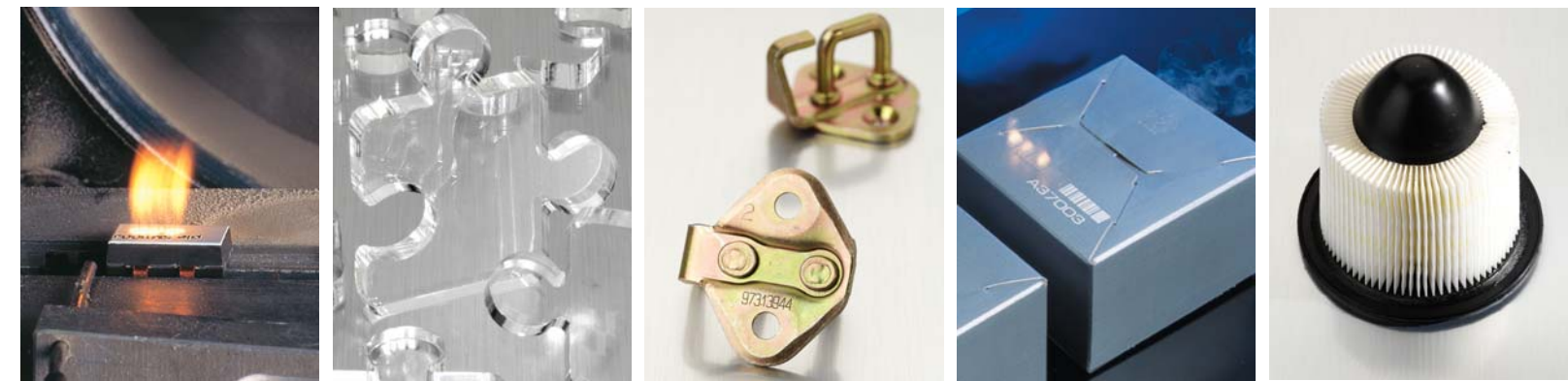


Specifications

Model	t60	t60W	t80	t80W	t100	t100W
Output Power	60W	60W	80W	80W	100W	100W
Mode Quality	TEM ₀₀ ,95% Purity M ² <1.1 ±0.1		TEM ₀₀ ,95% Purity M ² <1.1 ±0.1		TEM ₀₀ ,95% Purity M ² <1.1 ±0.1	
Ellipticity	<1.2		<1.2		<1.2	
Rise Time	<75µsec		<75µsec		<75µsec	
Beam Diameter	2.2 ± 0.2mm		2.2 ± 0.2mm		2.2 ± 0.2mm	
Beam Divergence (full angle)	7.0mR		7.0mR		7.0mR	
Wavelength	10.57-10.63µm		10.57-10.63µm		10.57-10.63µm	
Power Stability, from cold start (guaranteed)	±7%		±7%		±7%	
Polarization	Linear (Vertical)		Linear (Vertical)		Linear (Vertical)	
Cooling	Air	Water	Air	Water	Air	Water
Heat Load (max)	1400W		1800W		2300W	
Flow Rate, Air	130 CFM x 2	N/A	195 CFM x 2	N/A	195 CFM x 2	N/A
Flow Rate, Water (18-22°C)	N/A	0.75-2GPM, <60PSI	N/A	0.75-2GPM, <60PSI	N/A	0.75-2GPM, <60PSI
Input Voltage / Current	30 VDC / 45A		36 VDC / 55A		30 VDC / 75A	
Dimensions (in)	20.8 x 4.6 x 5.9	21.4 x 4.1 x 5.9	20.8 x 4.6 x 5.9	21.4 x 4.1 x 5.9	22.5 x 7.7 x 6.3	23.0 x 5.6 x 6.1
(mm)	528 x 117 x 150	544 x 104 x 150	528 x 117 x 150	544 x 104 x 150	571 x 196 x 159	584 x 143 x 155
Dimensions, RF Power Supply (in)	12.2 x 12.5 x 6.1	12.0 x 12.5 x 3.5	12.2 x 12.5 x 6.1	12.0 x 12.5 x 3.5	17.5 x 13.0 x 6.4	17.5 x 13.0 x 4.2
(mm)	309 x 317 x 156	305 x 317 x 89	309 x 317 x 156	305 x 317 x 89	444 x 330 x 164	444 x 330 x 107
Weight, Laser Head	26 lbs / 11.8 kg	24 lbs / 10.9 kg	26 lbs / 11.8 kg	24 lbs / 10.9 kg	26 lbs / 11.8 kg	24 lbs / 10.9 kg
Weight, RF Supply	19 lbs / 8.7 kg	17 lbs / 7.7 kg	19 lbs / 8.7 kg	17 lbs / 7.7 kg	30 lbs / 13.6 kg	28 lbs / 12.5 kg

Beam specifications measured at 1/e².
Specifications subject to change without notice.



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firestar
t series

60, 80 & 100W CO₂ Lasers



With over 65,000 lasers shipped worldwide, Synrad continues its tradition of innovation and customer focus by introducing the newest members in our suite of laser solutions, the *firestar t-series*.

In today's competitive marketplace, system designers face two difficult challenges. First, they must create a series of cost effective products built on a standard platform, with increasing capabilities to match the customer's needs. A second challenge is to provide an easily field upgradeable product to increase his after-market revenue. Synrad designed the *firestar t-series* lasers, with their common footprints, mounting systems, and beam exit locations, to meet this design criterion. With a range of output powers to match the application, combined with the benefits and cost savings of air-cooled operation, the *t-series* are the ideal choice for laser engravers, laser markers, and high-speed laser coders.

All *firestar t-series* models are available in the following configurations:

- OEM, air-cooled
- OEM, fan-cooled
- OEM, water-cooled
- Keyswitch, fan-cooled
- Keyswitch, water-cooled

Maximum power and performance in a small footprint laser, with the flexibility of air or water-cooling, are among the key features of the *t-series* laser technology. By incorporating a standardized compact footprint in lasers with 60, 80 and 100 watts of power, the *firestar t-series* provides OEM and system integrators with today's best combination of cost and performance, along with an upgrade path for the future.

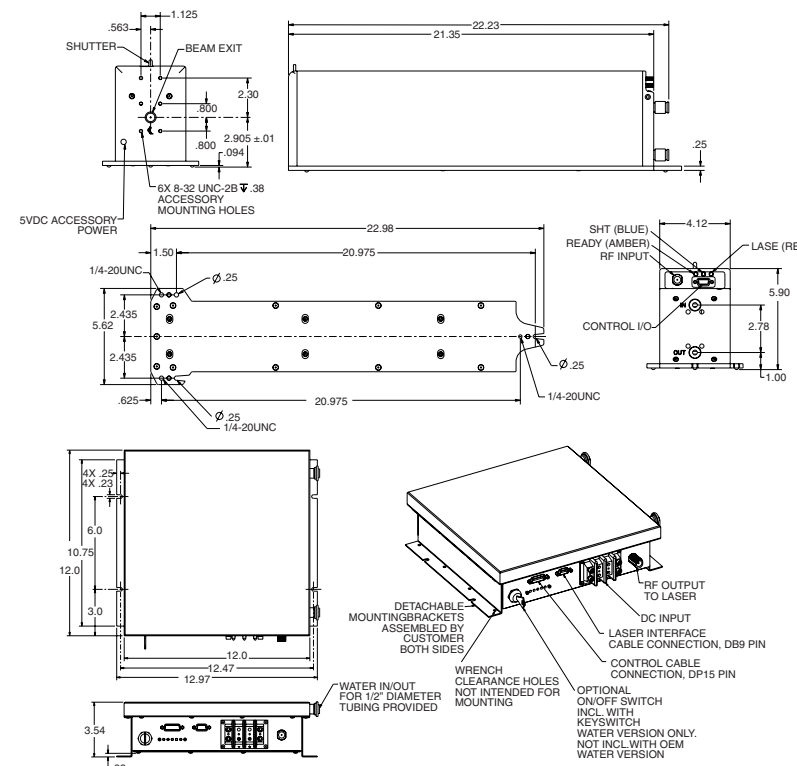
The unique *t-series* resonator design creates a compact laser with excellent beam quality that can be focused to the smallest achievable spot size, delivering the maximum possible power density on a work surface. The result is faster processing speeds, higher resolution and optimized quality for cutting, marking, and engraving applications.

With its high performance RF circuitry designed specifically to match its compact resonator, *firestar t-series* lasers have typical rise times of better than 75 μ sec with outstanding square-wave performance. When combined with an excellent beam profile and mode quality numbers, (M^2 of $<1.1 \pm 0.1$), the *t-series* delivers high power, fast pulsing capabilities and optical quality ideally suited for applications where rapid scanning or pulsing of the laser beam is required.

All Synrad *firestar t-series* laser models feature:

- Excellent Beam Quality
- Fast Pulsing Capabilities
- Fast Rise and Fall Times
- Common Footprint & Beam Exit Locations
- Rugged, 3-point Mounting
- Internal Tickle Signal
- 5-24 VDC I/O Ports
- Remote Control / Status via 15-Pin D Connector

More power, same small package



firestar t80 and RF power supply, Keyswitch water-cooled model
For more drawings, visit www.synrad.com/tseries

All dimensions are in inches



firestar *t80*
Keyswitch (Water-Cooled) Configuration

Following on the success of the t60, Synrad introduced the 80W *firestar t80*. Sharing a common footprint, the t80, with its matching 36 VDC RF supply, provides even more power in the same compact package. For applications like fast marking on steel, with 80W of efficient focusable power, the t80 is an ideal fit.

- 80W • Air & Water-Cooled models • Small Footprint, Compact Size
- External 36 VDC RF Supply • OEM & Keyswitch models

The compact, air-cooled 60W laser

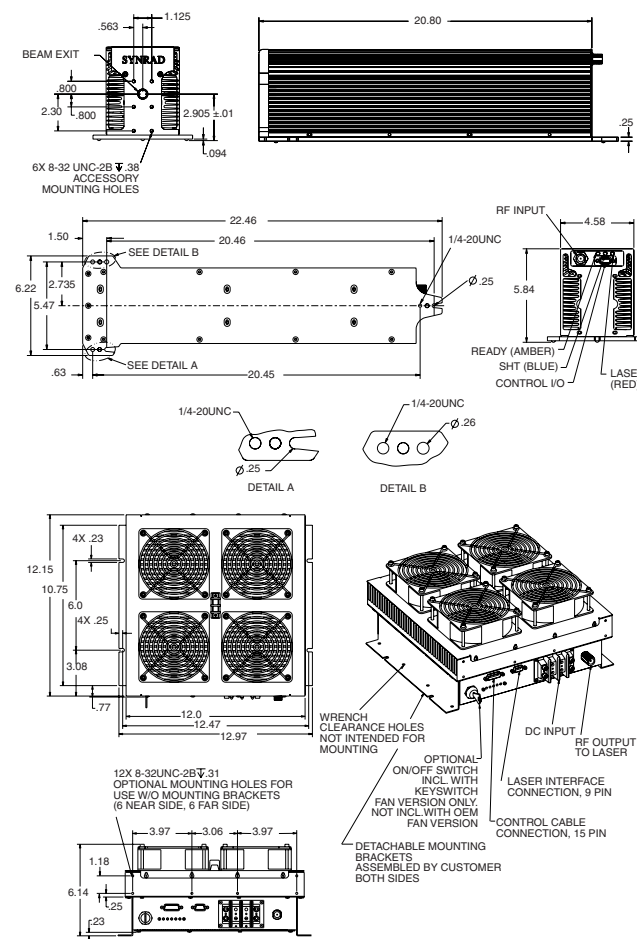


firestar *t60*

OEM (Air-Cooled) Configuration

The *firestar t60*, 60W CO₂ laser, was the first *t-series* laser to be introduced to the market. With its matching 30VDC RF supply, the t60 is currently installed in numerous marking and engraving applications worldwide.

- 60W
- Air & Water-Cooled models
- Small Footprint, Compact Size
- External 30 VDC RF Supply
- OEM & Keyswitch models



firestar t60 and RF power supply, OEM air-cooled model
For more drawings, visit www.synrad.com/tseries

All dimensions are in inches

The industry's smallest and lightest air-cooled 100W CO₂ laser



firestar *t100*

Keyswitch (Fan-Cooled) Configuration

The t100 unites outstanding beam quality and fast pulsing capabilities with 100W of power.

In many of today's packaging and marking applications, high-speed tracking of parts is required to keep up with production line feed rates. For these types of challenging applications, the t100 has the power and speed to meet or exceed the job requirements.

In comparison to other 100W CO₂ lasers in today's industrial laser market, the beam characteristics of the t100 excel in both mode and quality. This typically means no additional beam shaping optics are needed to provide the maximum focused laser power for end-user applications. In addition, the t100's fast rise and fall times and excellent square pulse profile optimize applications where superior pulsing performance is key.

For applications requiring mounting on an X/Y gantry or robotic arm, where the mass of the laser is critical to system speed and performance, the *firestar t100* provides the smallest and lightest 100W laser solution available.

- 100W • Air & Water-Cooled models • Small Footprint, Compact Size
- External 30 VDC RF Supply • OEM & Keyswitch models

