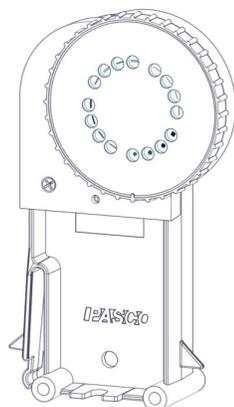


Diffraction Slits

OS-8442



Setup

The Diffraction Slits accessory is designed to be used with the OS-8525A Red Diode Laser or the OS-8458B Green Diode Laser with the OS-8508 1.2 m Optics Track. Each laser aligns with the slit pattern at the 9 o'clock position on the Diffraction Slits dial (see Figures 1 and 2). The diffraction pattern can either be projected onto an OS-8460 Basic Optics Viewing Screen (Figure 1) or a sensor, such as the OS-8441 Wireless Diffraction Scanner (Figure 2). The screen or sensor should be placed at least one meter from the Diffraction Slits.

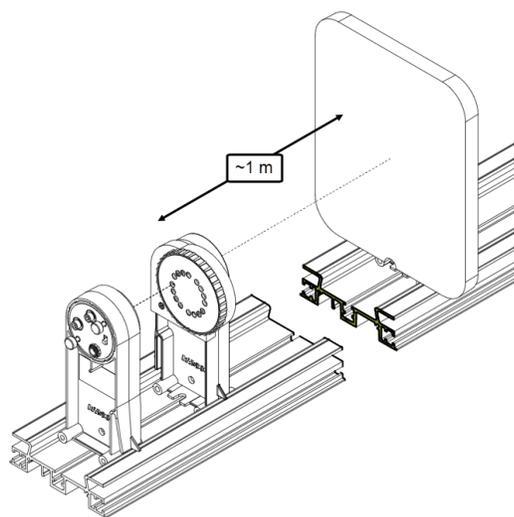


Figure 1. Setup with the Basic Optics Viewing Screen.

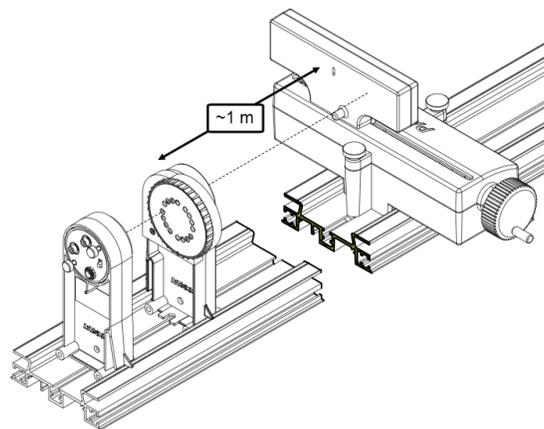


Figure 2. Setup with the Wireless Diffraction Scanner.

Slit Patterns

The Diffraction Slits accessory includes 16 different slit patterns. To select a pattern, rotate the dial until the desired configuration is at the 9 o'clock position. The properties of each slit pattern are described in this section.

Single Slits

Slit width (mm)
0.02
0.04
0.08
0.16

Double Slits

Slit width (mm)	Slit spacing (mm)
0.04	0.25
0.04	0.50
0.08	0.25
0.08	0.50

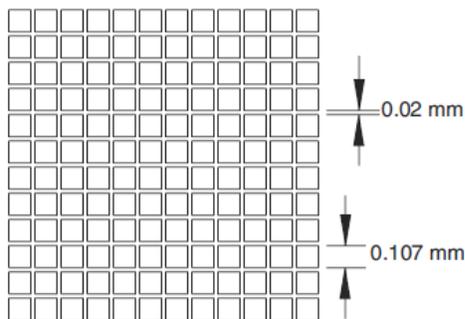
Multiple Slits

# of slits	Slit width (mm)	Slit spacing (mm)
2	0.04	0.125
3	0.04	0.125
4	0.04	0.125
5	0.04	0.125

Patterns

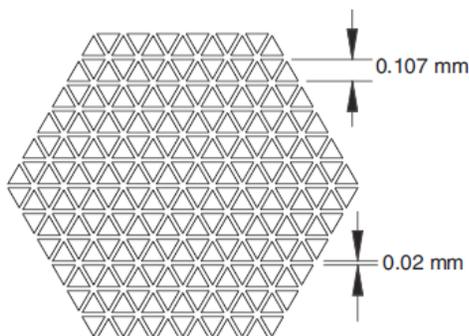
Square

Transparent squares are arranged in a grid. Each square is 0.107 mm wide. The spacing between each adjacent square is 0.02 mm.



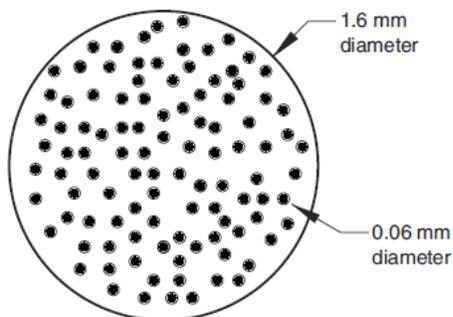
Hex

Transparent, equilateral triangles are arranged as a hexagon. The height of each triangle is 0.107 mm, spaced 0.02 mm apart.



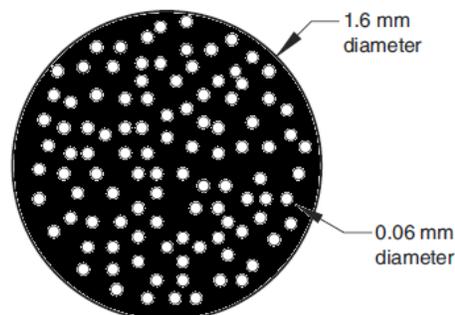
Dots

100 opaque circles are scattered on a transparent background. Each circle is 0.06 mm in diameter. The circle containing the pattern is 1.6 mm in diameter.



Holes

100 opaque circles are scattered on a transparent background. Each circle is 0.06 mm in diameter. The circle containing the pattern is 1.6 mm in diameter.



Specifications

Slit width tolerance	± 0.005 mm
Slit spacing tolerance	± 0.01 mm (spacing > 0.125 mm) ± 0.005 mm (spacing < 0.125 mm)

Technical Support

For assistance with PASCO products, contact PASCO at:

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10101 Foothills Blvd.
Roseville, CA 95747-7100

Phone: 916-462-8384

Web: www.pasco.com

Email: support@pasco.com

Warranty, Copyright, and Trademarks

Limited Warranty For a description of the product warranty, see the PASCO catalog.

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