# PCHIL3M | DATASHEET

OPTO ENGINEERING

## Hole inspection lens for 1.1" sensors

### KEY ADVANTAGES

**High-resolution imaging** of holed objects **from the outside.**

Simultaneous view of both the **side walls and the bottom of cavities.**

**Variable iris and large aperture.**

**Wide range** of object **diameters and thicknesses.**

**Wide viewing angle.**

Easy and precise **manual focusing.**

**Liquid lens models** for fast and remote autofocus.

REACH DOSSIER PATENTED

**Opto Engineering® PCHIL series** features hole inspection lenses for the inner inspection of cavities and containers in perfect focus.

### SPECIFICATIONS

#### Optical specifications

| | | |
|---|---|---|
| Image circle | (mm) | 11 |
| Min sensor size | | 1.1" |
| Working distance with minimum object size[1] | (mm) | 5.5 |
| Working distance with maximum object size[1] | (mm) | 69 |
| Viewing angle | (°) | 82 |
| w$f/N$[2] | | 1.8-16 |

#### Mechanical specifications

| | | |
|---|---|---|
| Focusing | | Manual |
| Mount | | C |
| Length[3] | (mm) | 112.1 |
| Outer diameter | (mm) | 29.0 |
| Mass | (g) | 123 |

[1] Working distance: distance between the front end of the mechanics and the object.
[2] Working f-number (w$f/N$): the real f-number of a lens in operating conditions.
[3] Measured from the front end of the mechanics to the camera flange.

### FIELD OF VIEW

#### Field of view (diameter x height)

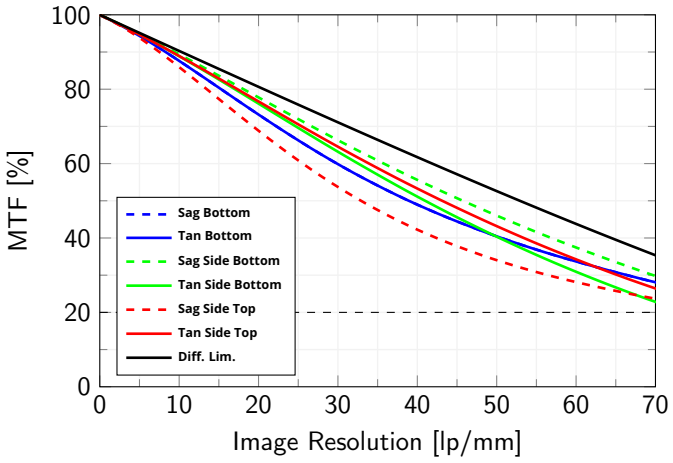
| | | |
|---|---|---|
| Minimum | (mm x mm) | 10.0 x 6.0 |
| Maximum | (mm x mm) | 120.0 x 190.0 |

### COMPATIBLE PRODUCTS

**Full list of compatible products available *here*.**


A wide selection of innovative machine vision components.

**Image Resolution**




Modulation Transfer Function (MTF) vs. Image Resolution (wavelength range 486 nm - 656 nm), w$f/N$= 13, of cylindrical object of diameter 30 mm and height of 20 mm

## PCHIL IMAGING SETUP

PCHIL optics can image cavities whose diameters and thicknesses span over a wide range of values. PCHIL series features 82° view angle and can image both the inner walls and the bottom of cavities.