LIGHTEL
Component Workstations

CW-7000 Series
Combiner Workstation

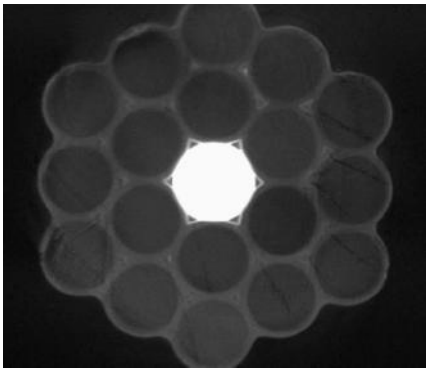
CW-7001, for N x1, (N+1) x1 end pump combiner, up to 37x1 or (36+1) x1
CW-7002, for (N+1) x1 side pump combiner, N≤6

High power fiber optic systems are constantly evolving and so are their internal optical components. The Lightel CW-7000 series workstation is a very useful tool to aid in the development and manufacturing of fiber bundle tapering and fiber laser pump combiner manufacturing. Ideal for production or R&D, the CW-7000 is customized for either **End-Pump** Combiner or **Side-Pump** Combiner fabrication.

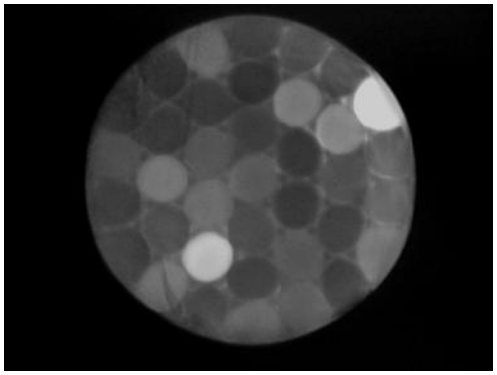
The CW-7000 series combiner workstation was designed based on Lightel's decades of practice in fiber fusion technology and hands-on experience in manufacturing fiber optic pump combiners. With our specially simplified fiber loading and holding fixtures, there is no need to use or taper any type of glass tubes or capillaries. The fabrication process is simple and easy to learn. Also, the fiber holder/fixtures are virtually maintenance-free and extremely easy to exchange for different fiber sizes and fiber counts.

Comprehensive software features include highly configurable dynamic pulling, torch scanning, gas flow control and cleaver positioning. These features allow the user to control most parameters and customize their own recipe, making the workstation ideal for both production and research.

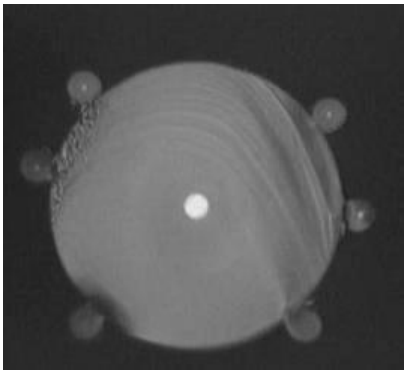
Cross-section Images



(18+1) X 1 End-Pump Combiner



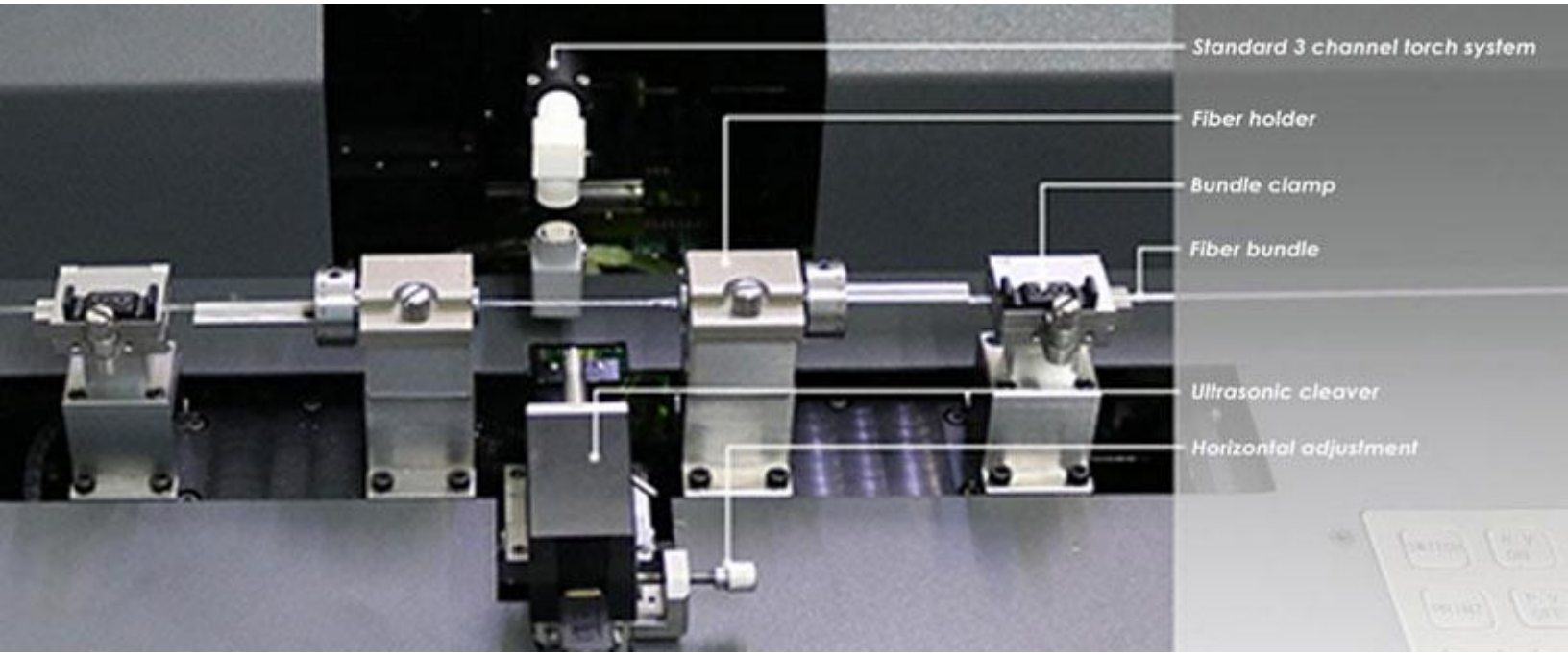
37x1 End-Pump Combiner



(6+1) x1 Side-Pump Combiner

Key Features

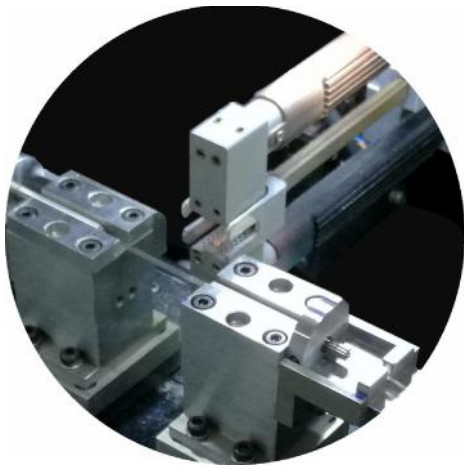
- Simple fixture design allows the fiber to be easily loaded. No glass tubes or capillaries are required.



CW-7000 Series Central View

- Interchangeable fiber holder/fixture enables the user to quickly shift between different fiber sizes and/or fiber counts with no tools needed. The CW-7001-Base comes with a standard 7-fiber holder to produce Nx1 or (N+1)x1 end pump (up to 7 fibers), with optional fixtures to hold up to 19 fibers or 37 fibers. The CW-7002-Base is offered with standard (6+1) X1 side pump fixtures.

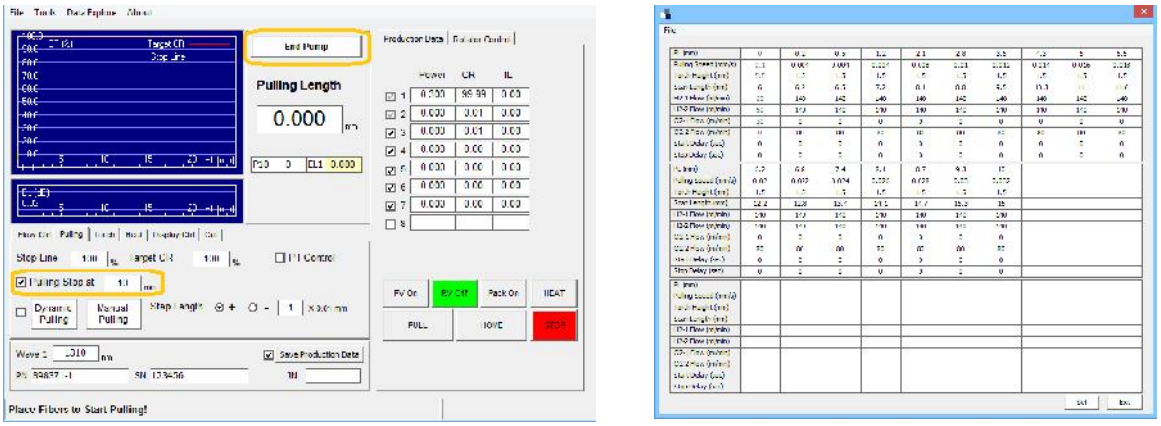
Multi-fiber Holder



Hybrid Linear Torch System with Micro Nozzle

- The hybrid torch system utilizes multiple gas flow channels to optimize the flame width, shape and temperature for different applications. The CW-7000 series workstations are equipped with a 3-channel circular torch system as standard. The customer can choose to use H2+O2 or H2+H2+O2 combination, as needed. A 4-channel circular torch (top H2+O2, bottom H2+O2) and a 4-channel linear nozzle system (which generates a flat and even heating plane) are optional.

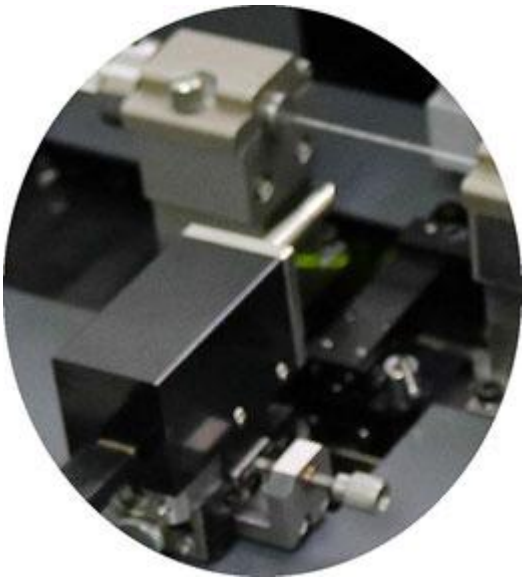
- The unit is equipped with highly flexible Windows® based software, allowing users to configure most parameters and create their own dynamic pulling recipes. Once “Dynamic Pulling” is selected, the pulling/fusing process will automatically follow the pre-configured parameters until finished or interrupted by the user.



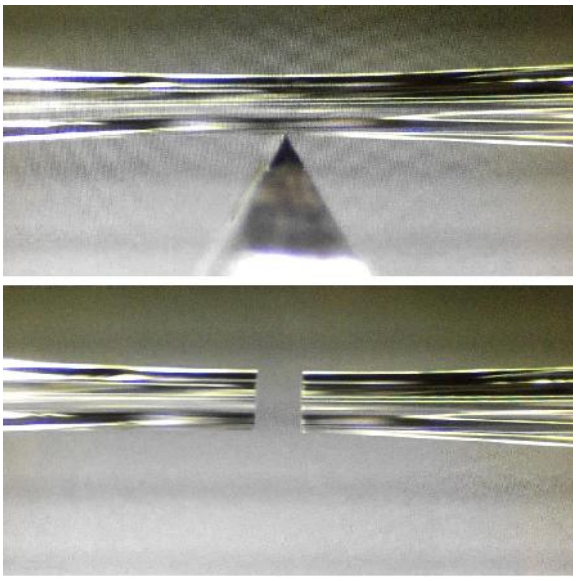
CW-7000 Series Software Interface

- A unique flame scanning function allows the operator to pre-configure the speed, cycle and distance of the torch scanning along the fibers, as well as the ability to change the torch scan length depending on the pulling length or pulling time.

- A built-in ultrasonic cleaver with horizontal fine adjustment enables the user to cleave the bundle at the optimal position. The cleave positioning and cleaving motion can be configured to automatic or manual mode. The cleaver works for fiber sizes from 125um up to 2mm with the proper clamp installed.



CW-7000 Series Ultrasonic Cleaver



Cleaving Process

- A built-in fiber/bundle clamp and an optional fiber bundle support ensure the proper fiber tension and back support.

- An optional 8-channel digital power monitor allows the operator to monitor the optical power distribution during the process.

- Optional UV lamps for packaging (side pump combiners) or for temporarily bonding the fibers together.

Specifications

General	
Model number	CW-7000 Series, CW-7001, CW-7002
Package Description	**CW-7001**, end-pump configuration, base model configured for 7x1, (6+1)x1, with ultrasonic cleaver and bundle clamp, 4x mass flow controller, 3-channel circular torch, optional fiber holders including: FIBERHOLDER-07-XXX, fiber holder for up to 7 fibers, FIBERHOLDER-19-XXX, fiber holder for up to 19 fibers, FIBERHOLDER-37-XXX, fiber holder for up to 37 fibers, -XXX refers to the fiber buffer diameter (in µm) **CW-7002**, side-pump configuration, for (N+1)x1 side-pump combiner, N up to 6, 4x MFC, 3-channel circular torch, with packaging holder and UV lamps **CW-7001 and CW-7002 platforms are interchangeable, an upgrade is available on either model by purchasing an additional platform.*
Input	AC 90-240V, 50/60Hz, power consumption 150W Max
Dimensions	570mm(W) X 195mm(H) x 470mm(D)
Weight	68lbs
Mass flow controller	**4 units by standard**
Power	DC24V, 60-130mA
Communication with PC	RS232 port
Gas Consumption	300sccm/min Max per channel, Optional 1000sccm/min per channel
Gas Inlet	¼" OD tubing by default
UV Lamp	
UV Source	UV LED
UV Wavelength	365nm (UVA)

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