



resolveoptics

Excellence in
optical design,
manufacturing
and consultancy



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Resolve Optics Ltd has for over 20 years developed OEM quantity special lenses and optical designs for small and large high technology businesses. Our customers have benefited from our novel and economic optical solutions. Several are currently world leaders in their niche high technology markets.

Resolve Optics continued growth is based on a strong track record of running projects successfully, manufacturing production quantities of lenses and optical products on time and achieving the specified quality and target price. Resolve Optics has developed the rare capability to produce small quantities of high performance, mounted lenses with the professional look, feel and quality equivalent to the best professional photographic and broadcast TV lenses.



Drawing upon our experienced team of optical designers we are able to quickly gain an understanding of the basic physics of the technology associated with each customer's product enabling us to propose novel solutions. Our aim is to provide a fast and flexible optical and mechanical design assessment on all projects. A project engineer is assigned to closely liaise with customers at all points of a development to ensure complete satisfaction with the final product.

Resolve Optics is conveniently based in Chesham, a town within easy access of the Southern UK motorway network and only a half-hour drive from Heathrow airport. Within our well-equipped 630m² (6800ft²) premises we design, assemble and test all our lenses and optical modules. In addition we coordinate

the manufacture of component parts sourced from selected manufacturers to our own drawings.

Our continued success depends on building long-term exclusive partnerships with customers seeking special optics for their high technology products in order to become and remain the leader in their target markets.

Why not contact us today ?

VIDEO CONFERENCING

Resolve Optics has invested in high quality video conferencing equipment to enable live video and document sharing. This allows us to keep in touch with our remote customers. Being able to share documents ensures that everyone involved in the conference call is looking at the same document or drawing. Decisions can be made quickly and misunderstandings avoided. This is a powerful tool that our customers find extremely useful.



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Z10-HDCF Compact HD Zoom Lens

Features

- 10x Zoom
- 1080I / 720P TVL resolution
- Ultra compact
- Max aperture f/1.8 ~ f/2.8
- Close focus down to 450 mm
- Motorised zoom, focus and iris
- Topside and back focus adjustment
- C-Mount

Applications

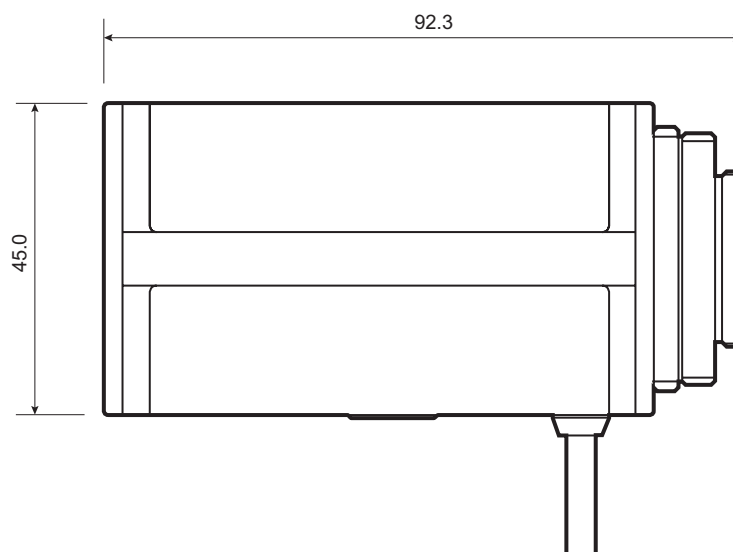
- Broadcast
- Machine vision
- CCTV
- Robotics
- 3D
- Video conferencing

The new compact Z10-HDCF high definition zoom lens is ultra compact with dimensions of just 45 x 45 x 92.3 mm including the C-mount thread.

Although the lens is ultra compact it has big lens performance with an unbeatable close focus of 450 mm. The performance of the lens is enhanced through the use of low dispersion glass. The zoom and focus movements utilises floating cell technology producing a smooth, light movement ensuring the best performance throughout the zoom range.

What really makes the Z10-HDCF really stand out from the crowd is its versatility. Due to a unique user interchangeable rear cell this lens can be adapted to work with sensor formats from 1/3" up to and including 2/3" single and 3CCD. When fitted with a 1/3" format rear cell the lens will have a focal length of 7.5 to 75 mm. Change to a 2/3" format rear cell and you will have a focal length of 14 to 140 mm.

On top of the ultra compact size, superb performance and unique image format flexibility, the Z10-HDCF also has built in topside and back focus adjustment to make setting up as simple as it could possibly be.



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192-000 12-72mm f/1.8 6:1 Non-Browning Zoom Lens

Features

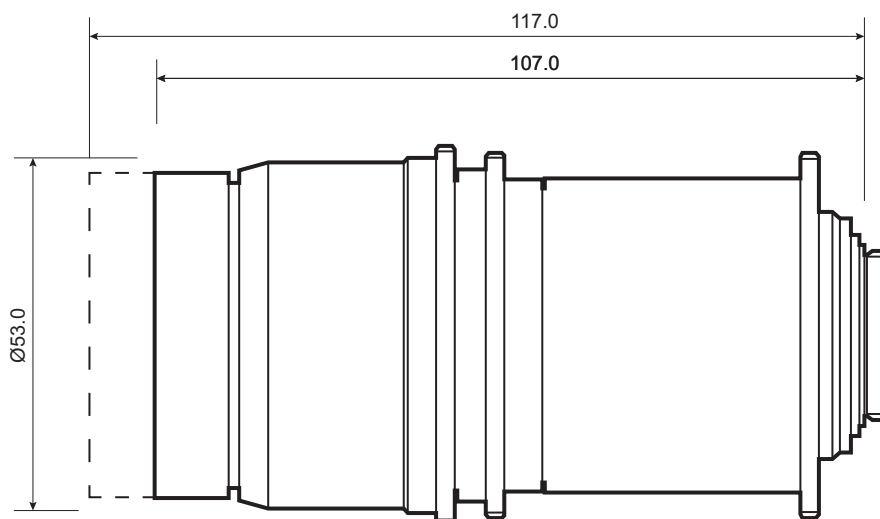
- Compact design
- 1/2" and 2/3" CCD format
- C-mount
- Zoom, focus and iris control

Applications

- Nuclear power stations
- Nuclear reprocessing plants
- Nuclear waste storage plants

The Model 192 uses special glass that can withstand long-term exposure to radiation up to a dose of 100 million rad and temperatures to 55°C without discoloration.

Operating at $f / 1.8$, it provides high image resolution and minimum geometric distortion from 400 to 750nm, and it can image objects from 800 mm to infinity without using add-on adapters. When focused at infinity, the lens achieves high image resolution onaxis at full aperture throughout the zoom range without refocusing. It is designed for use with 1/2- and 2/3-inch CCTV cameras and with Newvicon and Chalnicon tubes.



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290-000 12-72mm f/1.8 6:1 Motorised Non-Browning Zoom Lens

Features

- 1/2" and 2/3" format
- Motorised zoom, focus and iris control with slip clutches
- Noise suppression
- C-mount

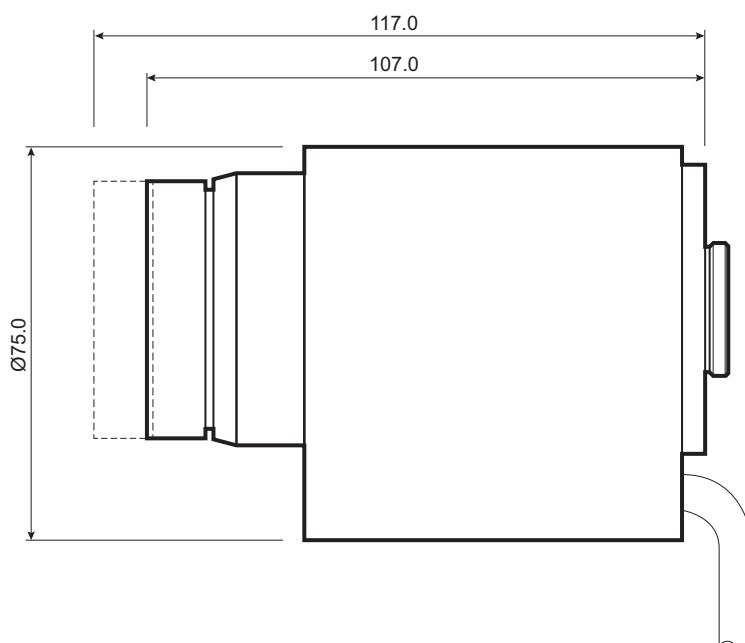
Applications

- Nuclear power stations
- Nuclear reprocessing plants
- Nuclear waste storage plants

The 290-000 Lens has been designed specifically for use in the nuclear industry. The X6 optical tracking zoom utilises special glass that can withstand exposure to high radiation without discoloration and produces a high-resolution image. Zoom Focus and Iris functions are motorised using 12-volt minimotors with slip clutches.

Built in Noise suppression circuitry eliminates interference on video monitors. All Resolve Optics Ltd non-browning lenses are manufactured to the highest standards of quality and performance and are designed to withstand a total radiation dose of 108 rads.

In keeping with Resolve Optics tradition of designing unique lenses we are able to provide NB lenses to meet your exact specification. If you cannot find a lens, within our standard range that meets your requirements, please contact us to discuss the possibility of developing a lens for you.



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357-000 6.5 – 65 mm f/1.8 Non-Browning Zoom Lens

Features

- HD Resolution
- 1/3" format
- 2.59°-25° field of view
- Iris control
- Aperture f/2

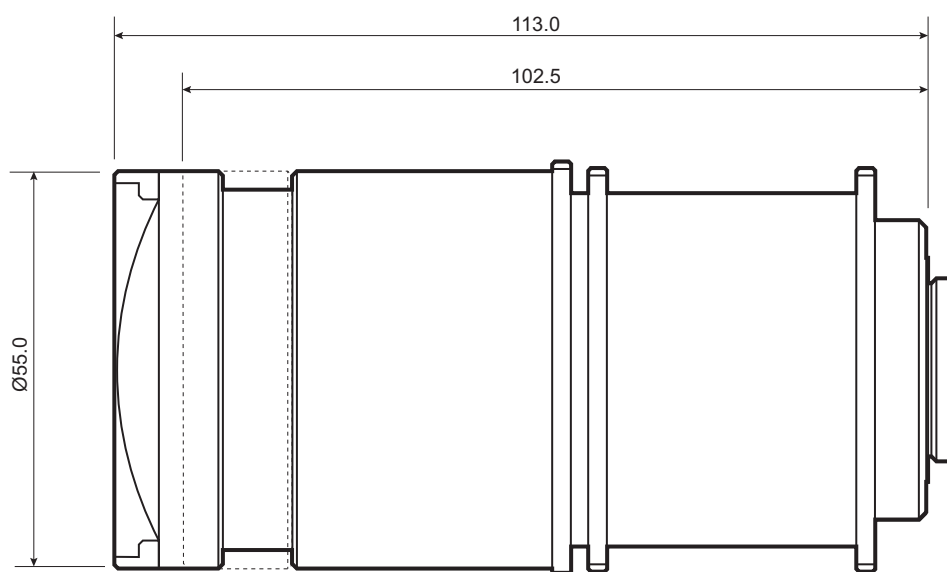
Applications

- Nuclear power stations
- Nuclear reprocessing plants
- Nuclear waste storage plants
- Space applications

The Model 357 provides true HD quality images over an unrivalled 10x zoom range.

As the nuclear industry strives to develop better solid state colour CMOS sensors that can withstand higher levels of radiation it has created a demand for high performance radiation resistant lenses able to help fulfil the potential of these sensors. Using specialist non browning glasses the Model 357 is able to produce clear sharp images free of the strong yellow tint that has traditionally been a limiting issue when using radiation resistant lenses on colour sensors.

The Model 357 HD 10x zoom lens has been designed to operate in environments subject to high-level radiation, such as nuclear fuel handling, reactor active zones and nuclear waste storage plants. The specialist non-browning glass used in the Model 357 is proven to withstand long-term exposure to radiation up to a dose of 100,000,000 rad and temperatures to 55°C without discoloration.



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357-004 6.5 – 65 mm f/1.8 Motorised Non-Browning Zoom Lens

Features

- HD Resolution
- 2/3" format
- 4°-40° field of view
- Aperture f/3.6
- Motorised Zoom, Iris and Focus

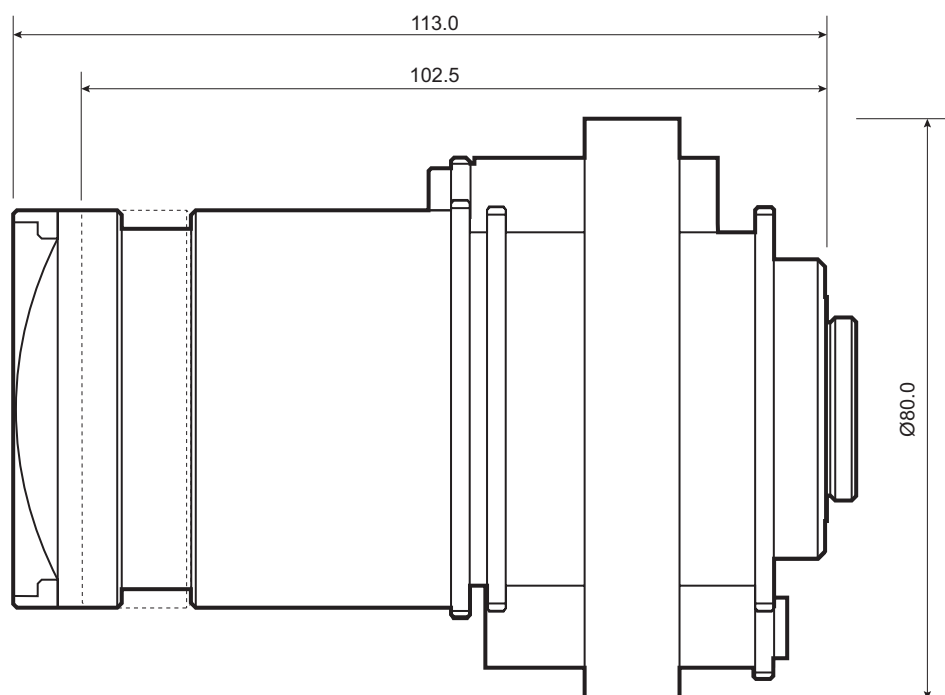
Applications

- Nuclear power stations
- Nuclear reprocessing plants
- Nuclear waste storage plants
- Space applications

The Model 357-004 provides true HD quality images over an unrivalled 10x zoom Range with the addition of all three movements being motorised.

The Model 357 is able to produce clear sharp images free of the strong yellow tint that has traditionally been a limiting issue when using radiation resistant lenses on colour sensors.

The Model 357 HD 10x zoom lens has been designed to operate in environments subject to high-level radiation, such as nuclear fuel handling, reactor active zones and nuclear waste storage plants. The specialist non-browning glass used in the Model 357 is proven to withstand long-term exposure to radiation up to a dose of 100,000,000 rad and temperatures to 55°C without discoloration.



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200-000 8-24mm f/2.8 3:1 Non-Browning Zoom Lens

Features

- High resolution
- 1/2" and 2/3" CCD format
- D and C-mount
- Zoom, focus and iris control

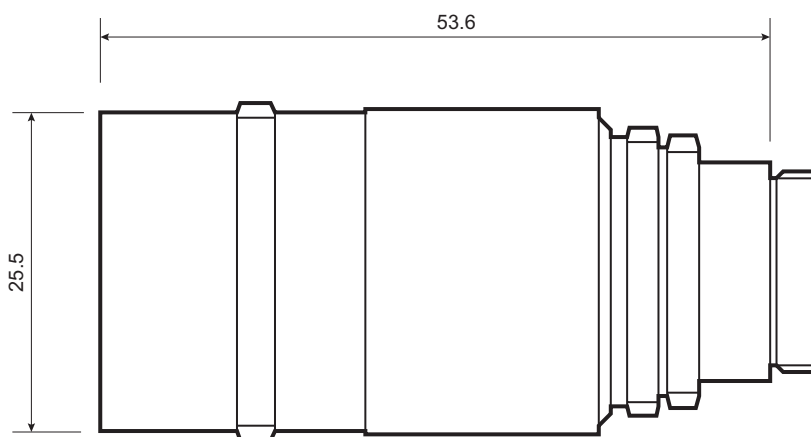
Applications

- Nuclear power stations
- Nuclear reprocessing plants
- Nuclear waste storage plants

The 200-000 Lens has been designed specifically for use in the nuclear industry. The X3 optical tracking zoom utilises special glass that can withstand exposure to high radiation without discoloration and produces a high resolution image.

All Resolve Optics Ltd non-browning lenses are manufactured to the highest standards of quality and performance and are designed to withstand a total radiation dose of 108 rads.

In keeping with Resolve Optics tradition of designing unique lenses we are able to provide NB lenses to meet your exact specification. If you can not find a lens, within our standard range that meets your requirements, please contact us to discuss the possibility of developing a lens for you.



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200-001 8-24mm f/2.8 3:1 Motorised Non-Browning Zoom Lens

Features

- High resolution
- 1/2" and 2/3" CCD format
- D and C-mount
- Motorised zoom, focus and iris control

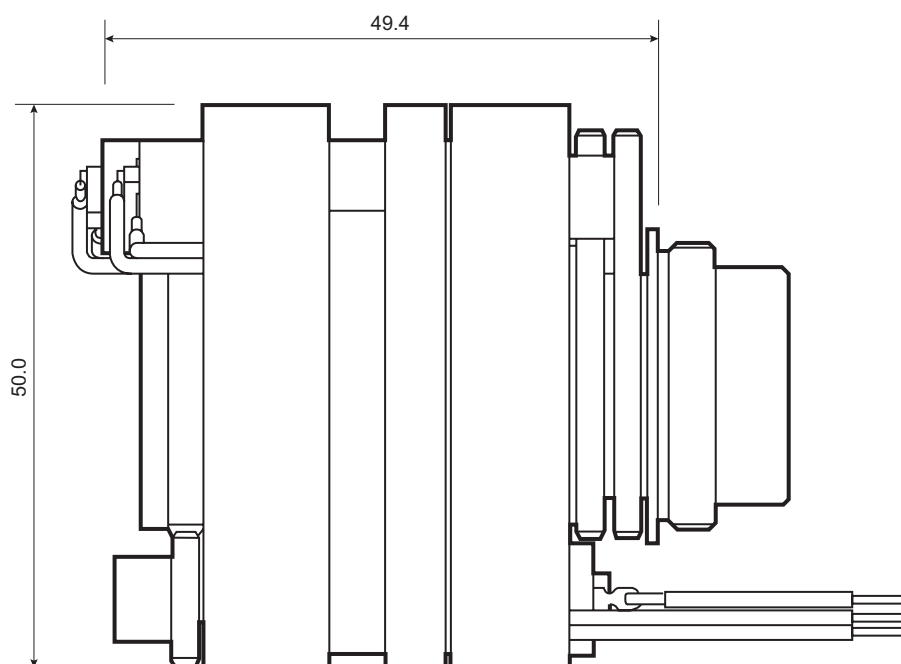
Applications

- Nuclear power stations
- Nuclear reprocessing plants
- Nuclear waste storage plants

The 200-001 Lens has been designed specifically for use in the nuclear industry. This very compact motorised X3 optical tracking zoom utilises special glass that can withstand exposure to high radiation without discoloration and produces a high resolution image. Motorised functions; zoom, Iris and focus control.

All Resolve Optics Ltd non-browning lenses are manufactured to the highest standards of quality and performance and are designed to withstand a total radiation dose of 108 rads.

In keeping with Resolve Optics tradition of designing unique lenses we are able to provide NB lenses to meet your exact specification. If you can not find a lens, within our standard range that meets your requirements, please contact us to discuss the possibility of developing a lens for you.



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363-000 16 mm f/1.6 SWIR Lens

Features

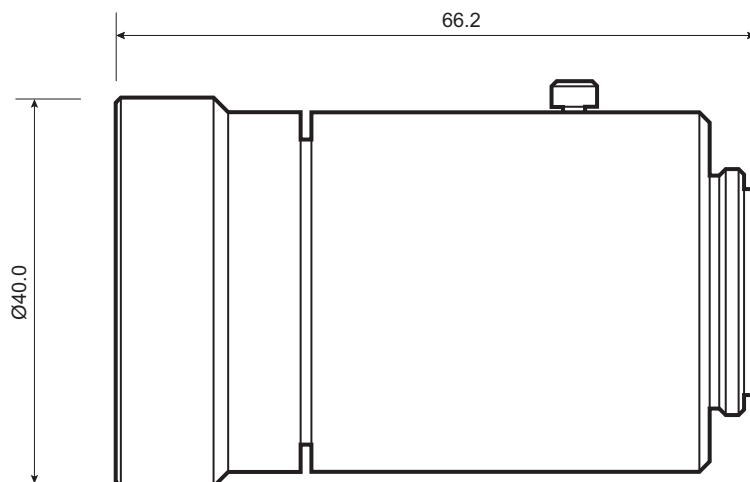
- Specifically designed for SWIR
- Waveband 0.9 – 17 μm
- Image dia. 12.8 mm
- SWIR anti-reflection coatings
- Manual focusing mount
- C-mount

Applications

- Machine Vision
- Surveillance
- Military

The 363 series 16mm SWIR lens has been specially design for the SWIR waveband 0.9 to 17 μm . The design utilises carefully selected glass types and AR coatings to ensure maximum transmission and best image quality in the SWIR band.

Resolve Optics Ltd carefully selects the glass types used in the design of our SWIR lenses to ensured that the performance of the lens at 0.9 to 1.7 μm is no longer the restricting factor to providing the best possible image to your camera.



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349-000 25mm f/1.4 SWIR Fixed Focus Lens

Features

- Waveband 0.9 – 1.7 μ m
- Image dia. 12.3mm, 16mm and 22mm
- SWIR anti-reflection coating
- C-mount

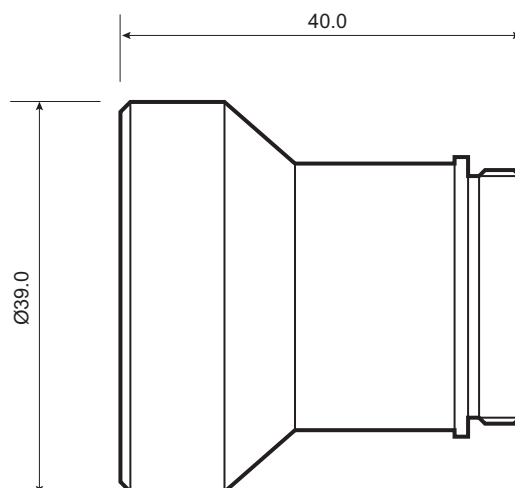
Applications

- Machine Vision
- Surveillance
- Military

The 349-000 Lens has been designed specifically for SWIR waveband of 0.9 – 1.7 μ m. Most off the shelf lenses aimed at the SWIR market are actually just designed for the visible spectrum but have AR coating for the SWIR bandwidth. This will result in a significant drop in resolution and poor colour correction.

Resolve Optics Ltd has carefully selected the glass types used in the design of our SWIR lenses to ensure that the performance of the lens at 0.9 to 1.7 μ m is no longer the restricting factor to providing the best possible image to your camera.

In keeping with Resolve Optics tradition of designing unique lenses we are able to provide lenses to meet your exact specification. If you can not find a lens, within our standard range that meets your requirements, please contact us to discuss the possibility of developing a lens for you.



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307-000 40mm f/2 Infrared Objective Lens

Features

- Waveband 8 – 14 nm
- Format 5.6 x 4.2 mm
- Germanium elements
- IR anti-reflection coatings
- D-mount

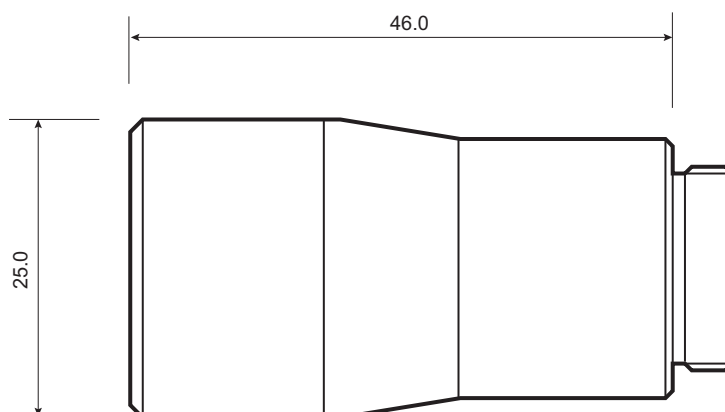
Applications

- Research
- Industrial

The 307-000 is a high performance IR lens for the 8 – 14 nm waveband. This lens was designed specifically for commercial thermal imaging.

The 307 is just one of a family of IR lenses that Resolve designed for a specific commercial application with focal lengths ranging from 40mm to 120m.

The 307 IR lens is another example of Resolve Optics capability to design and develop lenses for any wave length whether they are fixed focus or complex zoom mounts.



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228-000 60mm f/3.5 UV Forensic Lens

Features

C-Mount

Waveband 230 to 500 nm

The UV anti-reflection coating offers >99% transmission per surface

Compact design

Applications

Research

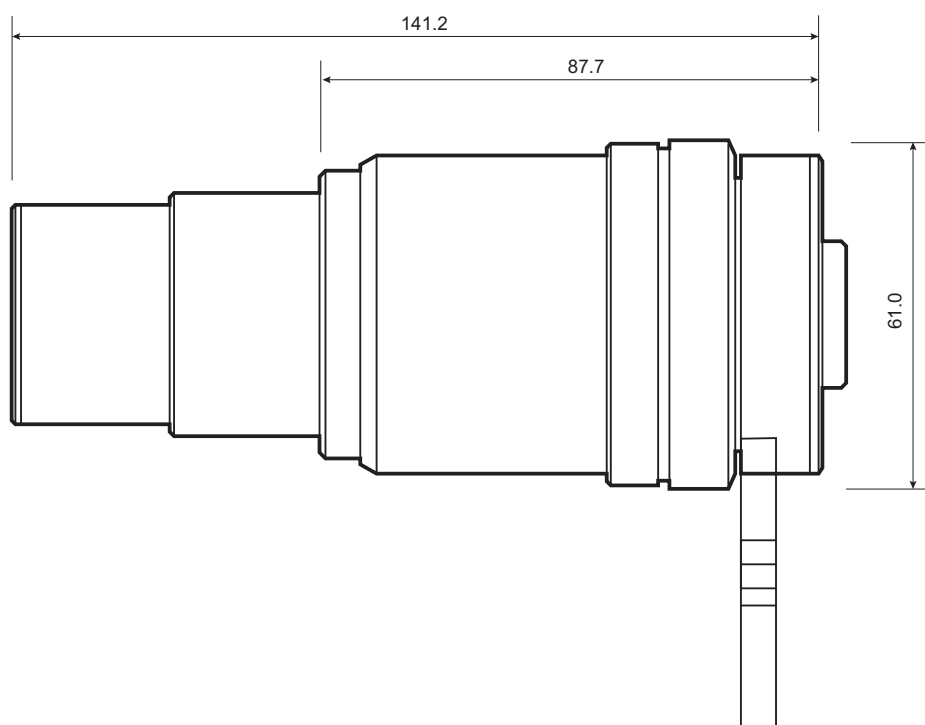
Industrial

Forensic

Designed specifically for forensic RUVIS this is a full featured high performance UV forensic lens.

The lens has an extended magnification range by using a novel telescopic focusing mount giving a large movement in an extremely compact form. This is perhaps the first lens of any type that offers the capability to image objects from infinity down to 1:1.25 magnification without using add-on adapters.

Improved lighting efficiency - because the 228-000 lens, with its larger field of view, brings both UV lights and UV imager closer to the object than is the case with longer focal length lenses offering an identical view. The light level varies in proportion to the square of the object distance, and so the gain in lighting efficiency is approximately given by the ratio of focal lengths, e.g. the 60mm lens in place of an 80mm lens gives increased lighting efficiency of $(80/60)^2 = \times 1.78$ or 78% more light on the scene.





The Resolve Optics Design Service

Our product design service includes :-

Free design and development

Optical and mechanical consultancy

Prototyping

Manufacturing

Resolve Optics Ltd

Unit 3, Asheridge Business Center,
Asheridge Road, Chesham,
Bucks. HP5 2PT England

T: +44 (0) 1494 777100

E: info@resolveoptics.com

www.resolveoptics.com