Compex 205 ArF Excimer Laser (193 nm)

1. Parameters:

Nominal wavelength: 193 nm

Max. Repetition rate: 50 Hz

Max. pulse energy: 400 mJ

Max. average power: 15 W

Energy stability, 1 sigma: 2%

Pulse duration (FWHM): 15 ns

Beam size, vertical (FWHM) at beam exit: 24 mm

Beam size, horizontal (FWHM) at beam exit: 10 mm

Beam divergence, vertical (FWHM): 3 mrad

Beam divergence, horizontal (FWHM): 1 mrad

Polarization, horizontal: unpolarized

2. Electrical manual for the system (none)

3. Daily operation manual:

Starting the laser

 1. Turn on the water supply (1-5 L/min, outlet temp. < 38 ℃)

 2. Turn on the purge gas (He) at least 5 min before starting the laser operation to minimize the optics contamination (4.4 to 5.32 bar)

 3. Turn on the fluorine gas (4.4 to 5.2 bar)

 4. Turn on the main switch, then turn on the key switch

 5. The laser system will start in 5 min (5 min count down shown on the control panel)

 6. Open the beam shutter, press <RUN/STOP>, and then press <EXE>

Stopping the laser

 7. Press <RUN/STOP>

Shut down the laser

 8. Press <F10>

 9. Press either <Cursor right> or <Cursor left> until “SHUTDOWN” appears on the left of the display

 10. Press <ENTER> to confirm the selection

 11. Switch the key off; switch the mains off.

4. Laser tube maintenance

 Purpose: Evacuate spent excimer laser from the laser tube and fill the laser tube with the appropriate fresh excimer laser gases. The laser tube is automatically evacuated and filled to the required pressure through the dedicated software routine “NEW Fill”.

 Maintenance Interval

 1. Every 5 to 25 million pulses

 2. Every 1 to 2 weeks

 3. If the beam output is too low

 Evacuating and filling the laser tube

 1. Turn on the excimer laser gases and set the pressure regulator in each line to the required pressure

 2. Press <NEW FILL> on the handheld keypad. “>NEW FILL” appears in the bottom line of the display

 3. Press <ENTER> to confirm that a new fill is to be started

 4. Press <EXE> to start the NEW FILL procedure