

STARFIBER 180/320 FC OEM

FIBER LASERS FOR FINE CUTTING

Want a better solution?

Want a different solution?

Want a better service?

Want a flexible modular laser?

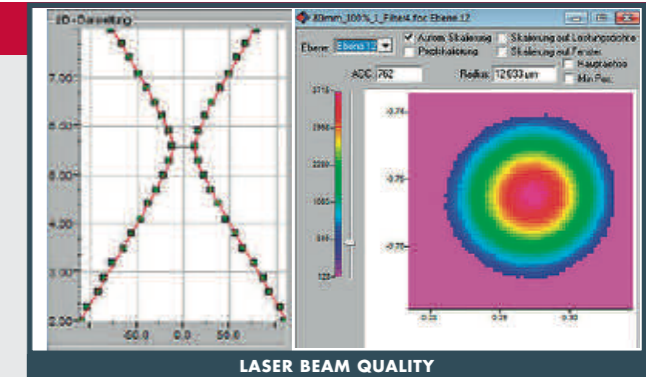
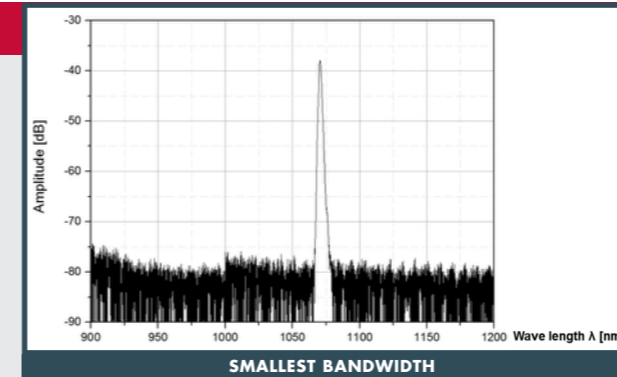
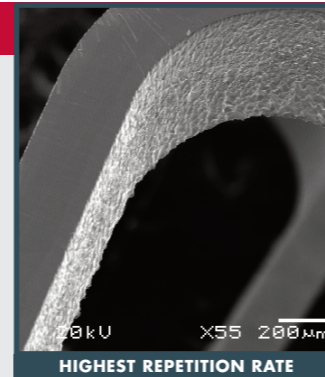
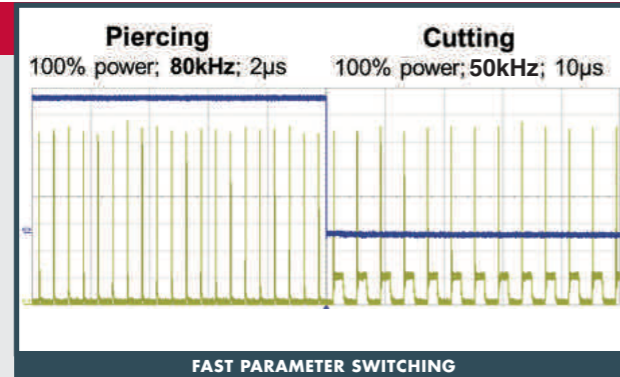
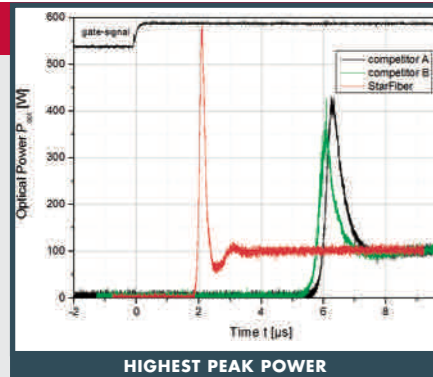
Want a laser package including cutting head?

StarFiber 180/320 FC OEM



ROFIN has developed the StarFiber FC OEM featuring a minimum 'trigger to light' effect, i.e. the shortest switch-on delay, especially for complex fine cutting. In comparison to other beam sources available on the market, this laser offers a significantly higher peak power over a wide frequency range which is also available at high repetition rates of up to 170 kHz. Those features ensure a very small heat affected zone, less taper and an excellent cutting quality.

- Highest peak power
- Smallest trigger to light
- Stable trigger to light time
- Fast parameter switching
- Electronic safety shutter, CE approved
- Highest repetition rate
- Smallest bandwidth
- Best beam quality
- Easy integration for OEMs



Highest Peak Power

- Less heat affected zone
- Cleaner cut
- Tailored for complex geometries
- Less debris
- Better edge quality

Fast Parameter Switching

- Faster and cleaner piercing
- Lowest debris and heat effect
- Instant switching between two laser parameters

Highest Repetition Rate

- For up to 170 KHz
- Higher cutting speed
- Higher throughput (UPH)
- Better cutting edges
- Less taper
- Higher yields

Smallest Bandwidth

- Best laser spectrum
- No second wavelength
- Clean repeatable cut

Best Beam Quality

- Brightest beam $M^2 < 1.1$
- Smallest spot size
- Higher depth of focus
- Smallest cutting width
- Cleanest cut
- Less taper

Smallest Trigger to Light

- Enables frequencies up to 170 KHz
- Higher cutting speed
- Higher throughput
- No running in at beginning

Stable Trigger to Light Time

- Best contour accuracy
- Higher throughput

Electronic shutter

- CE approved
- Results in 90% shorter handling time
- Mechanical shutter not necessary

Easy Integration for OEMs

- Safety loop
- Internal pulse generator (external trigger not required)
- Standardized interface according to DIN EN 13849-1

ROFIN-LASAG Processing Heads for Cutting

The laser processing heads are specially designed for micro cutting applications.

- Robust modular design for 24/7 industrial use
- Operator and service-friendly
- Convenient protection glass cassette
- x-y nozzle adjustment (laser beam stays in fixed position)
- z-focus adjustment by movable lens (nozzle stays in fixed position)
- Optimized fine cutting nozzle for max. gas pressure of 18 bar
- Tailored for higher yields



PRECISION

Precision

Slim design enables good accessibility to the workpiece



HIGH PRECISION

High Precision

Highly accurate nozzle x-y and lens (z-focus) adjustment via micrometer screws with repeatable settings

- z- adjustment of focusing lens with micrometer scales
- Precise and reproduceable focus position
- x-y adjustment of nozzle with micrometer scales
- Exact concentric and perpendicular laser beam adjustment



VIEWING OPTIONS

Viewing Options

Four viewing options (monocular or camera):

- Camera interface 0°
- Camera interface 90°
- Monocular 45°
- Monocular 90°



WITHOUT VIEWING 0° CONFIGURATION



WITH VIEWING 90° CONFIGURATION


Configurations

Following configuration options:

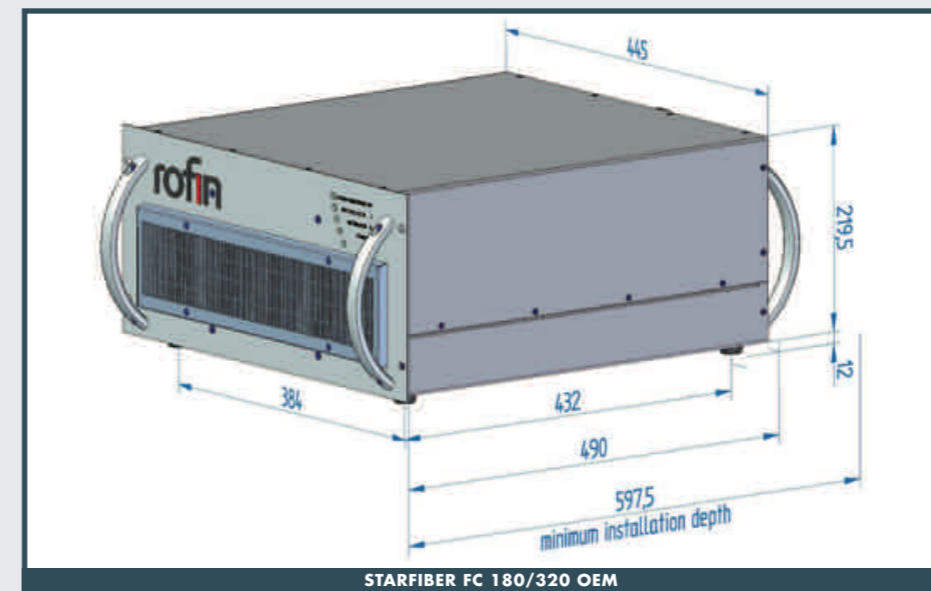
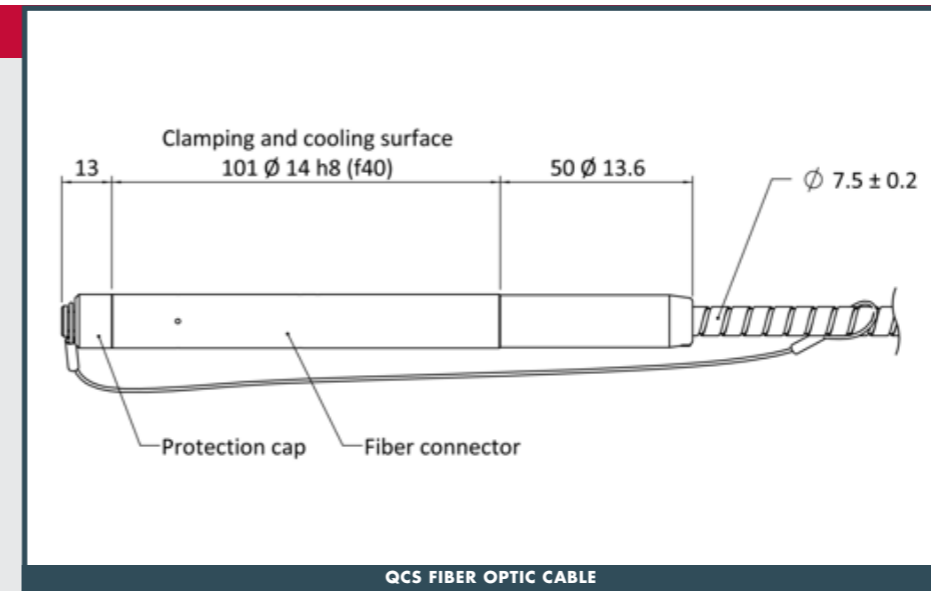
- With viewing, 0° or 90° configuration
- Without viewing, 0° or 90° configuration

STARFIBER	180 FC OEM	320 FC OEM
Beam Characteristics		
Wavelength	1070 nm	1070 nm
Pulse frequency	single shot up to 170 kHz	single shot up to 170 kHz
Pulse width	0.5 μ s - cw	0.5 μ s - cw
Pulse peak power	up to 600 W	up to 1200 W
Beam output		
Beam diameter	5 +/- 0.5 mm	5 +/- 0.5 mm
Beam divergency	collimated	collimated
Beam quality	< 1.1 M ²	< 1.1 M ²
Free fiber length	5 m	5 m
Fiber cable	QCS	QCS
Utilities		
Electrical	110 to 240 V 1P/N/PE, AC, 50/60 Hz	208 to 240 V 1P/N/PE, AC, 50/60 Hz
Wall Plug Efficiency	> 22 %	> 22 %
Power consumption max.	750 W	1.500 W
Cooling	air-cooled	air-cooled
Measures and Weight		
Weight laser source	approx. 50 kg	approx. 50 kg
Dimensions laser source w x h x d	19 " x 5 HU x 490 mm	19 " x 5 HU x 490 mm

Standardized Interfaces
Communication via RS-232 interface
Laser control via TTL signal
Power control RS-232 or analog input (0-10 V)
Safety shutter according to DIN EN 13849-1

STARFIBER	COLLIMATION	CUTTING HEAD	FOCAL LENGTH	FOCUS DIAMETER
180/320 FC OEM	QCS* Beam Expander 1.2x/1.5x/2x/3x 	Precision	50 mm	5 μ m ... 11 μ m
		Precision High Precision	100 mm	10 μ m ... 22 μ m
			150 mm	15 μ m ... 33 μ m

* Optionally: x/y adjustable QCS mount



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SOLUTIONS FROM A SINGLE SOURCE

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