

Boroscopic probe for 1/2" detectors, liquid lens focusing



SPECIFICATIONS

Optical specifications

Image circle	(mm)	4.6
Min sensor size		1/2"
Viewing angle	(°)	60
wf/N^1		16
Focusing		Liquid lens
Light color		white

Electrical specifications

Supply voltage ²	(V)	24
Current ³	(mA)	40
Power consumption ³	(W)	1
Typical pulse voltage ⁴	(V)	40
Max pulse current ⁵	(mA)	100
Peak power consumption	(W)	4
Max pulse duration	(ms)	1
Max duty cycle	(%)	1.5

Liquid lens specifications

Liquid lens model		Optotune EL-3-10
Temperature sensor		Yes
Focal power mode		Yes
Response time	(ms)	1
Setting time	(ms)	4
Current range	(mA)	-120 to +120
Lifecycles (10%-90% sinusoidal)		>1,000,000,000
Connector		HR10A-7R-6PB

KEY ADVANTAGES

Inspection of cavities from inside

Hidden internal features and defects are clearly viewed

High resolution

The catadioptric design enables the detection of tiny defects over a very wide view angle

Flaw detection

Coarse deformations revealed using direct illumination

Surface defect enhancement

Mixing direct and indirect illumination makes it possible to emphasize tiny and scarcely visible defects.

Small diameter inspection

Now down to 5.5 mm

PCBP probes are used to inspect holed objects such as engine parts, containers and tubes whose hidden features can only be controlled by introducing a probe into the cavity.

Mechanical specifications

Mount		C
Phase adjustment		Yes
Probe length	(mm)	109.3
Total length ⁴	(mm)	138.2
Probe diameter	(mm)	21
Mass	(g)	101

Environment

Operating temperature	(°C)	0-40
Storage temperature	(°C)	0-50
Operating relative humidity	(%)	20-85, non condensing
Installation		Indoor use only

Eye safety

Risk group (CEI EN 62471:2010) Risk group 1

¹ working f/N : the real f/N of a lens in operating conditions.

³ Tolerance $\pm 2\%$

³ Used in continuous (not pulsed) mode

⁴ Measured from the front end of the mechanics to the camera flange.

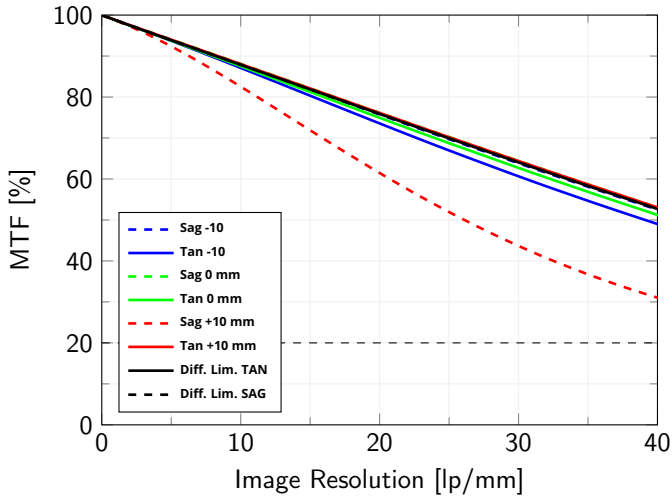
FIELD OF VIEW

Diameter x Height

	(mm x mm)
Minimum	25.0 x 11.0
Maximum	inf x inf

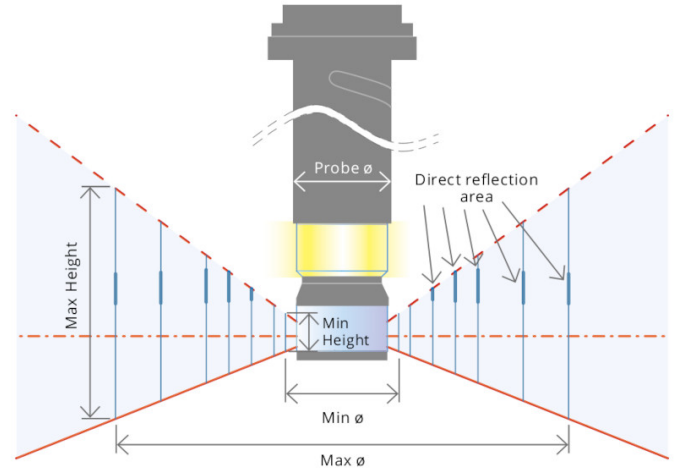
DATA WITH CAVITY DIAMETER OF 40MM

Image Resolution

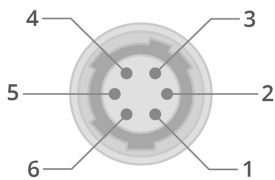


Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm. Fields in legend are represented as distance from the center of the boroscope tip

WORKING PRINCIPLE AND FOV OF PCBP LENSES



CONNECTOR PINOUT



Device side

Pin	Description
1	Control current +
2	Control current -
3	GND
4	Power
5	I ² C SCL
6	I ² C SDA

ILLUMINATOR PINOUT

Function	Cable color
GND	Black
+24 V	Black/White

COMPATIBLE PRODUCTS

Full list of compatible products available [here](#).



A wide selection of innovative machine vision components.



ATTENTION: observe precaution for handling. Electrostatic sensitive device