

# ColorFlex EZ masked sample ports - 25 mm, 19 mm and 13 mm diameter

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HunterLab's most versatile instrument for the color measurement of different sizes is the LabScan XE. This instrument can read powders, granules and pellets through the bottom of a sample cup, as well as parts of different sizes using the 44 mm, 25 mm, 13 mm and 6 mm areas of view provided by the VSI Variable Sample Illumination option.

The ColorFlex EZ 45/0 LAV views a fixed 25 mm (1 in) diameter sample area and normally comes with a slightly larger 32 mm (1.25 in) diameter regular port (04-6623-10) such that the edges of the port are not viewed by the sensor.

It is possible to read smaller sample areas than the diameter of the regular port by using port inserts that mask part of the viewed area. Mask port inserts available for the ColorFlex 45/0 LAV are:

## **04-6623-09    Open Port Insert, 25 mm (1.00 in), Masking**

Used on: CFLX 45/0 LAV/CFEZ

Provides a field-replaceable, snap-in 25 mm (1.00 in) port insert that is open and masks the sample to the 25 mm viewing area of the instrument.

## **04-6623-08    Open Port Insert, 19 mm (0.75 in), Masking**

Used on: CFLX-45/CFEZ

Provides a field-replaceable, snap-in 19 mm (0.75 in) port insert that is open. The instrument typically measures a 25 mm viewing area and this port masks the viewing area of the sample to a smaller 19 mm diameter.

## **04-6623-05    Open Port Insert, 13 mm (0.50 in), Masking**

Used on: CFLX 45/0 LAV/CFEZ

Provides a field-replaceable, snap-in 13 mm (0.50 in) port insert that is open. The instrument typically measures a 25 mm viewing area and this port masks the viewing area of the sample to a smaller 13 mm diameter.

When using the ColorFlex with a smaller port than 25 mm, the instrument is still viewing a 25 mm area with the rest of the viewed area being the black interior of the port. Standardization negates the effect of the masked port.

For agreement on absolute color values, it is best not to have to mask the viewed sample area but asking a port is an acceptable method of measuring color differences from a physical product standard that is also measured on the same port arrangement.

As a general rule, a mask port insert with a diameter down to  $\frac{1}{2}$  the viewed area diameter (viewing  $\frac{1}{3}$  of the sample area of the regular port) can be used. Masked ports with a diameter below  $\frac{1}{2}$  of the viewed area are not recommended as the signal-to-noise ratio begins to fall with the relative sample area-to-mask port area, although smaller diameter mask ports may work for light colors (higher sample signal levels).

The only requirement in using a mask port is to change the port insert and standardize the instrument every time the port insert is replaced. There are no other settings to be changed.

The smaller port inserts are standard parts that can be purchased at the time of instrument sale or at any time thereafter and retro-fitted in the field.