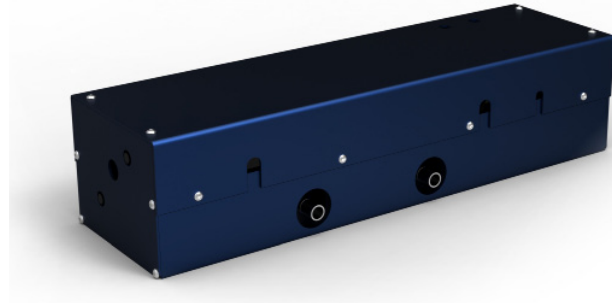




# Laser Resonators

| Long Pulse Alexandrite |



**PERFORMANCE**  
**PARTNERSHIP**  
**V A L U E**

Compact

Stable

Robust

Optimized  
Performance

High Efficiency

Uniform Beam  
Profile

Designed for optimal output performance in a small footprint, New Source Technology's optical resonators complete our product portfolio of critical laser components. Contained within each resonator are the highest quality components from industry leaders. We have designed a variety of standard resonators that can be seamlessly integrated into your system.

Optional features are available including Q-switched, fiber coupled, energy sensors, and alignment/aiming beams. Custom resonators can also be designed and manufactured based upon specific laser power requirements for fiber delivery or direct lasing.

New Source Technology, LLC (NST) is a California based limited liability company specializing in the design, manufacture, and/or distribution of optical sub-systems and critical laser components with emphasis on lamp pumped solid-state requirements in the cosmetic, surgical, and dental laser markets. We are able to offer solutions for Fiber-Coupled CTH:YAG, Q-Switched and Long Pulse Alexandrite, Q-Switched and Long Pulse Nd:YAG, CTH:YAG and Er:YAG resonator requirements. Although we offer a broad range of critical components related to lamp pumped solid-state lasers including PFN sub-assemblies, simmer/capacitor charging power supplies, and thermal management components, our strongest core competence is with laser optics, crystals, flash lamps, and our best-in-class pump chambers/cavities.

**NEW SOURCE**  
**TECHNOLOGY** LLC

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# 100W Long Pulse Alexandrite Resonator

## Performance Requirements

OUTPUT SPECIFICATIONS	
Model RES-0755-LP-01	
Power (Ave)	100W
Energy per Pulse (Max)	100J
Pulse Width	0.5ms to 3ms (single pulse) 3ms to 50ms (bust pulse)
Rep Rate	
	1Hz 85J
	2Hz 50J
	3Hz 30J

## Subsystem Requirements

ELECTRICAL	
Power Supply	4KW, 900V capacitor-charging power supply
Power Supply Type	IGBT
Capacitance	22500 $\mu$ F
Operating Voltage Range	up to 900V
Pulse Width	0.5ms to 3ms (single pulse) 3ms to 50ms (bust pulse)

COOLING	
Cooling Medium	DI Water
Cooling Water Temperature Range	60°C to 65°C
Conductivity	< 20 $\mu$ S/cm
Optimum Cooling Water Flow	8 to 12 LPM
System Pressure	< 35psi

ENVIRONMENT	
Operating	18°C to 25°C

LAMP	
Input Lamp Energy	up to 3300J
Pulse Width	0.5ms to 3ms (single pulse) 3ms to 50ms (bust pulse)



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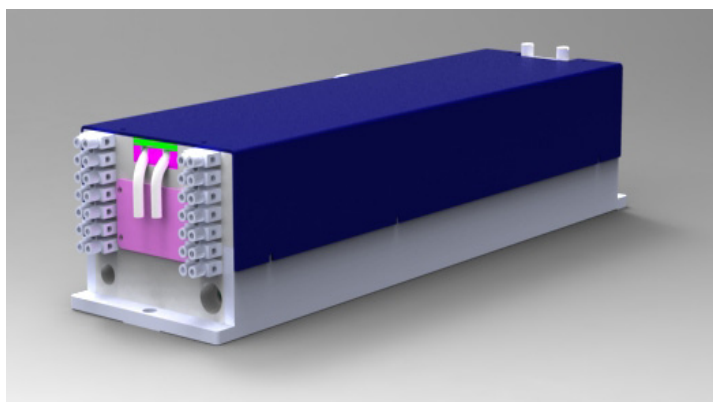
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# 100W Long Pulse Alexandrite Resonator

## Resonator Interface

FEATURES	
External Trigger	
Interlocks	Fiber
	Protective Window
	Shutter
Replaceable Protective Window	
Energy Pickoff	

PINOUT	
Pin #	Description
1	Trigger Transformer (+)
2	Trigger Transformer (-)
3	Shutter (+)
4	Shutter (-)
5	Fiber/Protective Window Interlock (+)
6	Fiber/Protective Window Interlock (-)
7	Shutter Sensor Anode (Black)
8	Shutter Sensor Cathode (Red)
9	Shutter Sensor Vcc (White)
10	Shutter Sensor Output (Blue)
11	Aiming Beam (-) / Shutter Sensor (Gnd) (Black/Green)
12	Aiming Beam (+)



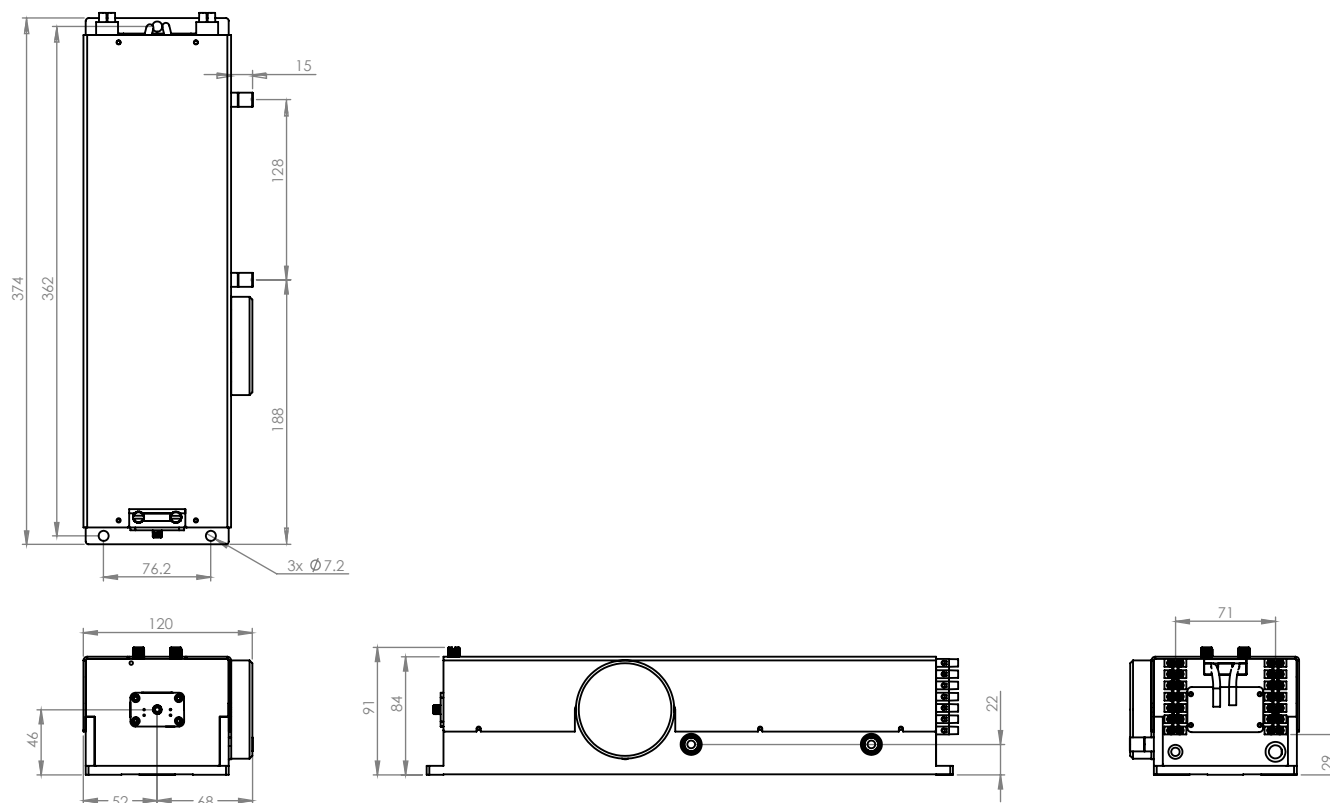
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# 100W Long Pulse Alexandrite Resonator

## Outline Drawing (in mm)



PREVENTIVE MAINTENANCE (LAMP)	
Mean Time Between Replacement (MTBR)	≥ 1M Pulses
Mean Time to Replace Lamp (MTTR)	≤ 30 Minutes
Lamp End of Life	80% Ouput Power
Quantity of Lamps per Resonator	Two