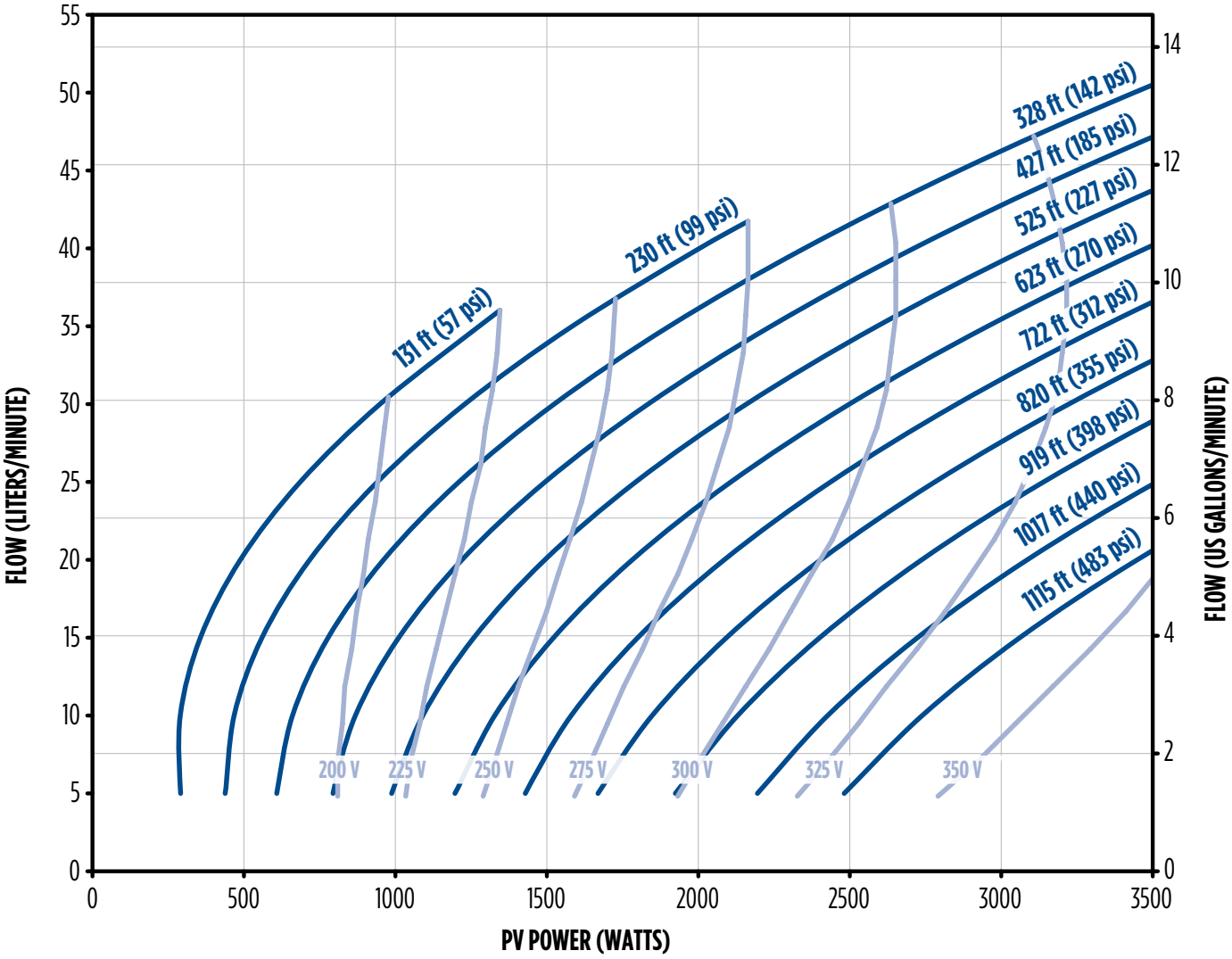


	PV Power (Watts)									
	200	400	600	800	1000	1200	1400	1600	1800	2000
TDH (ft)	Flow (US GPM)									
33			21	38	50	60	69	76	83	91
49				5	26	38	49	57	65	72
66						12	25	36	45	53
82								11	22	32

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

7SDSP-3.0HP

SubDrive Solar 3.0 hp Controller, 7 US gpm 2.0 hp Pump End, 3.0 hp Motor

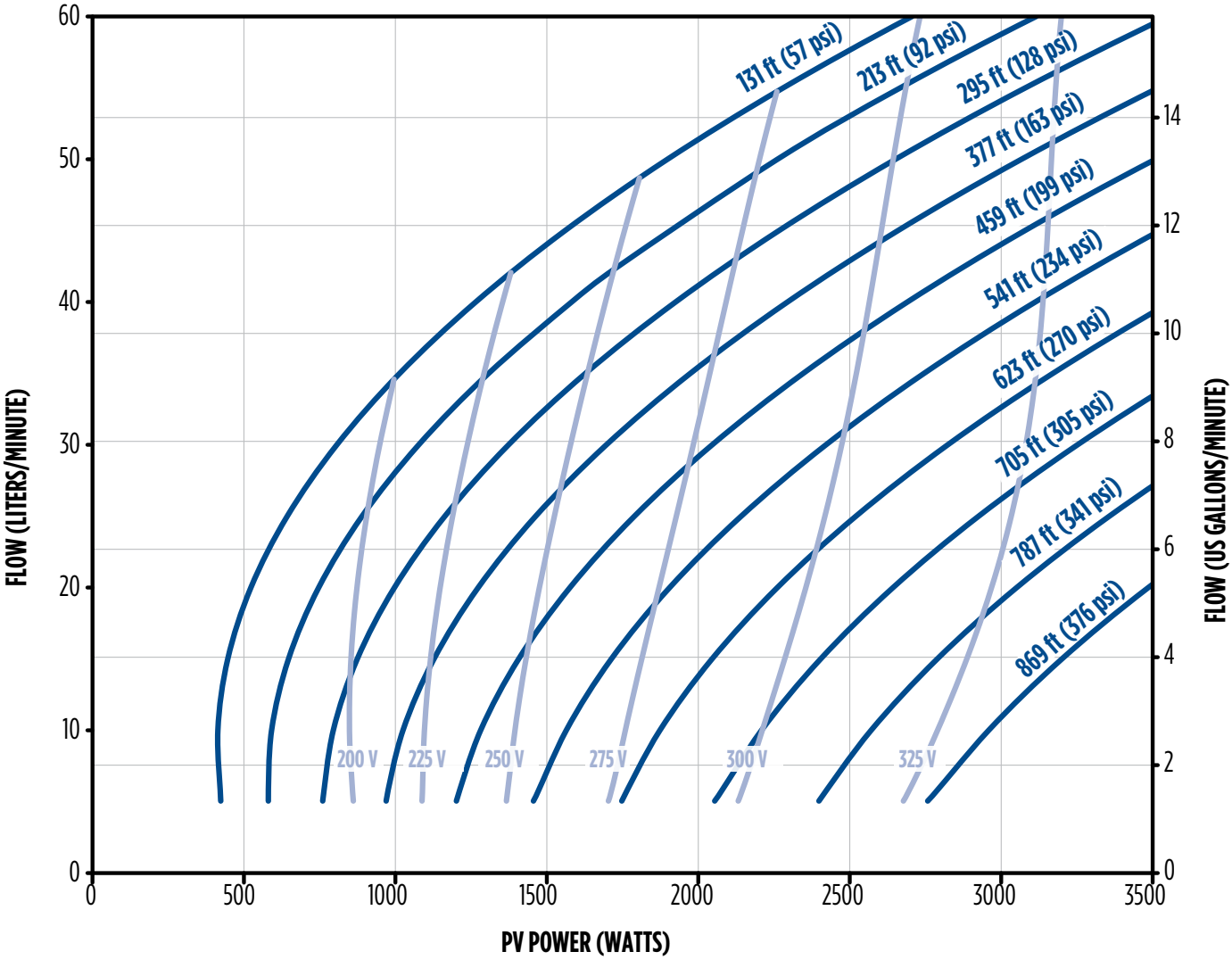


	PV Power (Watts)											
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
TDH (ft)	Flow (US GPM)											
131	7	8	9									
230	5	7	8	9	10	11	11					
328	4	6	7	8	9	10	10	11	12	12	13	13
427		4	6	7	8	8	9	10	11	11	12	12
525		2	4	5	6	7	8	9	10	10	11	12
623			2	4	5	6	7	8	9	9	10	11
722				2	4	5	6	7	8	8	9	10
820					2	3	5	6	7	7	8	9
919						2	3	4	5	6	7	8
1017							2	3	4	5	6	7
1115								1	3	4	5	6

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

10SDSP-3.0HP

SubDrive Solar 3.0 hp Controller, 10 US gpm 2.0 hp Pump End, 3.0 hp Motor

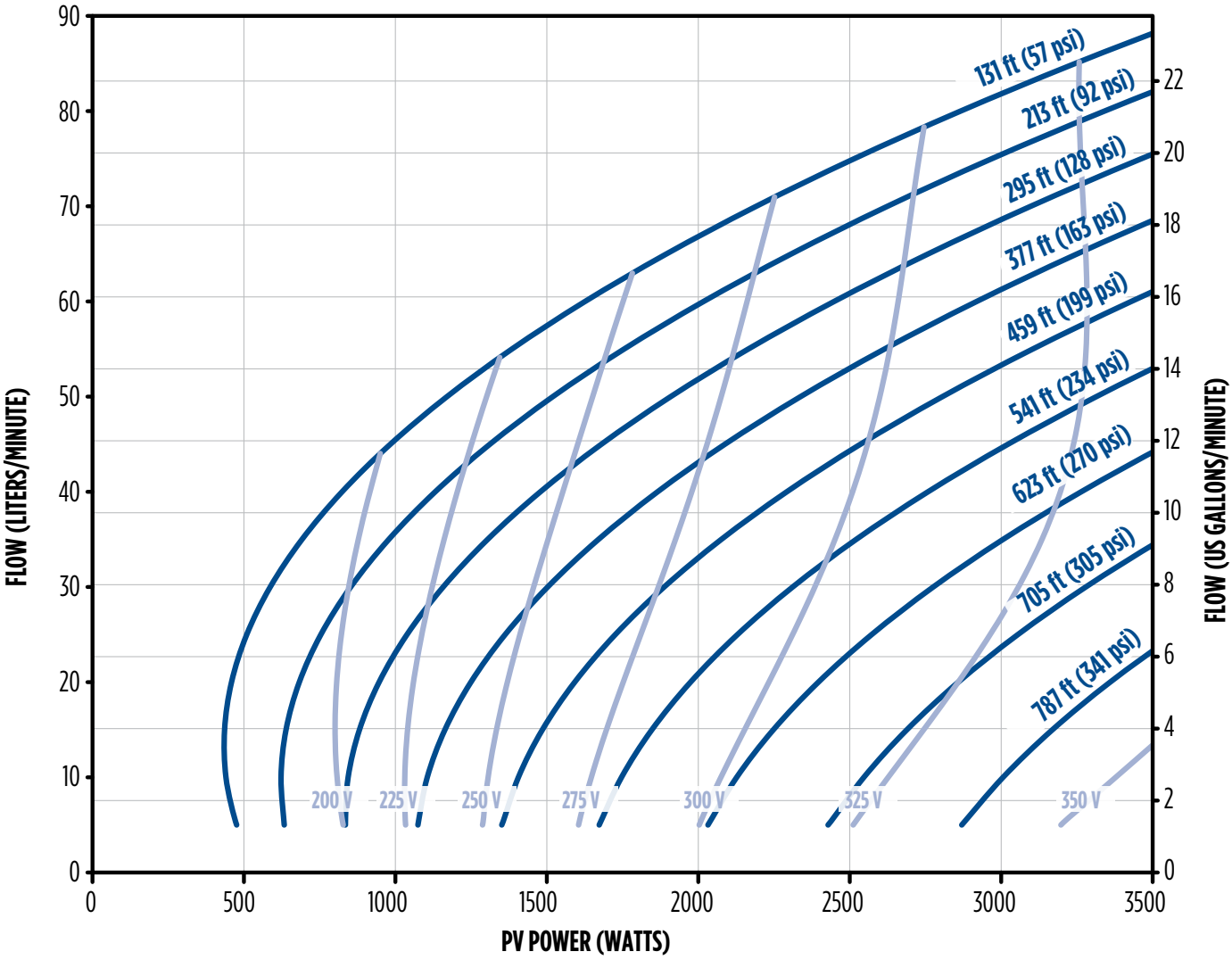


	PV Power (Watts)											
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
TDH (ft)	Flow (US GPM)											
131	7	9	11	12	13	13	15	15	16			
213	5	7	9	10	11	12	13	14	15	16		
295	1	5	7	9	10	11	12	13	13	14	15	16
377		2	5	7	8	9	10	11	12	13	14	15
459			2	5	6	8	9	10	11	12	12	13
541				2	4	6	7	8	9	10	11	12
623					1	4	5	7	8	9	10	10
705							3	4	6	7	8	9
787								2	4	5	6	7
869									1	3	4	5

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

15SDSP-3.0HP

SubDrive Solar 3.0 hp Controller, 15 US gpm 2.0 hp Pump End, 3.0 hp Motor

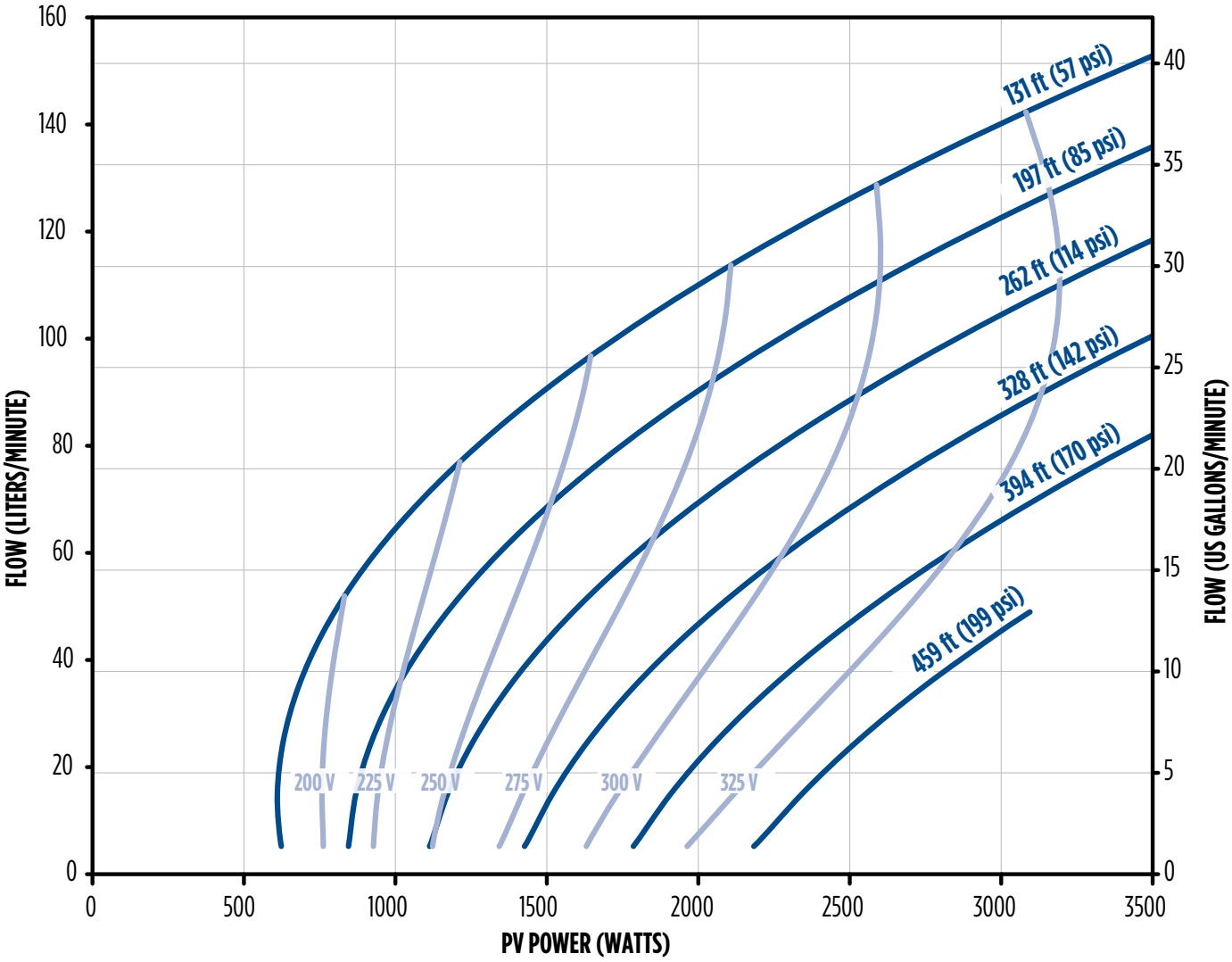


PV Power (Watts)												
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
TDH (ft)	Flow (US GPM)											
131	10	12	14	15	17	18	19	20	21	22	22	23
213	7	10	12	13	15	16	17	18	19	20	21	22
295		6	9	11	12	14	15	16	17	18	19	20
377			5	8	10	11	13	14	15	16	17	18
459				4	7	9	10	12	13	14	15	16
541					3	6	7	9	11	12	13	14
623							4	6	8	9	11	12
705								2	4	6	8	9
787										3	4	6

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

25SDSP-3.0HP

SubDrive Solar 3.0 hp Controller, 25 US gpm 2.0 hp Pump End, 3.0 hp Motor

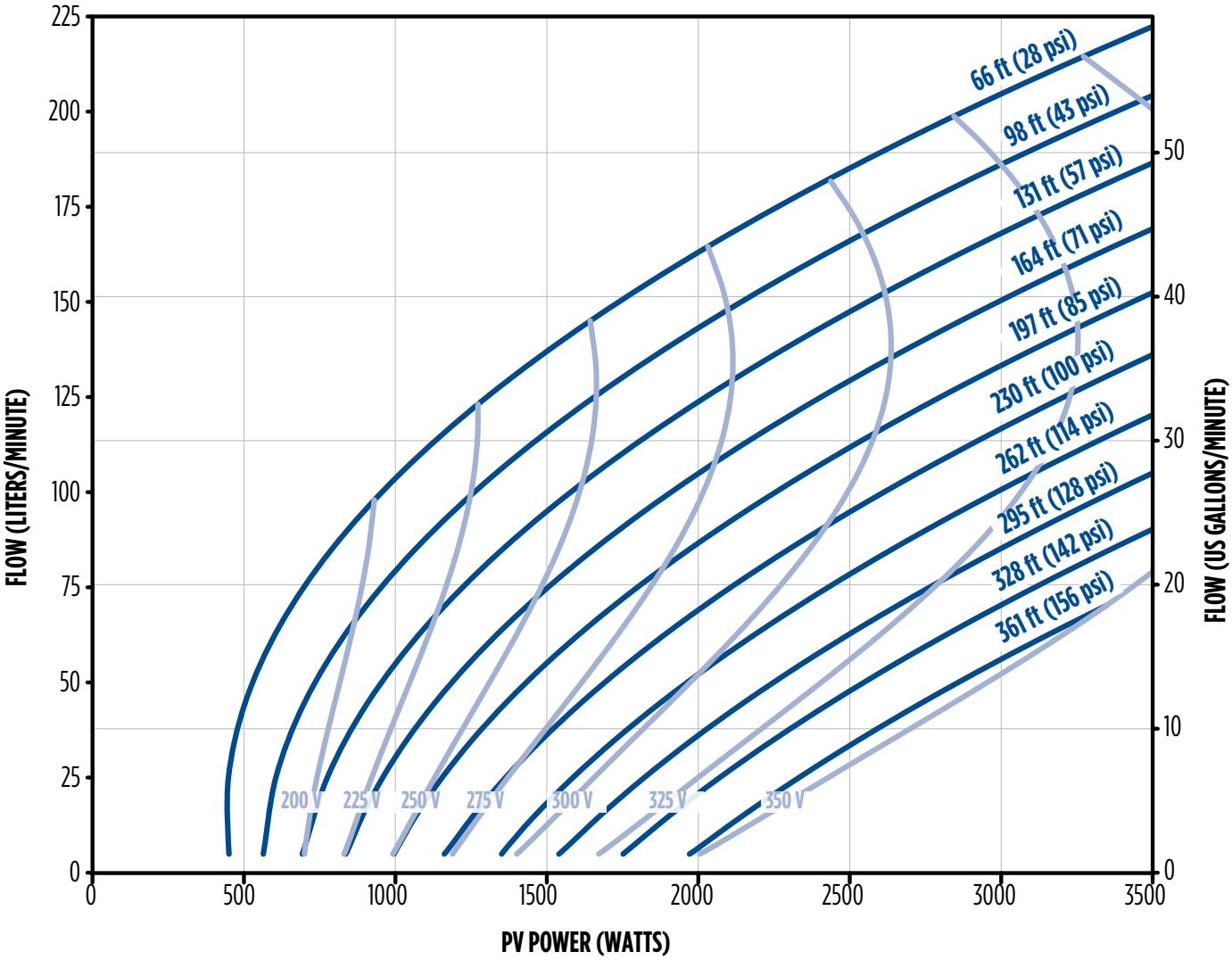


	PV Power (Watts)											
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
TDH (ft)	Flow (US GPM)											
131	12	17	21	24	27	29	31	33	35	37	39	40
197		9	14	18	21	24	26	29	31	32	34	36
262			6	11	15	18	21	23	26	28	30	31
328				3	9	12	15	18	20	23	25	27
394						6	9	12	15	17	20	22
459							3	6	10	12		

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

35SDSP-3.0HP

SubDrive Solar 3.0 hp Controller, 35 US gpm 2.0 hp Pump End, 3.0 hp Motor

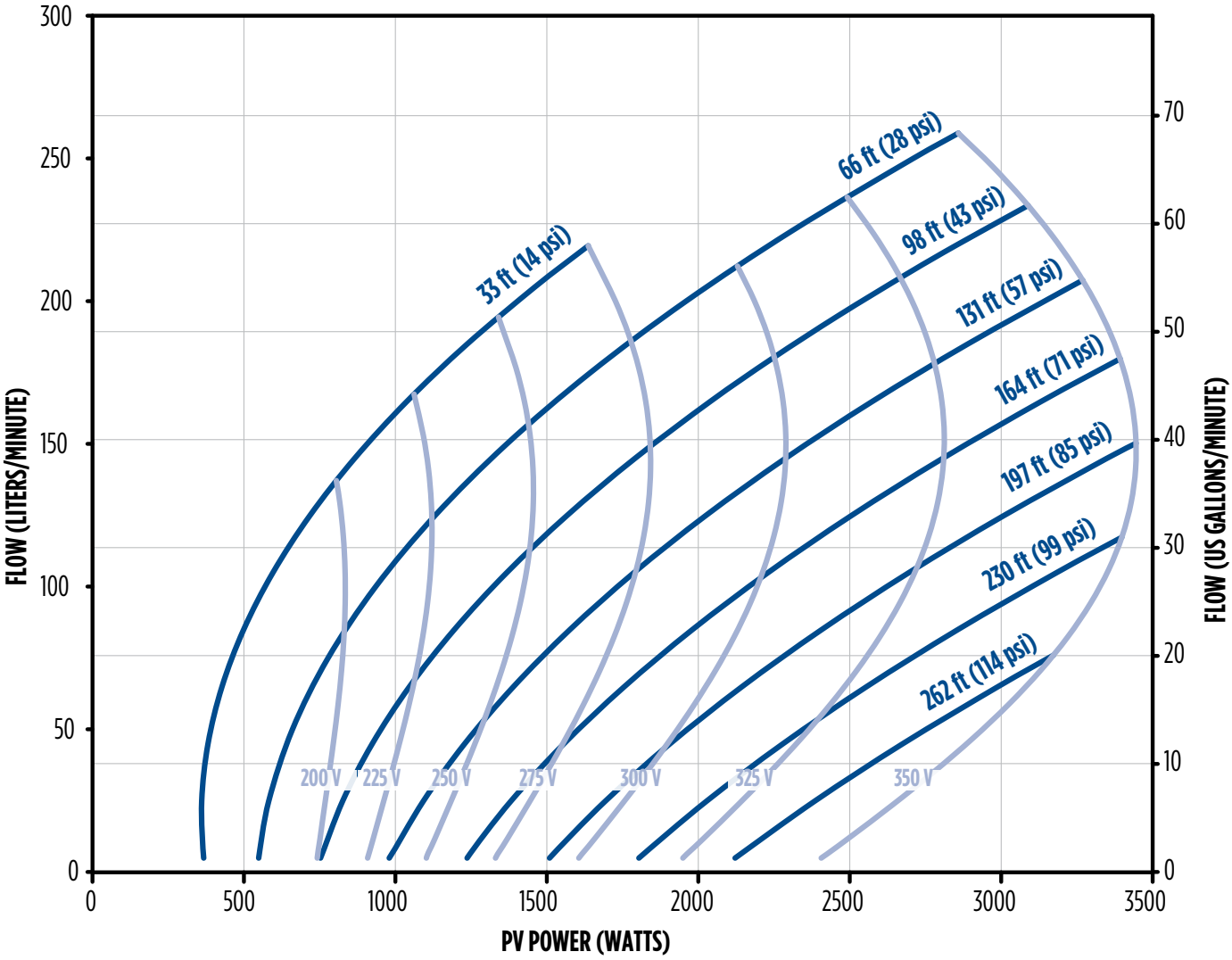


	PV Power (Watts)											
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
TDH (ft)	Flow (US GPM)											
66	22	27	32	36	40	43	46	49	52	54	57	59
98	14	21	26	31	34	38	41	44	47	49	52	54
131	5	15	20	25	29	33	36	39	42	44	47	49
164		8	15	20	24	28	31	34	37	40	42	45
197			9	15	19	23	26	30	32	35	38	40
230			4	10	14	18	22	25	28	31	33	36
262				5	10	14	17	21	24	27	29	32
295					5	10	13	17	20	22	25	28
328						6	9	13	16	18	21	24
361							6	9	12	15	17	

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

45SDSP-3.0HP

SubDrive Solar 3.0 hp Controller, 45 US gpm 2.0 hp Pump End, 3.0 hp Motor

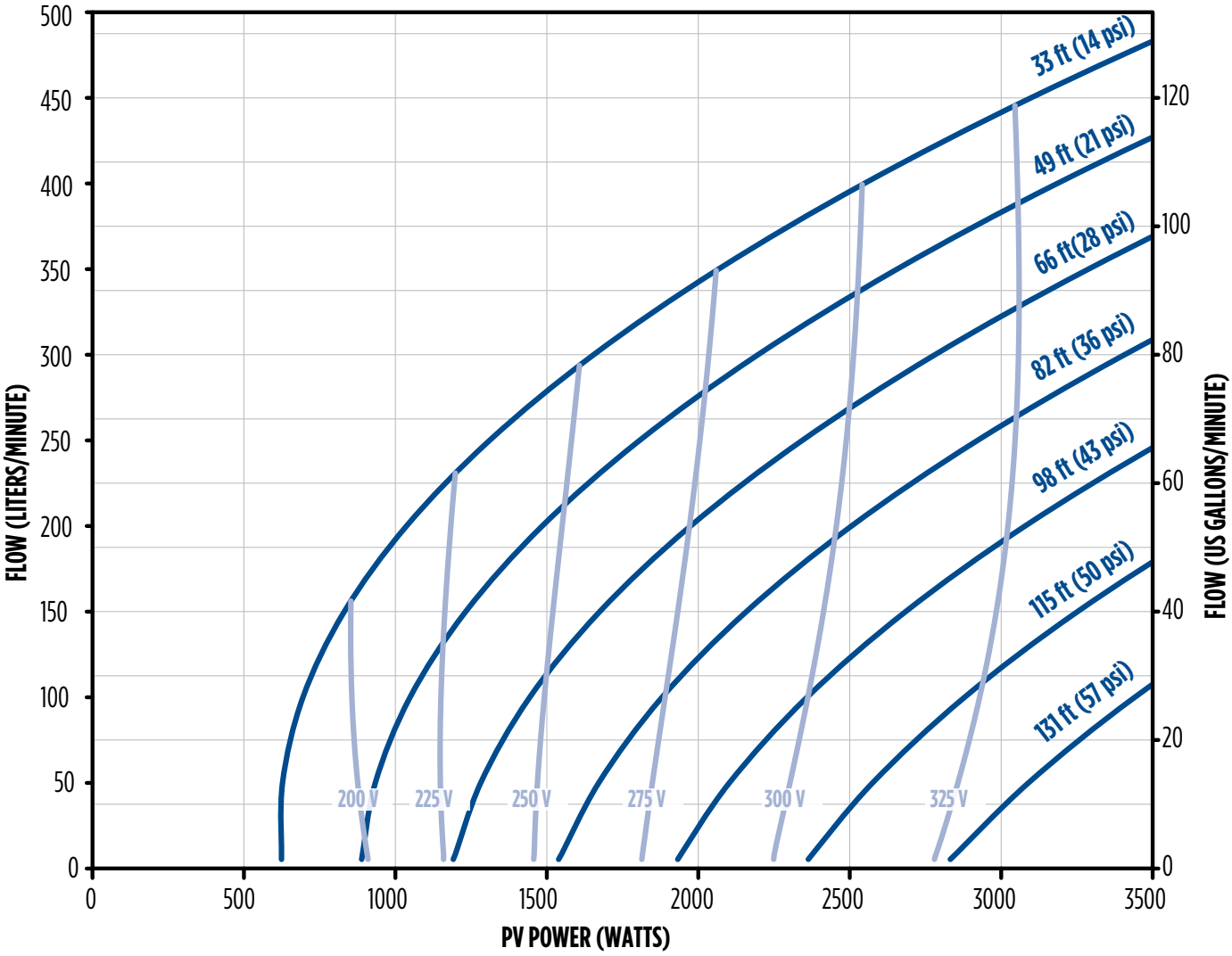


	PV Power (Watts)											
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
TDH (ft)	Flow (US GPM)											
33	34	43	49	55								
66	18	29	37	43	49	54	58	63	67			
98		15	24	31	38	43	48	52	57	60		
131			13	21	27	33	38	42	46	51	55	
164				10	17	23	28	33	37	41	45	
197					8	14	19	24	29	33	37	
230						6	11	16	21	25	29	
262							4	9	13	17		

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

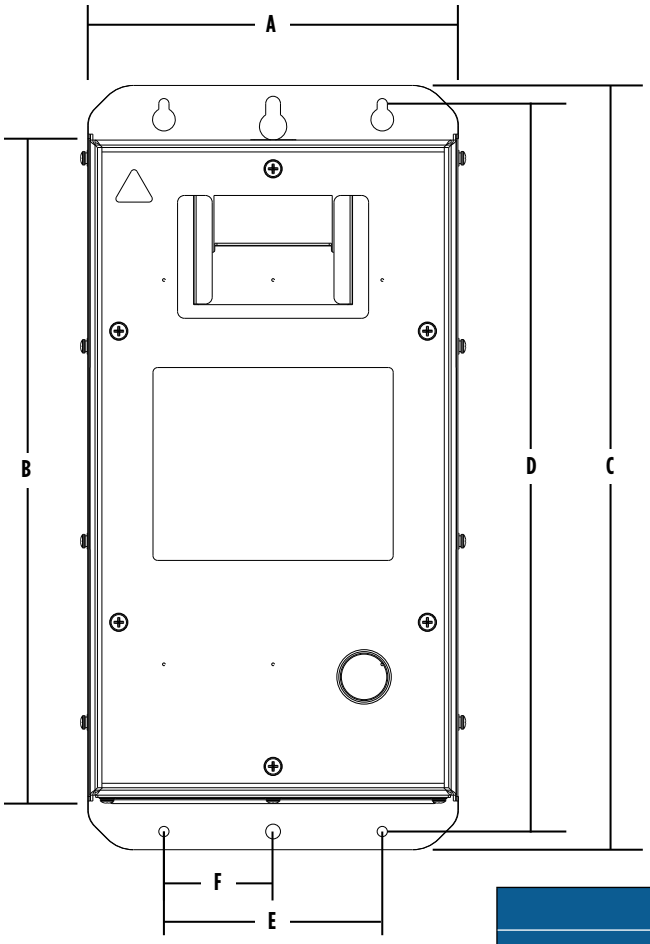
90SDSP-3.0HP

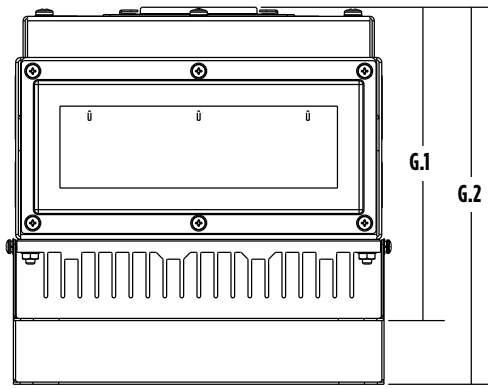
SubDrive Solar 3.0 hp Controller, 90 US gpm 2.0 hp Pump End, 3.0 hp Motor



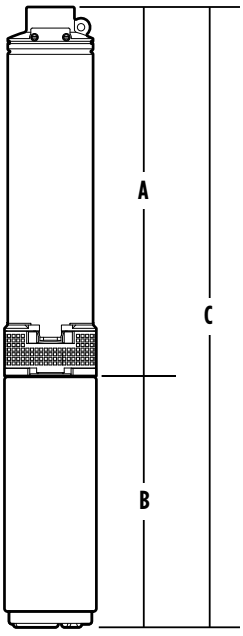
PV Power (Watts)												
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500
TDH (ft)	Flow (US GPM)											
33	33	51	63	74	82	90	98	104	111	116	122	127
49		22	41	54	64	73	81	88	95	101	107	113
66			10	30	43	54	63	71	78	85	92	98
82					19	32	44	53	61	68	75	82
98						6	21	32	42	50	58	65
115								9	21	31	40	48
131										9	20	29

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





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



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

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

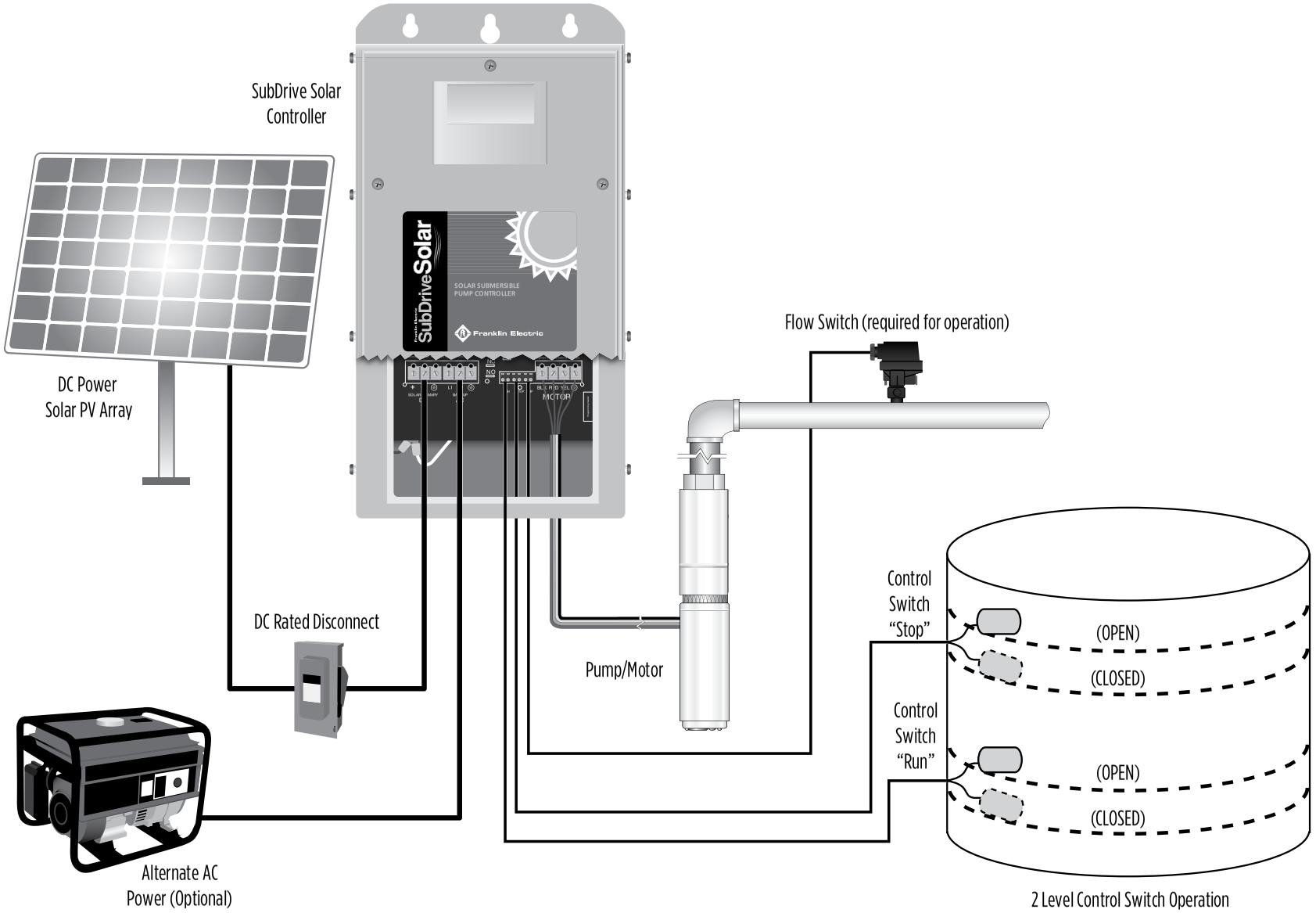
SubDrive Solar Controller Specifications							
			0.75 hp (0.55 kW) Model	1.5 hp (1.1 kW) Model		3.0 hp (2.2 kW) Model	
Controller Model No.			**5870300553**	**5870301113**		**5870301223**	
Output							
Output voltage, max			100V AC, 3-phase	200V AC, 3-phase		200V AC, 3-phase	
Max Amps (RMS)			8.6 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 games			230 V AC, single-phase	230V 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				
For Use With							
Franklin Electric Motor			234902----	234504----		234306----	
SubDrive Solar Pumps (NPT)	US GPM	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
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
Controller Size			**L x W x D**	**L x W x D**		**L x W x D**	
Centimeters			(53.34 X 25.87 X 21.87cm)	(53.34 X 25.87 X 21.87cm)		(53.34 X 25.87 X 26.31cm	
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							
			41 lbs (19 kg)	41 lbs (19 kg)		47 lbs (22 kg)	
Operating Conditions							
Temperature Range			122 °F (104 °F max when using AC generator) -25 °C to 50 °C (40 °C max when using AC generator)				
Relative Humidity Range			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.

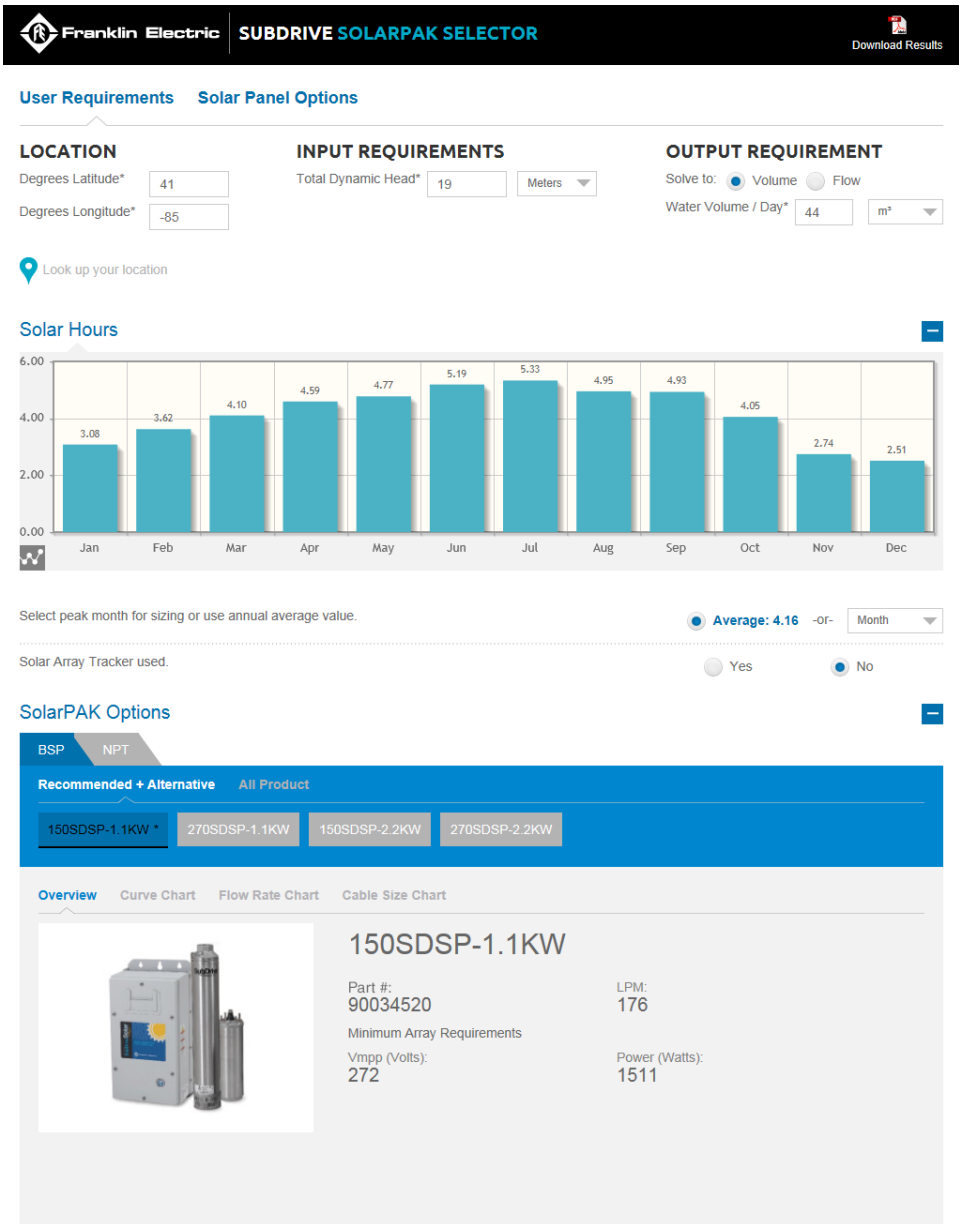
*** Motors shown above include an individual conductor lead installed in the motor. For replacement motors without a lead, use part numbers: 1.5 hp / 1.1 kW (2345041903S) and 3.0 hp / 2.2 kW (2343062504)


SubDrive Solar
Controller
SubDriveSolar
SOLAR SUBMERSIBLE
PUMP CONTROLLER
Franklin Electric
MOTOR
DC Power
Solar PV Array
Flow Switch (required for operation)
DC Rated Disconnect
Pump/Motor
Control
Switch
"Stop"
(OPEN)
(CLOSED)
Control
Switch
"Run"
(OPEN)
(CLOSED)
Alternate AC
Power (Optional)
2 Level Control Switch Operation

SubDrive
SOLARPAK
SOLAR PUMPING SYSTEM

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.



* 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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