

# POWERVIEW 12MP-180 CAMERA

STATE-OF-THE-ART HIGH PIXEL RESOLUTION CAMERA  
FOR TIME-RESOLVED PIV AND VOLUMETRIC PIV

TSI's PowerView™ 12MP-180 Camera is a multi-bit, 12-megapixel, digital CMOS camera designed exclusively for global flow measurements. It offers  $4096 \times 3072$  pixel resolution with a pixel size of  $5.5 \mu\text{m} \times 5.5 \mu\text{m}$ , and operates at 180 frames per second at full resolution with 8-bit output. With the extremely low noise level and high signal quality, it can capture images of large flow fields with very high resolution. The 12MP-180 camera incorporates a built-in microlens array, making it ideally suited for imaging laser-illuminated flows.



Due to the high signal quality and low noise with automatic dark noise subtraction, this latest-generation camera is ideal for global flow measurements using planar PIV and volumetric PIV. Other features, such as short frame straddling times and high quantum efficiency, make it appropriate for a wide variety of applications ranging from hypersonic to creeping flows. The 12MP-180 camera is fitted with an F-mount lens mount and comes standard with a Nikon® 50-mm lens, camera interface and all interface cables.

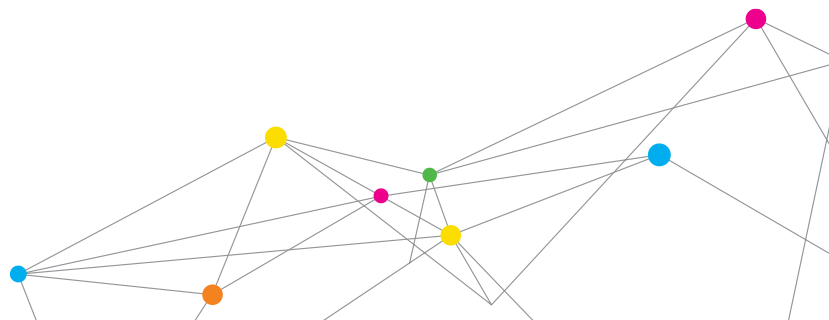
The camera is supported by the latest and industrial standard CoaxPress frame grabber which offers high data throughput to ensure all images can be transferred without any interference. Multiple camera arrangements can be supported by a single frame grabber.

## Applications

- + Liquid and air flows in large facilities
- + Time-resolved liquid flow measurements
- + Planar and volumetric PIV using multiple cameras
- + Micro-channel flows using microPIV



UNDERSTANDING, ACCELERATED



# SPECIFICATIONS

## POWerview 12MP-180 CAMERA

Description	Specifications
Image Device	Global Shutter CMOS with Microlens
Pixel Resolution	4096 x 3072 Pixels
Pixel Size	5.5 $\mu\text{m}$ x 5.5 $\mu\text{m}$
Image Size	22.5 mm x 16.9 mm
Intensity Dynamic Range	8-bit
Frame Rate	180 fps
Read Noise	0 - 16 LSB at 8 bit
Gain Control	x1, x4
Quantum Efficiency	55% (550 nm)
Pixel Clock Rate	85 MHz
Frame Straddle Time	<10 $\mu\text{s}$
Lens Mount	Nikon F-Mount
Camera Interface	4-cable CoaxPress frame grabber
Standard Camera lens	Nikon 50 mm F1.8 Lens

Specifications are subject to change without notice.  
TSI and TSI logo are trademarks of TSI Incorporated.



UNDERSTANDING, ACCELERATED

**TSI Incorporated** - Visit our website [www.tsi.com](http://www.tsi.com) for more information.

**USA** Tel: +1 800 874 2811      **India** Tel: +91 80 67877200  
**UK** Tel: +44 149 4 459200      **China** Tel: +86 10 8219 7688  
**France** Tel: +33 1 41 19 21 99      **Singapore** Tel: +65 6595 6388  
**Germany** Tel: +49 241 523030