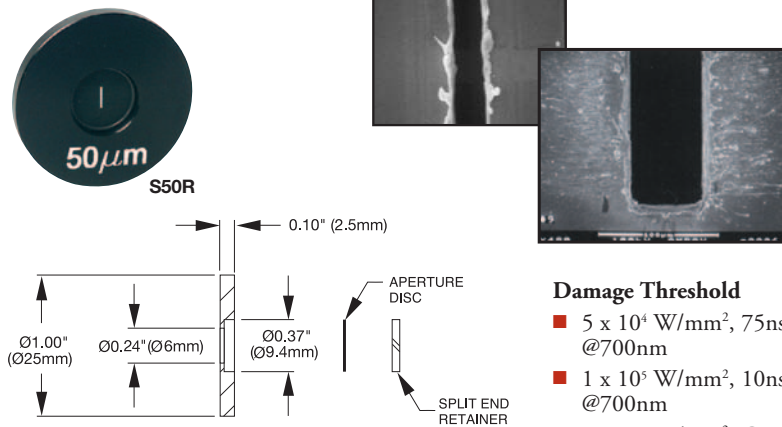


Fixed Vertical Slits



Specifications

- **Finish:** Oxide, Dull Black (Both Sides)
- **Material:** 302 Stainless Steel, Non-Magnetic
- **Thickness:** 0.0005" (12.8µm)
- **Position Tolerance:** Ø0.006" (0.15mm)

Damage Threshold

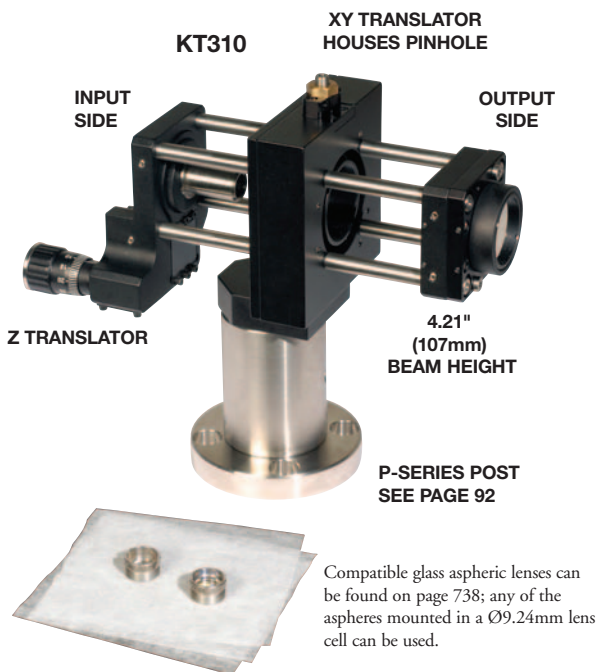
- 5×10^4 W/mm², 75ns Pulse @700nm
- 1×10^5 W/mm², 10ns Pulse @700nm
- 1×10^3 W/mm², CW @10.6µm

These precision rectangular slits are ideal for providing a defined input aperture for an optical system. The dimensional tolerance on the actual slit width is ±1µm for the 5-15µm slits, ±2µm for the 20-40µm slits, ±3µm for the 50-75µm slits, and ±4µm for the 100µm-200µm slits. All slits measure 3mm in height.

See Page 207 for convenient mounting cells

ITEM#	\$	£	€	RMB	DESCRIPTION
S5R	\$ 93.60	£ 59.00	€ 87,00	¥ 893.90	5µm Wide Vertical Slit, Mounted
S10R	\$ 93.60	£ 59.00	€ 87,00	¥ 893.90	10µm Wide Vertical Slit, Mounted
S15R	\$ 93.60	£ 59.00	€ 87,00	¥ 893.90	15µm Wide Vertical Slit, Mounted
S20R	\$ 93.60	£ 59.00	€ 87,00	¥ 893.90	20µm Wide Vertical Slit, Mounted
S30R	\$ 93.60	£ 59.00	€ 87,00	¥ 893.90	30µm Wide Vertical Slit, Mounted
S40R	\$ 83.20	£ 52.40	€ 77,40	¥ 794.60	40µm Wide Vertical Slit, Mounted
S50R	\$ 83.20	£ 52.40	€ 77,40	¥ 794.60	50µm Wide Vertical Slit, Mounted
S75R	\$ 83.20	£ 52.40	€ 77,40	¥ 794.60	75µm Wide Vertical Slit, Mounted
S100R	\$ 83.20	£ 52.40	€ 77,40	¥ 794.60	100µm Wide Vertical Slit, Mounted
S125R	\$ 83.20	£ 52.40	€ 77,40	¥ 794.60	125µm Wide Vertical Slit, Mounted
S150R	\$ 83.20	£ 52.40	€ 77,40	¥ 794.60	150µm Wide Vertical Slit, Mounted
S200R	\$ 83.20	£ 52.40	€ 77,40	¥ 794.60	200µm Wide Vertical Slit, Mounted

Spatial Filter System



For many applications, such as holography, spatial intensity variations in the laser beam are unacceptable. Our KT310 spatial filter is ideal for producing a “clean” Gaussian beam. Referring to the photograph to the left, the input side consists of a Z translator that will hold a diffraction-limited aspheric lens to focus a laser through a pinhole. The pinhole should be mounted in the provided XY translator to allow easy adjustment.

On the output side, threaded holes have been provided made for the mounting and centration of a Ø1.00" collimating optic. Choose from our selection of plano-convex Ø1.00" lenses featured on pages 700-706.

Principles of Spatial Filters

The input Gaussian beam has spatially varying intensity “noise.” When a beam is focused by an aspheric lens, the input beam is transformed into a central Gaussian spot (on the optical axis) and side fringes, which represent the unwanted noise. The radial position of the side fringes is proportional to the spatial frequency of the noise. By centering a pinhole on the central Gaussian spot, the clean portion of the beam can pass while the noise fringes are blocked.

The diffraction-limited spot size at the 99% contour is given by $D = \lambda f / r$ where λ = wavelength, f = focal length, and r = input beam $1/e^2$ radius. A pinhole that is approximately 30% larger is chosen to allow the focused Gaussian spot to pass while blocking the noise fringes that are shifted off axis.

Mechanics Only
Optics & Pinholes Sold Separately

ITEM#	METRIC ITEM#	\$	£	€	RMB	DESCRIPTION
KT310	KT310/M	\$ 643.80	£ 405.60	€ 598,70	¥ 6,148.30	Spatial Filter Mechanical Assembly