Accusize Industrial Tools 900-391C

Accusize Industrial Tools Phase II Plus Micro Vickers Hardness Tester User Manual

Model: 900-391C

Introduction

This manual provides comprehensive instructions for the setup, operation, maintenance, and troubleshooting of the Accusize Industrial Tools Phase II Plus Micro Vickers Hardness Tester, Model 900-391C. This precise testing system is designed for hardness analysis of metallic specimens in metallography laboratories or production environments, conforming to ASTM E-384/92 standards.

The system is versatile and user-friendly, ideal for accurate hardness testing of small precision parts, thin materials, coatings, wires, and for case depth determinations. It includes an Auto-Turret, Video Cam, Adapter, USB Output Cable, and measurement software.

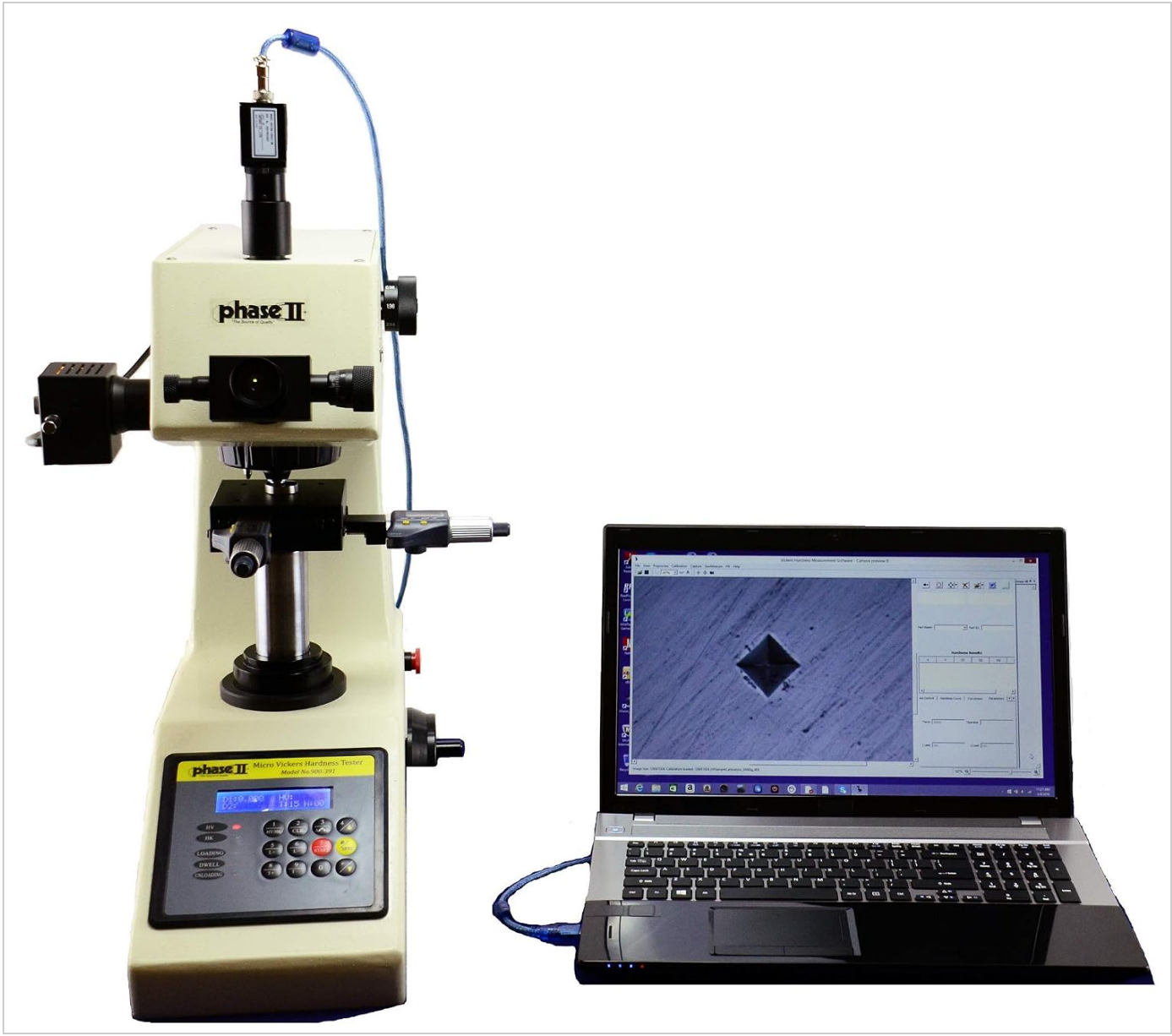


Figure 1: Accusize Industrial Tools Phase II Plus Micro Vickers Hardness Tester (Model 900-391C) connected to a laptop displaying the measurement software interface.

Product Features

- **Precise Testing System:** Suitable for hardness analysis of metallic specimens.
- **Versatile Applications:** Designed for small precision parts, thin materials, coatings, wires, and case depth determinations.
- **Integrated Components:** Includes Auto-Turret, Video Cam, Adapter, USB Output Cable.
- **Measurement Software:** Choice of 4 variants of measurement software for enhanced capabilities.
- **Wide Load Range:** Covers load range from 10g to 1kg.
- **Standards Compliance:** Conforms to ASTM E-384/92 Vickers hardness testers standards, ensuring unmatched repeatability.
- **Knoop Hardness Measurement:** Capable of measuring Knoop hardness with an optional Knoop indentor.

Setup Instructions

1. Unpacking and Inspection

Carefully unpack all components from the shipping container. Verify that all items listed in the packing list are present and undamaged. Report any discrepancies or damage to your supplier immediately.

- Base Machine
- X-Y Stage with Micrometer
- Mini Thin Part Holding Fixture
- Mini Drill Chuck Fixture
- Mini Vise Fixture
- Video Cam with Adapter
- Measurement Software (CD/USB)
- USB Cable
- Tool Kit

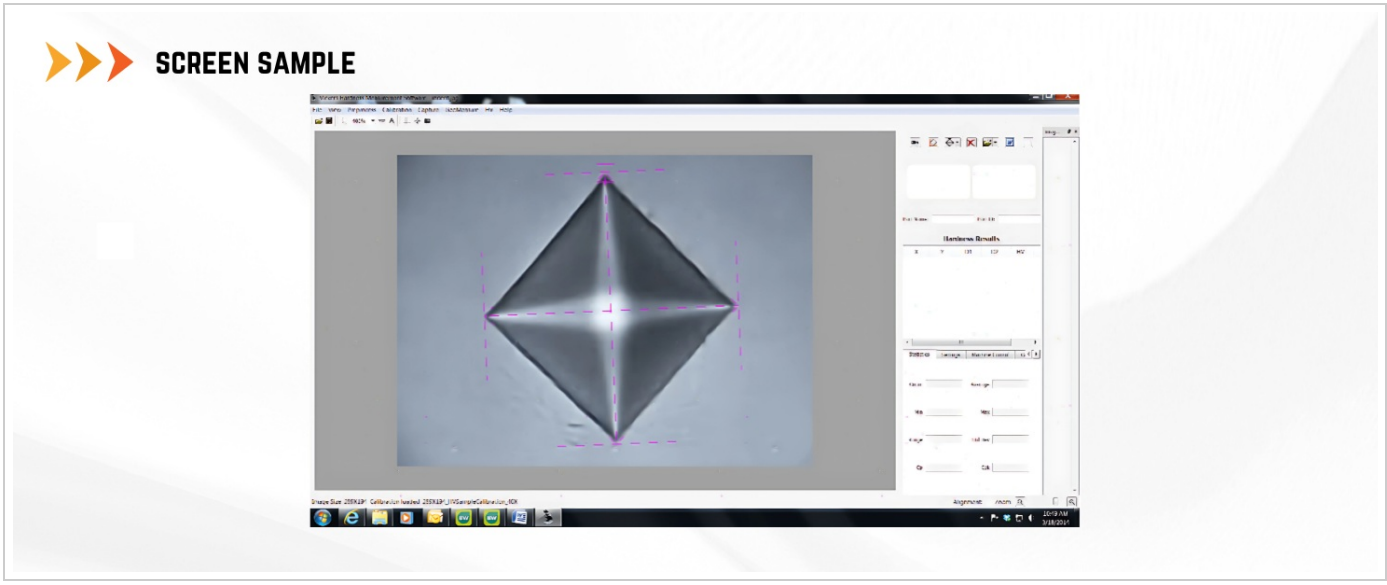


Figure 2: Included accessories for the Micro Vickers Hardness Tester, featuring the Video Cam, Adapter, Software Kit, and a comprehensive Tool Kit.

2. Placement and Power Connection

Place the hardness tester on a stable, level surface free from vibrations. Ensure adequate space for operation and maintenance. Connect the power cable to the instrument and then to a grounded electrical outlet of the correct voltage.

3. Software Installation

Insert the provided measurement software CD or connect the USB drive. Follow the on-screen instructions to install the software on your computer. Ensure your computer meets the minimum system requirements for the software. After installation, connect the Video Cam to the tester and then to your computer using the USB cable.



Figure 3: Components for software installation and video integration, including the Phase II Vision Software CD, video camera, adapter, and USB cable.

Operating Instructions

1. Power On and Software Launch

Turn on the main power switch of the hardness tester. Launch the measurement software on your connected computer. Allow the system to initialize.

2. Specimen Placement

Place the specimen securely on the X-Y stage. Use appropriate fixtures (Mini Thin Part Holding Fixture, Mini Drill Chuck Fixture, Mini Vise Fixture) if necessary to ensure stable positioning.

3. Focusing and Indentation

Using the stage controls and the software interface, bring the area of interest on the specimen into sharp focus. Select the desired test load (from 10g to 1kg) and dwell time within the software. Initiate the indentation process. The auto-turret will automatically rotate the indentor into position, apply the load, and then rotate the objective lens for viewing the indentation.

4. Measurement and Data Acquisition

Once the indentation is complete, use the software's measurement tools to accurately measure the diagonals of the Vickers indentation. The software will automatically calculate and display the Vickers hardness value (HV). Data can be saved, exported, or printed as required.

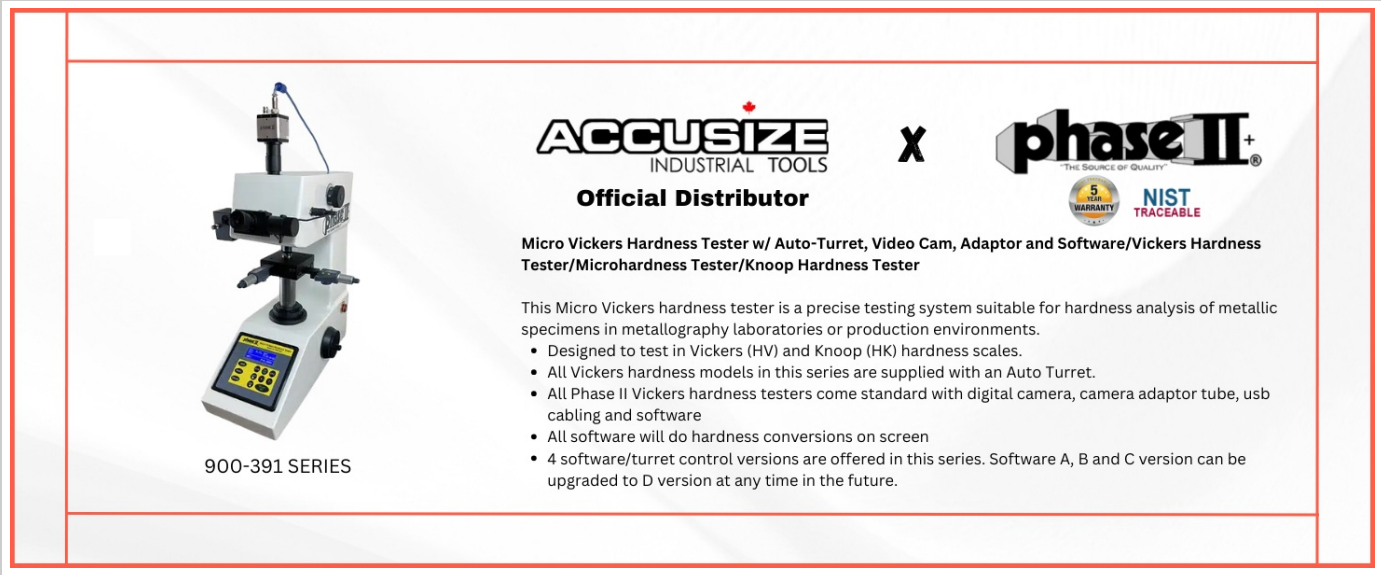


Figure 4: Sample screen from the measurement software, illustrating the visual representation of a Vickers indentation and the tools for measuring its diagonals.

Maintenance

1. Cleaning

Regularly clean the exterior of the instrument with a soft, dry cloth. For optical components (lenses, objectives), use specialized lens cleaning solutions and cloths to avoid scratches. Keep the stage and indentor area free from debris and dust.

2. Calibration

Periodic calibration by qualified personnel is recommended to ensure the accuracy and repeatability of measurements. Refer to ASTM E-384/92 standards for calibration intervals and procedures.

3. Software Updates

Check for and install any available software updates to ensure optimal performance and access to new features.

Troubleshooting

Problem	Possible Cause	Solution
No image on screen	Video cam not connected or software not recognizing device.	Check USB cable connection. Restart software and computer. Reinstall video cam drivers if necessary.
Inaccurate hardness readings	Improper focus, incorrect load selection, or calibration required.	Ensure specimen is in sharp focus. Verify correct load setting. Perform system calibration.
Indentation not visible	Insufficient load, incorrect objective lens, or specimen preparation issue.	Increase test load. Ensure correct objective lens is rotated into position. Verify specimen surface preparation.

Specifications

Attribute	Detail
Model Number	900-391C
Brand	Phase II Plus (Accusize Industrial Tools)
Hardness Scales	Vickers (HV), Knoop (HK - with optional indentor)
Load Range	10g to 1kg
Compliance	ASTM E-384/92
Features	Auto-Turret, Video Cam, Adapter, USB Output Cable, Measurement Software
Product Dimensions	16.73 x 9.65 x 19.29 inches
Item Weight	77.16 Pounds
Manufacturer	Phase II Plus
Country of Origin	USA

Warranty and Support

The Accusize Industrial Tools Phase II Plus Micro Vickers Hardness Tester is backed by a **5-year warranty**. Accusize Industrial Tools also provides **free lifetime technical support** for this product. For assistance, please contact Accusize Industrial Tools customer service.
For more information or to contact support, visit the Accusize Industrial Tools Store on Amazon.

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