

# ISIIS-DPI Plankton Shadowgraph Camera

Model: ISIIS-DPI P125

## Overview

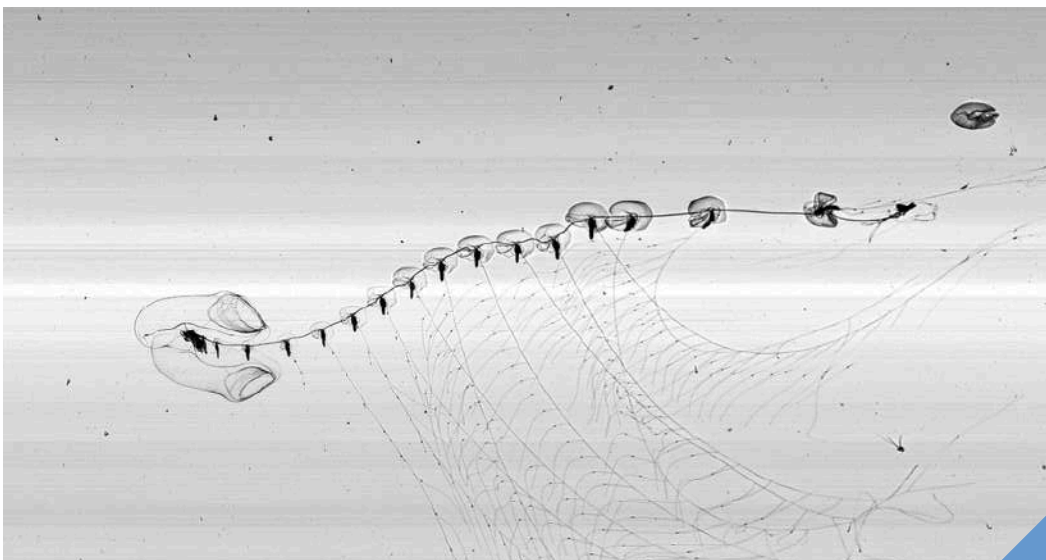
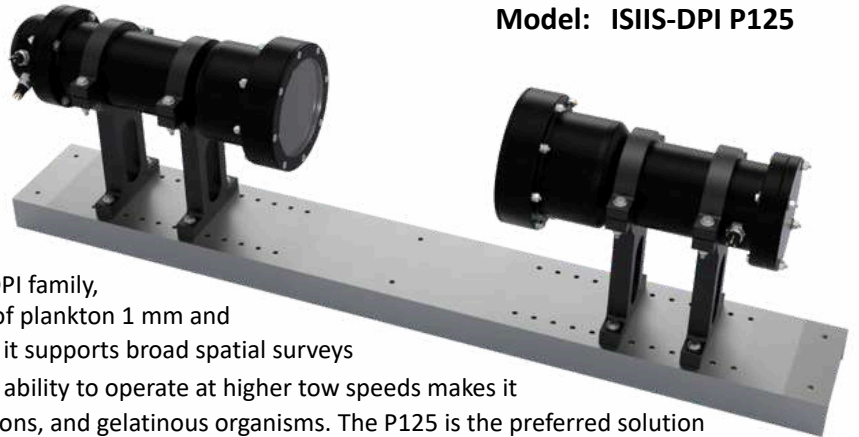
The **ISIIS-DPI P125** is the **workhorse** of the ISIIS-DPI family, designed for high-speed, large-volume sampling of plankton 1 mm and larger. **Proven on long-term ecological transects**, it supports broad spatial surveys where consistency and coverage are essential. Its ability to operate at higher tow speeds makes it ideal for ecosystem-scale studies, sparse populations, and gelatinous organisms. The P125 is the preferred solution for demanding towed vehicle deployments.

Configured with an area-scan camera, the P125 provides a field of view of  $\sim 80 \times 80$  mm with a depth of field of  $\sim 30$  cm, supporting quantitative imaging at tow speeds up to 5.5 knots. When equipped with a line-scan camera, the field of view increases to approximately  $115 \times 115$  mm while maintaining the same depth of field, enabling tow speeds up to 6 knots with an increasing sampled volume.

At 20 frames per second, the line-scan configuration samples nearly 4 liters per image, corresponding to approximately 80 liters of water per second. This high volumetric sampling rate makes the P125 particularly well suited for studies of macroplankton, gelatinous organisms, particle fields, and ecosystem-scale patterns, especially where organisms are sparse or patchily distributed.

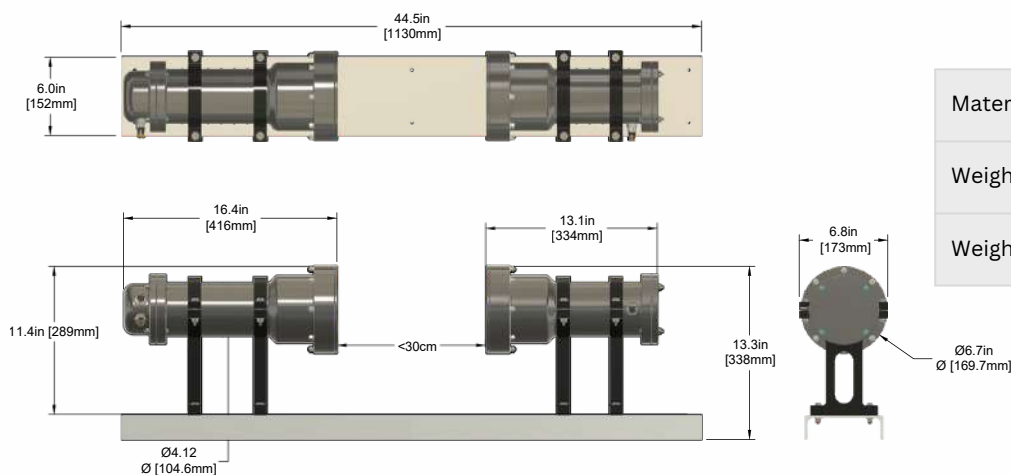
On towed vehicle deployments, multiple P125 imagers are often stacked to increase environmental coverage, allowing simultaneous observations across a larger portion of the water column while preserving fine-scale spatial structure that is lost with traditional sampling methods.

The P125 is available in 60 m and 1,000 m depth-rated configurations and integrates seamlessly with SIDEKICK Performance, enabling synchronized imaging and environmental measurements within a field-proven, high-throughput observational system.



Credit: Plankton Ecology Lab - Oregon State University - Hatfield Marine Science Center

# ISIIS-DPI Plankton Shadowgraph Camera | P125



	60m Rating	1,000m Rating
Material	Black Acetal	Anodized Aluminum
Weight in Air	14.2 Kg	18 Kg
Weight in Water	3.9 Kg	7.7 Kg

## Features

**Standard Field of View:** area-scan 80 mm x 80 mm  
line-scan 115 mm x 115 mm

**Standard depth of Field:** 300 mm

**Pixel Resolution:** area-scan 46 µm/pixel  
line-scan 60 µm/pixel

**Recommended for Particles:** >1 mm

**Max. Water Speed \*** up to 6 knots

**Water Sampled per min.** Typical 75+ L /min

\* 100 % coverage condition; higher flow implies sub-sampling.

**Image File Size** area-scan 3.10MB  
line-scan 3.80MB

**Camera resolution:** area-scan 5MP sensor, 3.48 µm / pixel  
line-scan 2k sensor, 7 µm / pixel

**Camera Frame Rate:** up to 37 fps

**Light:** Blue 475nm, Red 630nm as an option

**Power:** 12V 6 Watts

**Connectors:** MCBH8M-CAT, 2 x MCBH2M-Power

## Deployment Methods

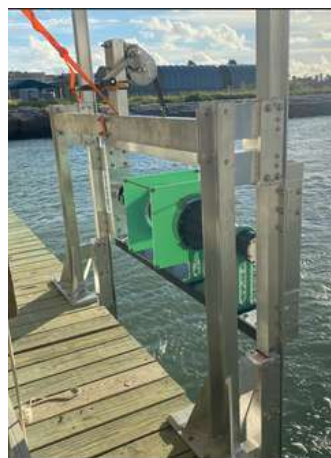
Towed Vehicles



Multiple Nets



Piers & Mesocosms



CTD Rosettes

