

**Instruction Sheet for the PASCO
Models OS-9165 and OS-9179**

Diffraction Slit Sets

The PASCO Model OS-9165 includes four slides:

- Set 1: Four single slits.
- Set 2: Four double slits.
- Set 3: Four multiple slits.
- Set 4: Aperture and diffraction patterns.

The PASCO Model OS-9179 includes two slides:

- Set 1: Four single slits.
- Set 2: Four double slits.

Electroformed Slits

Specifications:

Material: .005 mm electroformed nickel

Tolerances: +/- .005 mm

Slit Width and Spacing:

The label on the top of each slide lists four patterns: A, B, C, and D. The slits are arranged in that order from left to right on the slide. Figure 1 illustrates the relationship between the label and the slit specifications.

Note: The 'SLIT SPACE' dimension is from center to center of each slit

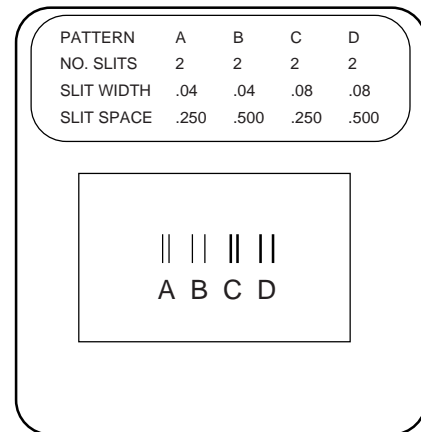


FIGURE 1

Example for Double Slit Slide:

Pattern 'A' (furthest on the left) consists of two slits, each .04 mm wide and spaced .250 mm apart, center to center.

Pattern 'B' (second from the left) consists of two slits, each .04 mm wide and spaced .500 mm apart, center to center.

In Pattern 'C' and 'D' the width of each slit is .08 mm, while the center to center spacing is the same as for 'A' and 'B'.



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APERTURES AND DIFFRACTION PATTERNS

Specifications:

Material: .005 mm electroformed nickel

Tolerances: +/- .005 mm

Pattern Dimensions:

Figure 2 illustrates the relationship between the slide label and the aperture or diffraction pattern dimensions. Enlargements of patterns 'C' and 'D' are also represented.

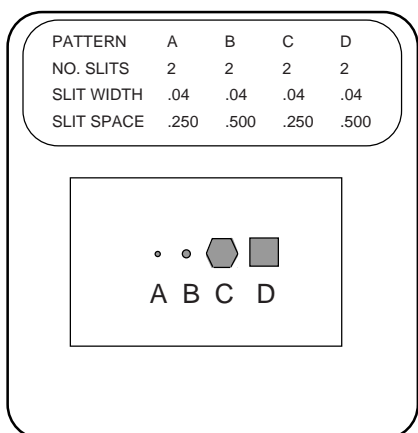
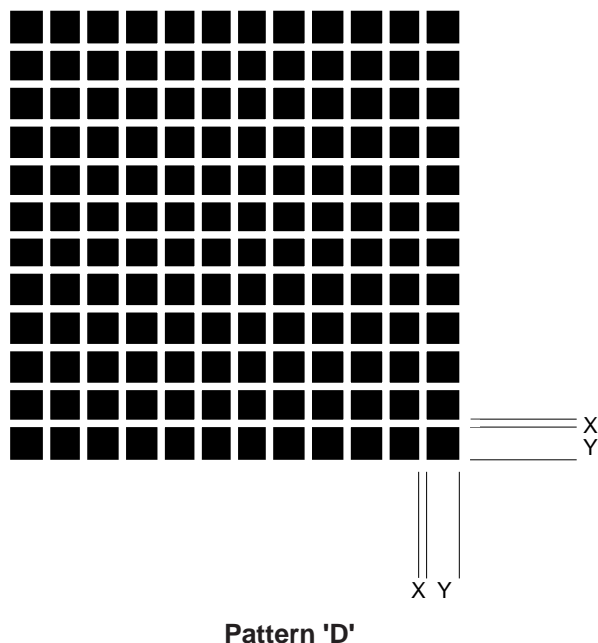
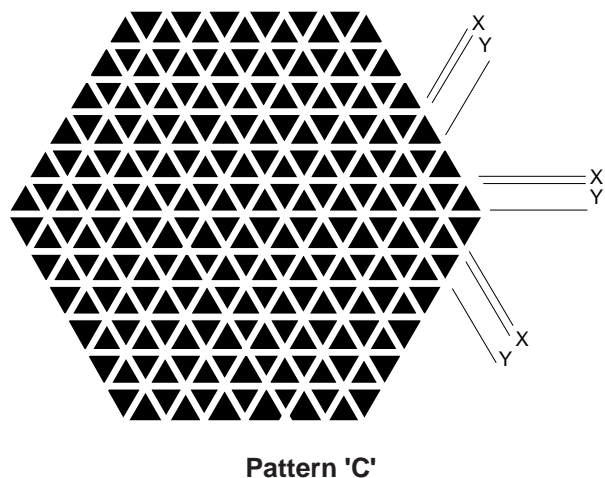


FIGURE 1

Aperture 'A' (furthest on the left) is circular in shape with a .04 mm diameter.

Aperture 'B' (second to the left) is circular in shape with a .08 mm diameter.



Note: The black areas in Pattern 'C' and 'D' represent the actual hole-pattern

Dimensions for both Pattern 'C' and 'D':

$$x = .025 \text{ mm}$$

$$y = .075 \text{ mm}$$

Operating Instructions

Place the steel pads of any slide against the magnetic surface of the component holder and move the slide until the desired slits are in the proper position.

Note: It may be necessary to use an Aperture Mask (such as PASCO Model OS-9139) on the opposite side of the component holder to insure that light is incident on only one pattern at any given time.