

# National Wind Tunnel Facility Indian Institute of Technology, Kanpur

**Enquiry No.:** NWTF/ACM/2022-23/18

**Opening Date:** January 12, 2023

**Closing Date:** January 23, 2023

**Subject:** Purchase of High/low speed PIV Synchronizer and associated Software

Quotation for the item mentioned above is requested in a sealed envelope. The quotation should reach on or before January 23, 2023 to the address given below.

**Specifications for PIV Synchronizer and associated software compatible for Existing NOVA R3 High Speed Cameras.**

## **Synchronizer (1 No.)**

- Synchronization Board- Programmable Timing Unit (PTU X), Type Standard, external housing, incl. all trigger cables, Ptu X Upgrade For High-Speed Applications.

## **DaVis Software for Image Acquisition & PIV Post Processing (1 No.)**

- Software for image acquisition and processing for Windows 10
- Can be installed on any number of computers (Floating License)
- Capable to Change the parameters during recording, live processing allows instant feedback
- Individual workspace configuration
- Stream-format for efficient storage of long image sequences and fast download from High-Speed camera, integrated display of 3D data, Tomo-PIV; user specific display options (Zoom, Overlays, false color etc.)
- Software for analysis of 2D flow fields for vector field calculation according to cross- or autocorrelation-method, PIV Uncertainty Quantification for both single vectors and derived quantities (**Average, standard deviation, vorticity, Reynolds stress**) to verify the experimental quality of the PIV data.

**Note:** Documentation proof for **Average, standard deviation, vorticity, Reynolds stress** **must be** enclosed as mandatory.

- For image acquisition and analysis, of 3-dimensional flow fields, powerful calibration wizard, self-calibration routines including PIV Uncertainty Quantification for single vectors & derived quantities (avg, stdev, TKE,), using the correlation statistics method to validate experimental PIV results

## **Calibration Kit (1 No.)**

- 2x2 plane validated calibration plate for 3D measurement, supports any camera setup and automated mark detection under DaVis software, 300x 300 mm.

- 2x2 plane validated calibration plate for 3D measurement, supports any camera setup and automated mark detection under DaVis software, 100x 100 mm

**Cable connection set & Hardware registration for third party hardware (Compatible with Photron NOVA R3) (2 Nos.)**

**DaVis Software for Analysis for 2D & Stereo PIV (1 No.)**

- **Davis Data Analysis License**- allows import, visualization and analysis of measured data on a separate PC., Version 10 (for Windows 10), No hardware-support included.
- **2D-PIV Analysis Software module**- Based on DaVis basic software module(#1105321), for analysis of flowfield according to, cross- or auto- correlation-method, PIV Challenge 2001, 2003 and 2005 approved, main features: high resolution PIV, second order correlation, window deformation technique, vectorfield calculation, advanced post processing, averaged vectorfields in separate windows, adaptive PIV routines for automatic optimization of PIV processing parameters, including PIV Uncertainty Quantification for single vectors and derived quantities (avg, stdev, TKE, ...), using the correlation statistics method to validate experimental PIV results, no hardware support.
- **Stereo-PIV Analysis Software module**- Based on 2D-PIV analysis software module (#1105111), for analysis of 3- dimensional flow fields, powerful calibration wizard, self-calibration routines, including PIV Uncertainty Quantification for single vectors and derived quantities (avg, stdev, TKE), using the correlation statistics method to validate experimental PIV results, no hardware support.

**Installation & Training (1 day) at site**

**TERMS & CONDITIONS:**

- **PRICES:** Ex-Works/ FCA/FOB/CIF New Delhi
- **NOTE:** In case of import, IIT Kanpur has own freight forwarder who can pick up the material from your works.
- **DELIVERY:** Maximum 2 months
- **VALIDITY:** Minimum 60 days.
- **WARRANTY:** At least One year or higher

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