

## SVL Essential DIN Rail Series

The SolaHD SVL Series power supplies are perfect for high volume, controlled environment applications where essential features are the only requirement. When space inside an enclosure is at a premium, their small footprint makes these power supplies an excellent alternative to embedded open frame switchers. The DIN rail mounting capability provides quicker and easier installation while allowing for design flexibility. These power supplies range from 15 to 960 Watts in 5, 12, 24 and 48 Volt combinations.



### Applications

- Test and Measure Equipment
- Scanners
- Instrumentation
- Printers Peripheral
- ATM Machines
- Semiconductor Fabrication Equipment
- Vending Machines

### Features

- Universal Input, single-phase and three-phase
- Protection
  - Short Circuit
  - Over Voltage
  - Overload
  - Over Temperature
- Power Factor Correction
- Convection Cooling
- Blinking OCP Diagnostic
- DC OK LED
- DC OK Relay for some models
- Class I Div 2 Hazardous Location rating for select models
- Two year limited warranty



### Certifications and Compliances

#### All Models

- Listed, Ind. Control Equipment, E61379
  - UL 508, CSA C22.2 No. 107.1
- Recognized Component, ITE, E137632
  - UL 62368-1/CSA C22.2 No. 62368-1
  - UL 60950-1/CSA C22.2 No. 60950-1
  - Model SVL 1-24-100, SVL 3-5-100, SVL 4-12-100, SVL 2-24-100 were evaluated for NEC Class II outputs
- - IEC/EN62368-1
- CB Certificate: IEC/EN 62368-1, IEC/EN 60950-1

#### SVL 5-24-480, SVL 10-24-480, SVL 20-24-480

- Hazardous Locations, 602023
  - ANSI/ISA-12.12.01/CSA 213, Class I, Div 2 Groups A, B, C, D

#### SVL 5-24-100, SVL 10-24-100

- Recognized Component, Hazardous Locations
  - UL121201/CSA 213 Class I, Div 2 Groups A, B, C, D

### Related Products

- SDN-D Series
- SDN-C Series

SVL Specifications <120W

Description	Catalog Number		
	SVL 3-5-100	SVL 1-24-100	SVL 6-5-100
<b>Input</b>			
Input Voltage, Nominal	100-240 Vac, 50/60 Hz		
Input Voltage, AC Min/Max Range	85-264 Vac		
Input Voltage, DC Min/Max Range <sup>1</sup>	120-375 Vdc		
Nominal Current	0.5 A @ 115 Vac 0.3 A @ 230 Vac	0.8 A @ 115 Vac 0.4 A @ 230 Vac	0.9 A @ 115 Vac 0.5 A @ 230 Vac
- Inrush Current max,	35 A @ 115 Vac 65 A @ 230 Vac	35 A @ 115 Vac 60 A @ 230 Vac	
Efficiency	79% typ.	88% typ.	80% typ.
Leakage Current	<1 mA @ 240 Vac		
Power Factor Correction	Meets EN61000-3-2 Class A		
<b>Output</b>			
Nominal Voltage	5 V	24 V	5 V
- Tolerance	+/-2%		
Voltage Adjustable Range	5-5.5 V	24-28 V	5-5.5 V
- Ripple (25°C)	<75 mVp-p		
PAR (25°C)	<75 mVp-p		
Nominal Current	3 A	1.25 A	6 A
Max. Power	15 W	30 W	
Holdup Time at full load (25°C)	20 ms typ. @ 115 Vac 100 ms typ. @ 230 Vac		
Rise Time at full load (25°C)	<100 ms		
Start Up at full load (25°C)	<3000 ms @ 115 Vac, <1500 ms @ 230 Vac		
Regulation	<0.5% Line and <1% Load		
<b>Environmental Data</b>			
Operating Temperature	-20 °C to +70 °C		
Relative Humidity	5 to 95% RH Non-condensing		
Storage temp	-40 °C to +85 °C		
Power Derating	See derating tables.		
Shock	IEC60068-2-27: half sine wave 10 G, single axis for a duration of 11 ms operational and 50 G three axes for duration of 11 ms each non-operational		
Vibration	IEC60068-2-6: sine wave; 10 Hz to 500 Hz at 2 g, 0.35 mm displacement, three axes for 60 min each operational and 5 Hz to 500 Hz at 2.09 grms, three axes for 20 min each non-operational		
<b>Protections</b>			
Overvoltage Protection	6.3-7.4 V, Latching	30-34.8 V, Latching	6.3-7.4 V, Latching
Overload Protection	Hiccup		
Over Temperature Protection	No component damage, latch mode		
Short Circuit	Hiccup mode, non-latching (auto-recovery when the fault is removed)		
<b>Reliability</b>			
MTBF	>350 khrs (115 Vac/230 Vac @ 25 °C) acc. to Telcordia SR-332 issue 3		
<b>EMC</b>			
Galvanic Isolation	I/P to O/P: 3 K Vac; I/P to GND: 1.5 K Vac; O/P to GND: 0.5 K Vac		
Emissions	EN55022 (CISPR22) Class B, EN55011 Class B, EN61000-6-3, EN61000-6-4, EN61000-3-3, EN61204-3, EN61000-3-2 Class A		
Immunity	EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Level 3, Performance Criteria A		
<b>General</b>			
Housing	Plastic		
H x W x D – in (mm)	2.95 x 0.82 x 3.52 (75.0 x 21.0 x 89.5)		2.95 x 1.18 x 3.52 (75.0 x 30.0 x 89.5)
Unit Weight – lbs (g)	0.242 (110)		0.368 (167)
Shipping Weight – lbs (g)	0.309 (140)		0.419 (190)
LED Signals	GREEN light = DC OK , OCP = blinking		
DC OK Relay Contact	No		
Warranty	2 year		

1. DC input range is not listed in safety file it is only to confirm product functional performance.

SVL Specifications <120W

Description	Catalog Number		
	SVL 4-12-100	SVL 2-24-100	SVL 4-24-100
<b>Input</b>			
Input Voltage, Nominal	100-240 Vac, 50/60 Hz		
Input Voltage, AC Min/Max Range	85-264 Vac		
Input Voltage, DC Min/Max Range <sup>1</sup>	120-375 Vdc		
Nominal Current	1.0 A @ 115 Vac 0.6 A @ 230 Vac	1.0 A @ 115 Vac 0.6 A @ 230 Vac	1.2 A @ 115 Vac 0.6 A @ 230 Vac
- Inrush Current max.	35 A @ 115 Vac 60 A @ 230 Vac		
Efficiency	88% typ.		89% typ.
Leakage Current	<1 mA @ 240 Vac		
Power Factor Correction	Meets EN61000-3-2 Class A		Active PFC >0.9
<b>Output</b>			
Nominal Voltage	12 V	24 V	
- Tolerance	+/-2%		
Voltage Adjustable Range	12-15 V	24-28 V	
- Ripple (25°C)	<75 mVp-p		
PARD (25°C)	<75 mVp-p		
Nominal Current	4 A	2.1 A	4 A
Max. Power	48 W	50 W	96 W
Holdup Time at full load (25°C)	20 ms typ. @ 115 Vac 90 ms typ. @ 230 Vac		25 ms typ. @ 115 Vac 50 ms typ. @ 230 Vac
Rise Time at full load (25°C)	<100 ms		
Start Up at full load (25°C)	<3000 ms @ 115 Vac, <1500 ms @ 230 Vac		
Regulation	<0.5% Line and <1% Load		
<b>Environmental Data</b>			
Operating Temperature	-20 °C to +70 °C		
Relative Humidity	5 to 95% RH Non-condensing		
Storage temp	-40 °C to +85 °C		
Power Derating	See SVL derating tables.		
Shock	IEC60068-2-27: half sine wave 10 G, single axis for a duration of 11 ms operational and 50 G three axes for duration of 11 ms each non-operational		
Vibration	IEC60068-2-6: 10 Hz to 500 Hz at 2 g, 0.35 mm displacement, three axes for 60 min each operational and 5 Hz to 500 Hz at 2.09 grms, three axes for 20 min each non-operational		
<b>Protections</b>			
Overvoltage Protection	16-18.7 V, Latching	30-34.8 V, Latching	
Overload Protection	Current foldforward and then hiccup		
Over Temperature Protection	No component damage, latch mode		
Short Circuit	Hiccup mode, non-latching (auto-recovery when the fault is removed)		
<b>Reliability</b>			
MTBF	>350 khrs (115 Vac/230 Vac @ 25 °C) as per Telcordia SR-332 issue 3 Jan 2011.		
<b>EMC</b>			
Galvanic Isolation	I/P to O/P: 3 K Vac; I/P to GND: 1.5 K Vac; O/P to GND: 0.5 K Vac		
Emissions	EN55022 (CISPR22) Class B, EN55011 Class B, EN61000-6-3, EN61000-6-4, EN61000-3-3, EN61204-3, EN61000-3-2 Class A		
Immunity	EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Level 3, Performance Criteria A		
<b>General</b>			
Housing	Metal Encased		
H x W x D – in (mm)	2.95 x 1.18 x 3.52 (75.0 x 30.0 x 89.5)		2.95 x 1.77 x 3.93 (75.0 x 45.0 x 100.0)
Unit Weight – lbs (g)	0.390 (177)		0.698 (317)
Shipping Weight – lbs (g)	0.478 (217)		0.816 (370)
LED Signals	GREEN light = DC OK , OCP = blinking		
DC OK Relay Contact	No		
Warranty	2 year		

1. DC input range is not listed in safety file it is only to confirm product functional performance.

SVL Specifications 120W and Above

Description	Catalog Number			
	SVL 2-48-100	SVL 5-24-100	SVL 10-24-100	SVL 20-24-100
<b>Input</b>				
Input Voltage, Nominal	100-240 Vac, 50/60 Hz			
Input Voltage, AC Min/Max Range	85-264 Vac			
Input Voltage, DC Min/Max Range <sup>1</sup>	120-375 Vdc			
Nominal Current	2.20 A @ 115 Vac 1.40 A @ 230 Vac		2.8 A @ 115 Vac 1.4 A @ 230 Vac	5.4 A @ 115 Vac 2.7 A @ 230 Vac
- Inrush Current max.	20 A typ. @ 115 Vac 40 A typ. @ 230 Vac			40 A typ. @ 115 Vac 80 A typ. @ 230 Vac
Efficiency	88% typ			
Leakage Current	<1 mA @ 240 Vac			
Power Factor Correction	Meets EN61000-3-2 Class A		Active PFC >0.95	
<b>Output</b>				
Nominal Voltage	48 V		24 V	
- Tolerance	+/-2%			
Voltage Adjustable Range	44-56 V		22-28 V	
- Ripple (25°C)	<120 mVp-p		<100 mVp-p	
PARD (25°C)	<150 mVp-p		<120 mVp-p	
Nominal Current	2.5 A	5 A	10 A	20 A
Max. Power	120 W		240 W	480 W
Holdup Time at full load (25°C)	10 ms typ. @ 115 Vac 16 ms typ @ 230 Vac			
Rise Time at full load (25°C)	<100 ms			
Start Up at full load (25°C)	<1000 ms @ 115 Vac & 230 Vac			
Regulation	<0.5% Line and <1% Load			
<b>Environmental Data</b>				
Operating Temperature	-20 °C to +70 °C			
Relative Humidity	5 to 95% RH Non-condensing			
Storage temp	-40 °C to +85 °C			
Power Derating	See derating tables.			
Shock	IEC60068-2-27: half sine wave 10 G, single axis for a duration of 11 ms operational and 50 G three axes for duration of 11 ms each non-operational			
Vibration	IEC60068-2-6: sine wave; 10 Hz to 500 Hz at 2 g, 0.35 mm displacement, three axes for 60 min each operational and 5 Hz to 500 Hz at 2.09 grms, three axes for 20 min each non-operational			
<b>Protections</b>				
Overvoltage Protection	56-67.2 V, Latching, re-power to recover	28.8-35.2 V, latching, re-power to recover		
Overload Protection	105- 50% of rated load; constant current at >20 V output and hiccup at <20 V output. <b>SVL 2-48-100:</b> constant current at >40 V output and hiccup at <40 V output, auto-recovery			
Over Temperature Protection	No component damage, latch mode, re-power to recover			
Short Circuit	Hiccup mode, non-latching (auto-recovery when the fault is removed)			
<b>Reliability</b>				
MTBF	>700 khrs (115 Vac & 230 Vac @ 25 °C) as per Telcordia SR-332 issue 3 Jan 2011.			
<b>EMC</b>				
Galvanic Isolation	I/P to O/P: 3 K Vac; I/P to GND: 2 K Vac; O/P to GND: 0.5 K Vac			
Emissions	EN55022 (CISPR22) Class B, EN55011 Class B, EN61000-6-3, EN61000-6-4, EN61000-3-3, EN61204-3, EN61000-3-2 Class A			
Immunity	EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Level 3, Performance Criteria A, SEMI F47 @ 200 Vac			
<b>General</b>				
Housing	Plastic			
H x W x D – in (mm)	4.84 x 1.57 x 4.63 (123.6 x 40.0 x 117.6)		4.87 x 2.36 x 4.63 (123.6 x 60.0 x 117.6)	4.87 x 3.37 x 5.06 (123.6 x 85.5 x 128.5)
Unit Weight – lbs (g)	1.19 (540)		1.76 (800)	2.87 (1300)
Shipping Weight – lbs (g)	1.46 (660)		2.09 (950)	3.20 (1452)
LED Signals	GREEN light = DC OK , OCP = blinking			
DC OK Relay Contact	Yes			
Warranty	2 year			

1. DC input range is not listed in safety file it is only to confirm product functional performance.

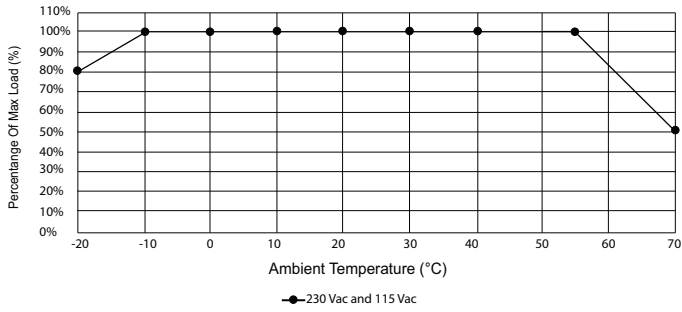
SVL Specifications Three-Phase

Description	Catalog Number			
	SVL 5–24–480 (5 A)	SVL 10–24–480 (10 A)	SVL 20–24–480 (20 A)	SVL 40–24–480 (40 A)
<b>Input</b>				
Input Voltage, Nominal	3 x 400-500 Vac, 50/60 Hz			
Input Voltage, Min/Max Range	3 x 320-575 Vac 2 x 360-575 Vac			
Input Current	< 0.50 A @ 3 x 400 Vac, < 0.40 A @ 3 x 500 Vac	< 0.75 A @ 3 x 400 Vac, < 0.65 A @ 3 x 500 Vac	< 1.00 A @ 3 x 400 Vac, < 0.75 A @ 3 x 500 Vac	< 1.70 A @ 3 x 400 Vac, < 1.40 A @ 3 x 500 Vac
– Inrush Current	< 30 A @ 3 x 400 Vac & 3 x 500 Vac	< 40 A @ 3 x 400 Vac & 3 x 500 Vac	< 50 A @ 3 x 400 Vac & 3 x 500 Vac	< 60 A @ 3 x 400 Vac & 3 x 500 Vac
Efficiency	> 86%	> 90%	> 91%	> 92%
Power Factor Correction	EN 61000-3-2, Class A		> 0.95 @ 3 x 400 Vac, > 0.94 @ 3 x 500 Vac	
<b>Output</b>				
Nominal Voltage	24 V (24-28 Vdc Adjustable), +/-2%			
Ripple and PARD (25°C)	< 150 mVpp			< 240 mVpp
Nominal Current	5 A	10 A	20 A	40 A
Max. Power	120 W	240 W	480 W	960 W
Hold-up Time (100 % load)	> 20 ms @ 3 x 400 Vac, > 40 ms @ 3 x 500 Vac		> 20 ms @ 3 x 400 Vac and 3 x 500 Vac	
Regulation	< 0.5 % Line and < 1.0% Load			
<b>Environmental Data</b>				
Operating Temperature	-25 °C to +80 °C			
Relative Humidity	5 to 95% RH (Non-Condensing)			
Storage temp	-40 °C to +85 °C			
Power Derating	See derating tables.			
Shock	Non-Operating: IEC 60068-2-27, 30 G (300 m/S <sup>2</sup> ) for a duration of 18 ms, 1 times per direction, 2 times in total			
Vibration	Non-Operating: IEC 60068-2-6, 10 Hz to 500 Hz @ 30 m/S <sup>2</sup> (3G peak); 60 min per axis for all X, Y, Z direction			
<b>Protections</b>				
Overvoltage Protection	32V ±10%, Hiccup Mode			
Overload Protection	Hiccup			
Over Temperature Protection	< 80 °C <sup>1</sup>			< 65 °C <sup>1</sup>
Short Circuit	Hiccup mode, non-latching (auto-recovery when the fault is removed)			
<b>Reliability</b>				
MTBF	> 800 khrs <sup>2</sup>	> 500 khrs <sup>2</sup>	> 500 khrs <sup>2</sup>	> 300 khrs <sup>2</sup>
<b>EMC</b>				
Galvanic Isolation	Input to Output: 4.0 KVac. Input to Ground: 2.0 KVac. Output to Ground: 1.5 KVac.			
Emissions	CISPR 32, EN 55032, CISPR 11, EN 55011, FCC Title 47: Class B			
Immunity	EN 55024, EN 61000-6-2 (EN 61000-4-2, 3, 4, 5, 6, 8, 11, 12)			
<b>General</b>				
Housing	Metal			
H x W x D – in (mm)	4.76 x 1.97 x 4.62 (121 x 50 x 117.3)	4.76 x 2.76 x 4.62 (121 x 70 x 117.3)	4.76 x 5.51 x 4.62 (121 x 140 x 117.3)	4.76 x 10 x 4.62 (121 x 255 x 117.3)
Unit Weight – lbs (g)	1.46 (660)	1.96 (890)	2.98 (1350)	5.73 (2600)
LED Signals	GREEN Light = DC OK, OCP = Blinking, OVP = Blinking @ Max load, OTP = LED OFF, SCP = LED OFF			
Warranty	2 years			

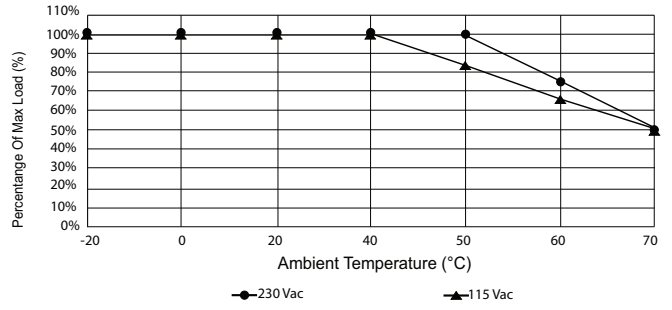
1. Surrounding Air Temperature @ 100% load, Non-Latching (Auto-Recovery).  
 2. According to Telcordia SR-332, I/P: 3 x 400 Vac, O/P: 100% load, Ta: 25 °C.

SVL Derating Tables

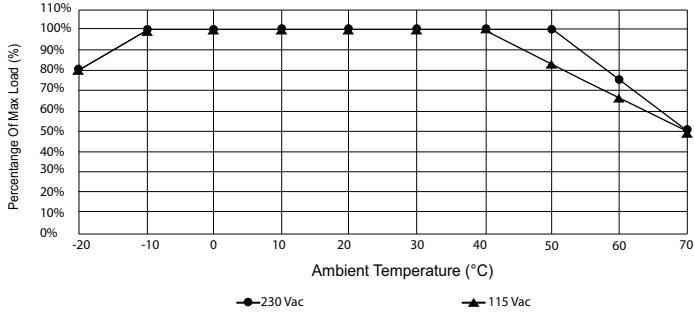
15 Watt – 96 Watt Models (Single Phase)



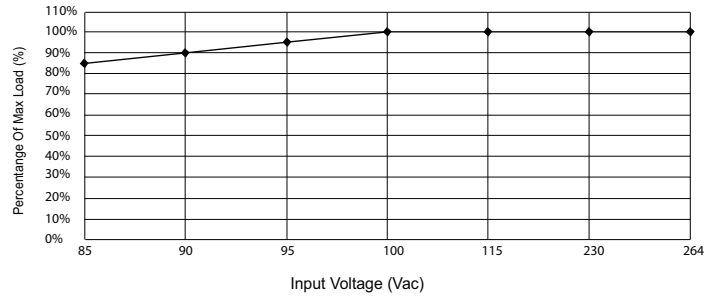
240 Watt Models (Single Phase)



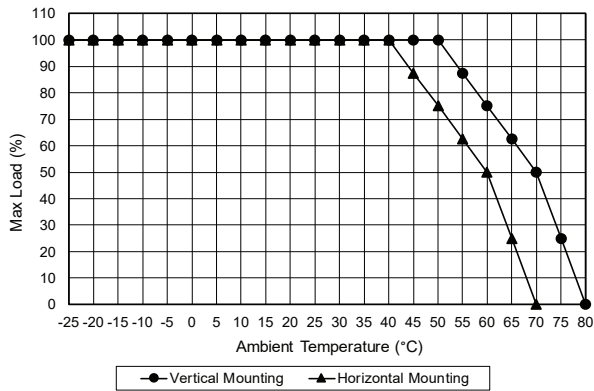
120 Watt and 480 Watt Models (Single Phase)



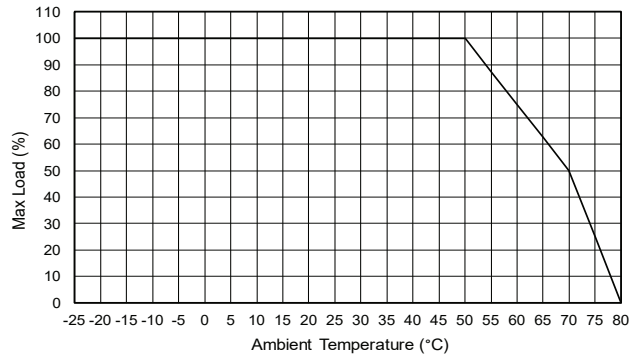
120 Watt – 480 Watt Models (Single Phase)



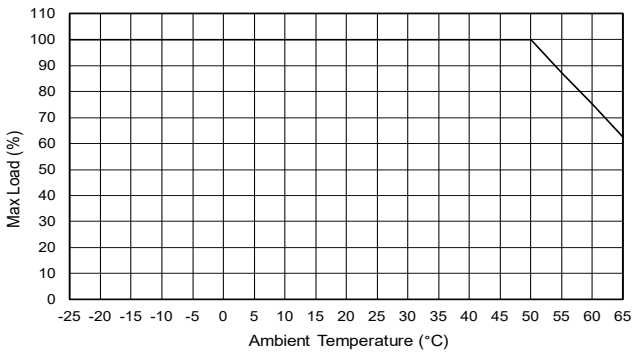
120 Watt and 240 Watt (Three Phase)



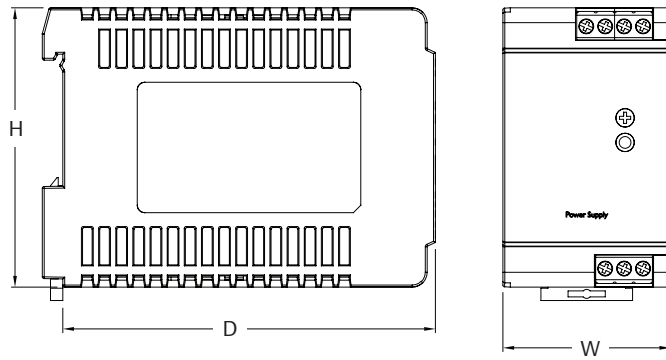
480 Watt Models (Three Phase)



960 Watt Models (Three Phase)



SVL Series Dimensions



Catalog Number	Dimensions – inches (mm)		
	H	W	D
<b>SVL 3–5–100</b>	2.95 (75.0)	0.82 (21.0)	3.52 (89.5)
<b>SVL 1–24–100</b>	2.95 (75.0)	0.82 (21.0)	3.52 (89.5)
<b>SVL 6–5–100</b>	2.95 (75.0)	1.18 (30.0)	3.52 (89.5)
<b>SVL 4–12–100</b>	2.95 (75.0)	1.18 (30.0)	3.52 (89.5)
<b>SVL 2–24–100</b>	2.95 (75.0)	1.18 (30.0)	3.52 (89.5)
<b>SVL 4–24–100</b>	2.95 (75.0)	1.77 (45.0)	3.93 (100.0)
<b>SVL 2–48–100</b>	4.84 (123.6)	1.57 (40.0)	4.63 (117.6)
<b>SVL 5–24–100</b>	4.84 (123.6)	1.57 (40.0)	4.63 (117.6)
<b>SVL 10–24–100</b>	4.87 (123.6)	2.36 (60.0)	4.63 (117.6)
<b>SVL 20–24–100</b>	4.87 (123.6)	3.37 (85.5)	5.06 (128.5)
<b>SVL 5–24–480</b>	4.76 (121.0)	1.97 (50.0)	4.62 (117.3)
<b>SVL 10–24–480</b>	4.76 (121.0)	2.76 (70.0)	4.62 (117.3)
<b>SVL 20–24–480</b>	4.76 (121.0)	5.51 (140.0)	4.62 (117.3)
<b>SVL 40–24–480</b>	4.76 (121)	10.00 (255.0)	4.62 (117.3)