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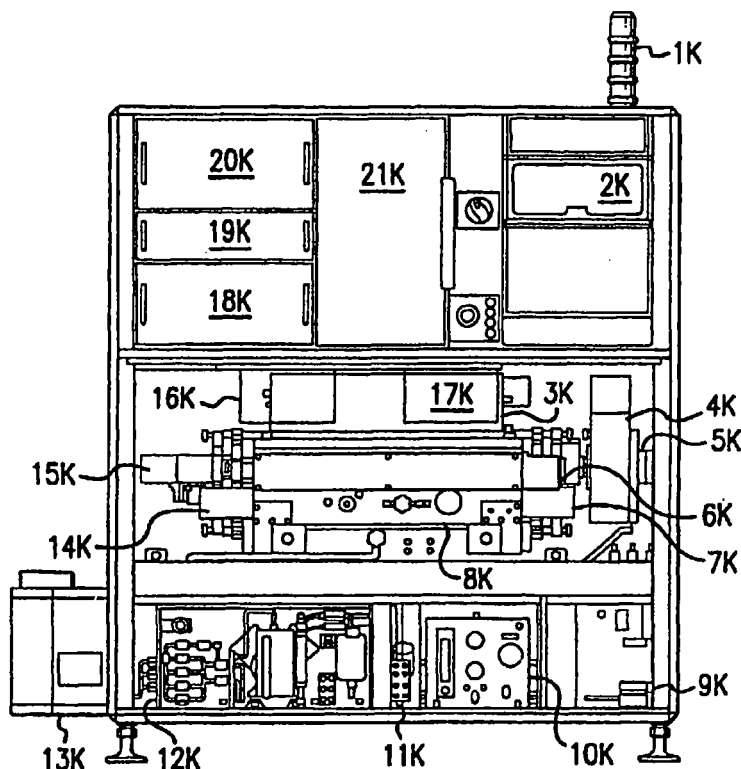
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(54) Title: FOUR KHz GAS DISCHARGE LASER SYSTEM



(57) Abstract: The present invention provides an excimer laser capable of producing a high quality pulsed laser beam at pulse rates of about 4,000 Hz at pulse energies of about 5mJ or greater. A preferred embodiment is an ArF excimer laser specifically designed as a light source for integrated circuit lithography. An improved wavemeter (4K) with special software monitors output beam parameters and controls a very fast PZT driven tuning mirror, which is in a line narrowing module (15K) and the pulse power charging voltage to maintain wavelength and pulse energy within desired limits. In a preferred embodiment two fan motors (16K and 17K) drive a single tangential fan which provides sufficient gas flow to clear discharge debris from the the discharge region during the approximately 0.25 milliseconds between pulses.

WO 02/093699 A1



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