



## SSP-354 Equipment Specification

### Transparent Solid Tube Furnace

Model Number	SSP-1.5-0-18.5-2B
Heating Chamber Dimension	1.5" ID X 18.5" Long
External Dimensions	4.12" OD X 21.5" Long
Electrical	110 Volts, 1 Phase, 60 Cycle
Heating Zones	Two (2) Zones
Zone 1	7" Long with 855 watts
Zone 2	11.5" Long with 1405 watts
Connected Load	2200 Watts
Maximum Temperature	1,000°C - 1832°F

### Physical Description

The Main body of the transparent furnace consists of two (2) glass tubes with a gold film deposited on the inside surface. There is a 1" gap between the tubes 7" from one end. Inside of the gold coated tube is cemented, coaxially, a quartz tube. The purpose of the quartz tube is to keep the gold mirror clean. If the mirror is not clean then it will not reflect the radiation coming from the elements efficiently. The heating element is a coil-like structure that fits inside the mirror assemble. Each end is held in place by ceramic ends that are mounted on a metal base. Finally, the reactor tube (also quartz) slides inside the element.



## SSP-354 Equipment Specification

### Temperature/Flow Control System

Model Number	SSP-110-PRD2
Electrical	110V, 1 Phase, 50/60Hz
Connected Load	2200 Watts, 20 AMPS
Power Controllers	SCR power controller AC input phase control 30 Amp
Temperature Controller	(2) Precision Digital PD542-6RB-00
Flowmeter	Key Instruments FR4A40SVVT-NL
Thermocouples	Type "K" for temp. control
Cabinet	Table top standing steel cabinet painted oyster white
Cables	SJO power cord/plug for 20 amp circuit



## SSP-354 Equipment Specification

### Injection/Infusion Pump System

Model Number	SSP-KDS100
Electrical	115V, 0.1A
Fuse	5x20mm, 250V slow blow, 0.1A
Voltage Operating Range	100-120V, 50/60Hz
Syringe Size	10 microliter to 60 milliliter
Drive Mechanism	Microprocessor controlled stepper gearmotor ( $\frac{1}{2}$ microstepping), driving a leadscrew through a belt and pulley drive mechanism
Pusher Advance per Half Step	$\sim 0.529$ micron or $2.083 \times 10^{-5}$ in.
Linear Travel	Min. 0.00635cm/hr, Max. 76.18cm/hr
Minimum Stepping Rate	One $\frac{1}{2}$ step in 30 sec.
Maximum Stepping Rate	400 $\frac{1}{2}$ steps per sec.
Flowrate Range	0.1 $\mu$ l/hr (10 $\mu$ l syringe) to 506 ml/hr (60 ml syringe)
Support Arm	Anodized aluminum with adjustable screws