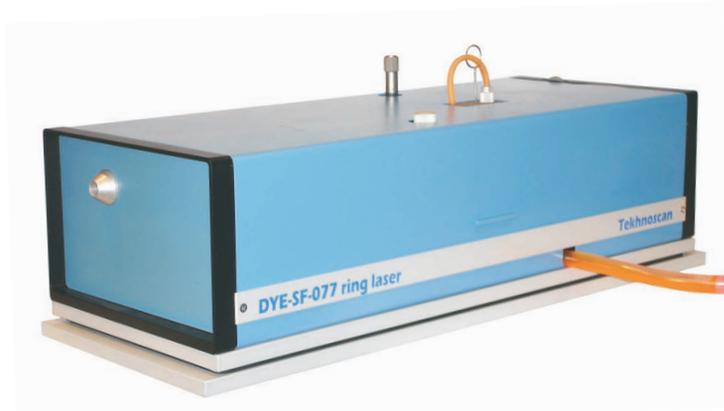
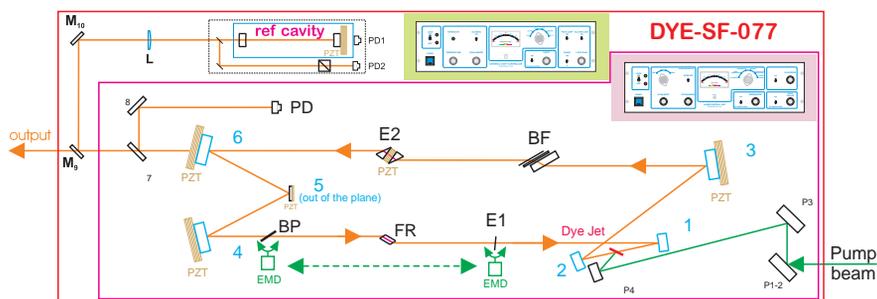


Frequency-stabilised CW single-frequency ring Dye laser by Tekhnoscan



Dye laser DYE-SF-077 is the first representative of the new contemporary generation of dye lasers that offer to the user virtually the same level of convenience and simplicity of operation as with a solid-state tuneable laser. Similarity of this laser to a solid-state one is emphasized by the fact that DYE-SF-077 can be optionally shipped in the combined configuration which allows its operation as a Ti:Sapphire laser.

Laser model DYE-SF-077 features exceptionally narrow generation line width, which amounts to **less than 100 kHz**. DYE-SF-077 sets new standard for generation line width of commercial CW single-frequency dye lasers.



Upon customer's order, laser DYE-SF-077 may be equipped with a USB-compatible interface for a desktop or a laptop connection used to remotely scan the generation line of the laser and to perform multi-channel data acquisition. Laser DYE-SF-077 also may be shipped together with an atom cell and a system for reduction of long-term generation line drift. Besides, laser DYE-SF-077 in combination with highly-efficient resonant frequency doubler FD-SF-07 delivers several hundreds milliwatts of narrow-band UV radiation within the 285–350-nm range.

Choose the necessary parameters and options of DYE-SF-077 and enjoy this modern and powerful laser system by Tekhnoscan!

⊙ **Ultra-fine spectral resolution** in fundamental research and industrial applications.

⊙ Super-selective action on atoms and molecules.



⊙ Many successful and time-proven technical solutions related to the cavity design were inherited by model DYE-SF-077 from Ti:Sapphire laser "TIS-SF-07" manufactured and shipped by Tekhnoscan since 2001.



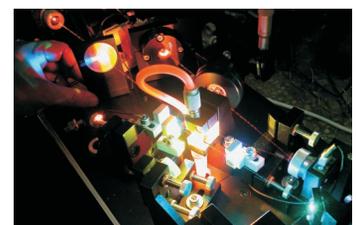
⊙ Rigid laser base-plate with three invar rods in a volumetric configuration.

⊙ Precision system for adjustment of the pumping beam position.

⊙ Possibility of **direct pumping** (without any additional mirrors and/or spacers) by popular DPSS lasers, the centre of the input aperture of DYE-SF-077 laser matching that of a DPSS laser.

⊙ **Absolutely dry dye-jet laser**: the laser has a reliable shutter for the dye solution during powering up and switching off the circulation system.

⊙ In order to generate highly stable dye solution jet in laser DYE-SF-077 an **optimised sapphire nozzle** is used, which also ensures high jet speed at minimal input pressure.



DYE-SF-077

Frequency-stabilised CW single-frequency ring Dye laser

Specifications:

Wavelength range	570-620 nm 620-700 nm
Output	> 1 W at 6 W pump
Linewidth	< 100 kHz rms ¹
Frequency drift	< 30 MHz/hour ²
Smooth scanning	> 6 GHz ³
Spatial mode	TEM ₀₀
Polarization	horizontal

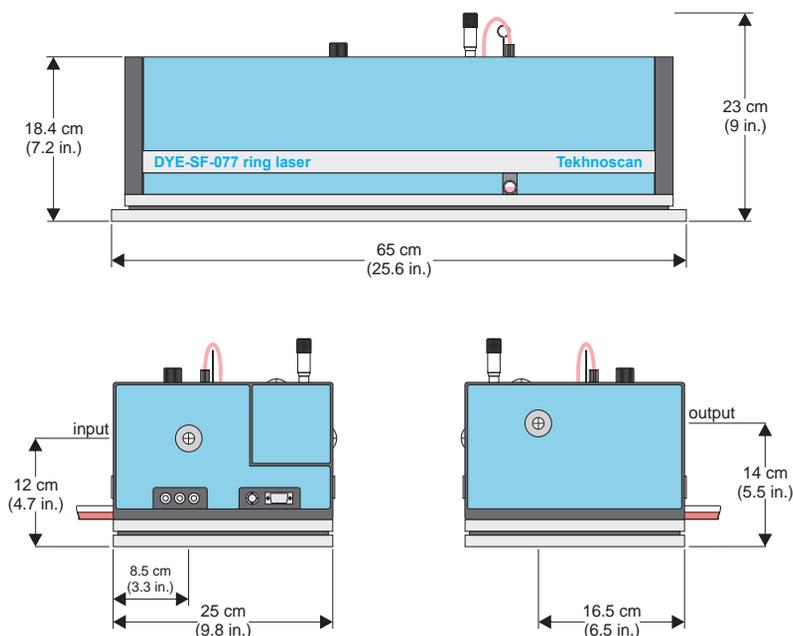
1. relative to the reference cavity

2. < 1 MHz/hour with frequency stabilisation to an atomic/molecular line (optionally)

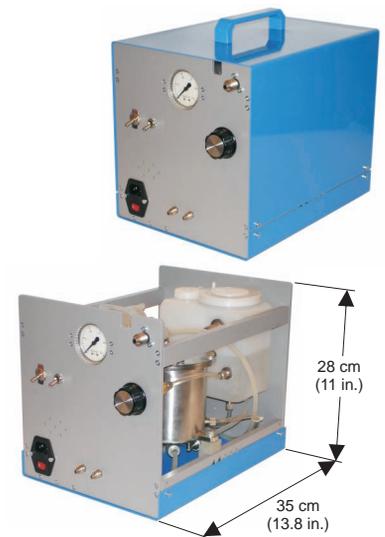
3. up to 20 / 40 GHz (optionally)

Options:

- 20 / 40 GHz smooth scanning;
- 285-350 nm wavelength range with Resonant Frequency Doubler "FD-SF-07"
- Absolute Frequency Stabilisation to an atomic/molecular line
- + Ti:Sapphire laser (linewidth < 5 kHz) in the same Laser head



Dye Circulation System



⊙ Compact and powerful system of dye solution circulation with a leak-free magnetically coupled pump.

⊙ Efficient system for suppression of pressure fluctuations in the dye circulation loop.

⊙ Reliable filtering system for removal of air bubbles from the dye solution.

⊙ The dye solution circulation system of DYE-SF-077 is designed to make the procedure of dye change convenient and clean. Laser DYE-SF-077 may be shipped with several circulation systems, in which case switching between working spectral ranges will be extremely fast and simple.

Information and specifications contained herein are deemed to be reliable and accurate as of the publication date. Tekhnoscan reserves the right to change these specifications at any time without notice.



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