

miniPIV™

An Eye-Safe PIV System for 2-C or 3-C Velocity Mapping

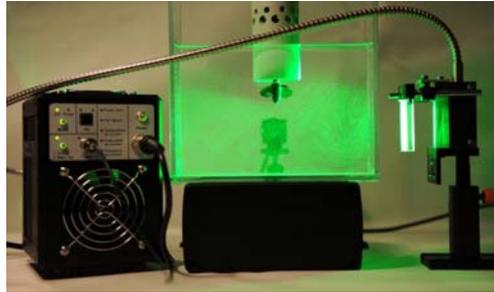
The miniPIV is a simple, portable, and low cost Particle Image Velocimeter that uses an LED light source that is eye-safe and easy to operate. The PIV system may operate as a standalone PIV system or may be used with a flowLab as an educational / research tool. The miniPIV is very easy to setup, and includes a complete data acquisition system and processing software. The miniPIV can easily be upgraded to stereo miniPIV for three-component flow measurement.

ADVANTAGES OF THE MINIPIV:

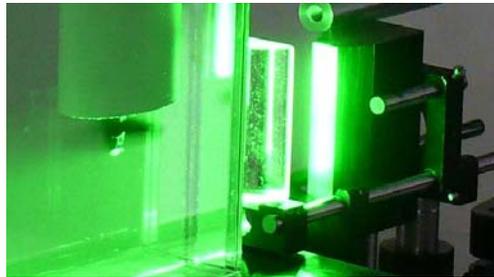
- Complete turnkey system
- Includes light source, camera, timing electronics, software, and attachment hardware
- Uses eye-safe light source to provide high intensity light sheet without the laser safety concerns of standard PIV
- No water cooling required
- Easy to setup and easy to operate

APPLICATIONS INCLUDE:

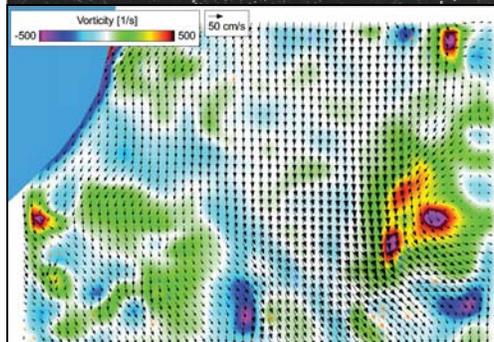
- Fluid mechanics, turbulence, oceanography, atmosphere studies, spray investigation
- Micro channels
- Wind, water, oil tunnels and channels
- Surface speed measurements
- Refrigeration air curtain
- Drag reduction measurements
- Speed of boats, ships, sea bearing vessels



The miniPIV System includes all the necessary hardware for mounting of the light source and the camera.



The miniPIV light source is a small, integrated light emitting diode (LED) that is connected to a fiber optic bundle providing a powerful light sheet.



The easy to use and comprehensive PIV software provides fast and accurate 2-D velocity vectors.

MEASUREMENT SPECIFICATIONS	
Velocity range	1 mm/sec to 2 m/sec*
Spatial resolution	1 x 1 mm ²
Accuracy	2% typical (better than 0.1 pixel)

MEASUREMENT AREA	
Light sheet	50 x 50 mm ² *
Light sheet thickness	1 -2 mm

LIGHT SOURCE SPECIFICATIONS	
Optical power	7 W (CW-mode)**
Pulse power	1 mJ at 20 μs
Wavelength	530 nm

CAMERA SPECIFICATIONS	
Resolution	1280 x 1024 pixels
Sensor	Progressive scan CCD
Frame rate	15 image pairs / sec
Interface	GigE or FireWire 800

SYSTEM OPERATING PARAMETERS	
Temperature	10 to 40°C
PC or Laptop requirements	Windows XP, Intel Pentium 4, FireWire 800 or GigE interface

CUSTOM PIV
*Please verify the area of interrogation, the velocity range, the measurement medium, 2-C or stereoscopic

OPTIONAL FEATURES
**Pulsed laser for use in air flows or illumination of smaller measurement areas
Cooled CCD camera for higher sensitivity
High speed camera for time-resolved measurements up to 4 kHz



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