

Sharpness Tester

PST-100/220

110/220 Volt, 1Ø, 50/60 Hz

Operator's Manual



Please read all instructions carefully
before operating machine.

PRIMEEdge
CUTTING EDGES & SHARPENING SOLUTIONS

Table of Contents

Introduction

The **PRIME**Edge Sharpness Tester 3

Safety and Warranty Statements 4-5

General Features..... 6

Machine Set-Up

Electrical Utilities 7

Working Area 7

Machine Start-Up

Power on Procedure 8

Homing the Machine..... 8

Reset Procedure 9

Main Features and Components

Paper Clamp 10

Knife Clamp 10

Touch Screen Control Panel 11

Test Results..... 12

Technical Data

Maintenance Schedule 13

Recommend Parts and Consumables 13

Troubleshooting 14

Residual Risks..... 14

Schematics 15

PRIMEEdge Locations..... 16

Introduction

Congratulations! You are now an owner of the **PRIMEEdge Sharpness Tester**, and on your way to a more controlled and effective quality of sharpness.

It's no secret dull knives require more force to use resulting in slips, injuries, poor product yield, slower production, and lower profits. The **PRIMEEdge Sharpness Tester** is a user-friendly system designed to measure the sharpness of an edge accurately and reliably. By using the results of sharpness testing, you will be sure that proper training methods are being employed in your knife room as well as on the production line.

Our tester's rapid mount design ensures quick and easy changeover minimizing incorrect placement.

The test media is uniform and not affected by voids, ensuring an accurate reading of the full edge from handle to tip.

Output of results include a sharpness rating down the length of the edge, a geometric profile of the blade, and a compiled score comparable to industry standards.

And last but not least: *No software license required.*

Enjoy a facility with no dull moments!

Safety and Warranty Statements

The **PRIME**Edge Sharpness Tester is a sturdy, well-constructed machine that will provide you with many years of satisfactory service.

This document explains:

- Installation and set-up
- Correct usage of the machine
- Detailed maintenance and repair procedures

Warranty: The seller warrants the **PRIME**Edge Sharpness Tester parts of its own manufacture against defects in workmanship or materials for 90 days from the customer's invoice date.

The seller's obligation is limited solely to the replacement of defective parts, which are to be returned to the seller's plant FOB.

The seller shall not be liable for any damage to the machine caused by misuse or abuse.

Machine parts that are not manufactured by the seller shall carry the warranty of the manufacturer thereof. Deterioration of parts caused by misuse or abuse, or improper operation of the machine, does not constitute defects.

This warranty of machine merchantability and fitness constitutes the only warranty made by the seller.

Use of any parts on this machine that are not approved by the seller as authorized replacement parts shall void all warranties and guarantees.

Refer to page 16 for your nearest **PRIME**Edge support location.

Notice:

- This is a non-contractual document.
- This document voids and replaces any previous documents.
- All images are for illustrative purposes only.

PRIMEEdge, in the constant improvement and updating of products, reserves the right to modify, at any time, designs, materials, dimensions and characteristics without prior notice.

Safety and Warranty Statements

The use of the machine is allowed only to trained and authorized personnel.

Any and all tampering with or modifications to the equipment not previously authorized by the manufacturer shall relieve the latter from damages arising from or relating to the above acts.

Removal or tampering with safety devices is a violation of safety standards.

The machine may only be used in places where there is no danger of explosion or fire.

Installation must be carried out by qualified personnel in full compliance with the instructions below.

Check that no dangerous conditions are present during operating maneuvers, stop the machine immediately if functional irregularities are found, and contact the assistance service.

Nameplate Data

Type:
Model:

PRIMEEdge Sharpness Tester
PST-110/220

Norms

EN ISO 12100:2010
EN 60204-1
EN 394

Reference Laws

2006/42/CEE D.Lgs. n°17/2010
2006/42/CE
2014/35/UE
2014/30/UE

Technical Data

Total dimensions (l x w x h):	900mm x 450mm x 600mm
Total weight (kg):	47
Electrical power (kVA):	1
Electrical connection:	110Vac P+N - 60 Hz, 9A 220Vac P+N - 50Hz 4.5A
Horizontal stroke:	650mm
Vertical stroke:	200mm
Maximum blade length:	600mm
Noise level (dB(A))	< 80dB

General Features

The **PRIMEEdge** Sharpness Tester is built industrial strength with sheet metal and high quality components. Operators have access to a color touch-screen control panel where they can review tests, change settings and receive other information. The machine is fitted with one Ethernet port and two USB 3.0 ports for connection to server, computer, USB stick, or accessories such as mouse and keyboard.

Access to machine from front and side load doors during normal operation. In addition, technician access in the back by removing several screws.

The machine consists of three main components:

1. Touch Screen Control Panel
2. Test Media Clamp
3. Knife Clamp

See Main Features / Components for detailed descriptions of each component.

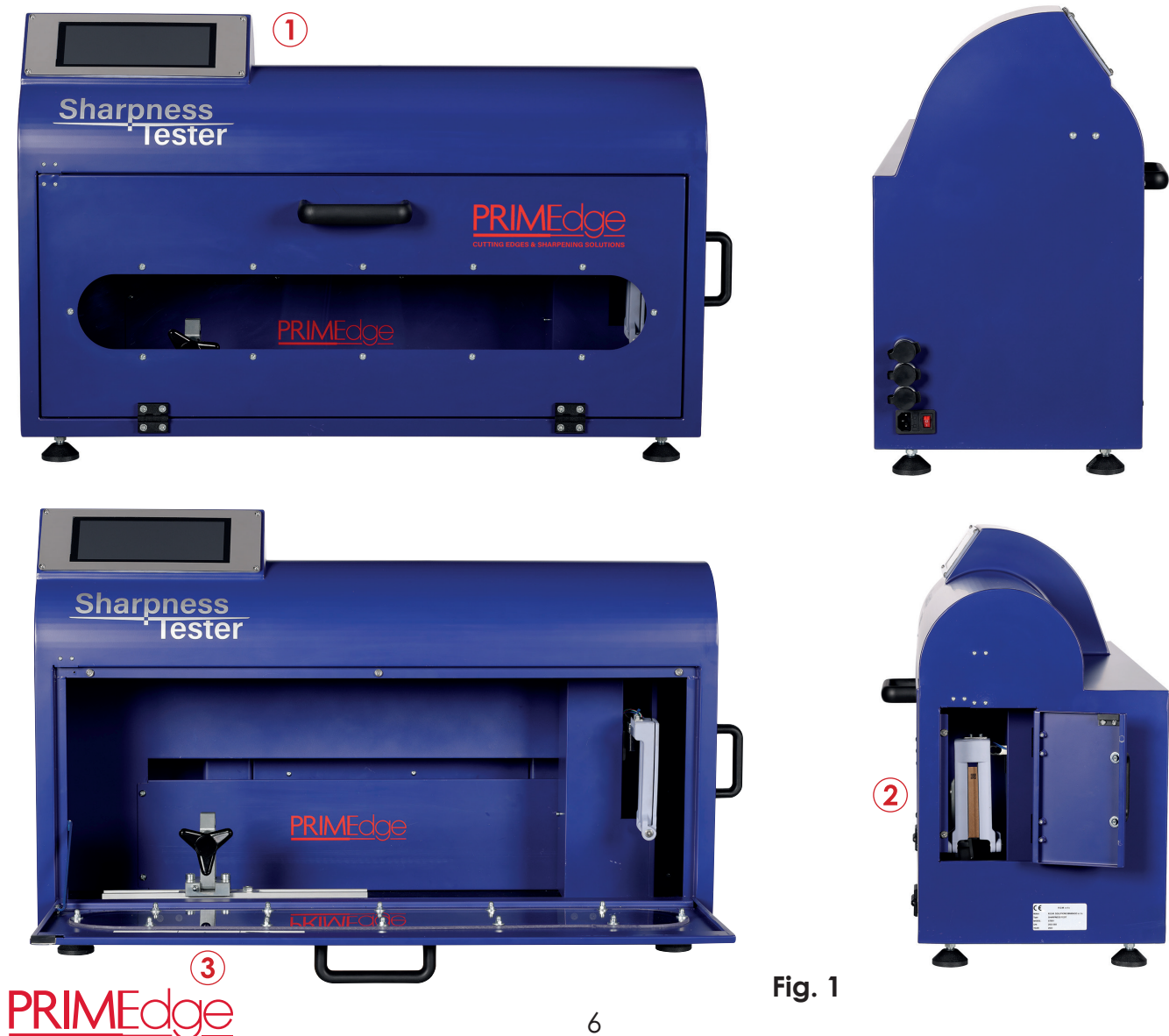


Fig. 1

Machine Set-Up

Electrical Utilities

The machine is supplied with cable already connected inside the electrical cabinet. It is up to the installer to connect a plug complying with appropriate standards in the country where the equipment is used and having a capacity of not less than 20A.

North American models are configured for a single-phase 110 Vac 60 Hz electrical supply. European models are configured for single-phase 220 Vac 50 Hz electrical supply.

The sizing of the power supply line and relative protections must be done by the installer as it depends on the constructional characteristics of the facilities' distribution system.

Working Area

The work area is the space required for installation of the machine and its accessories, safe handling of workpieces and operators and access to machine parts and components for maintenance, cleaning, or other operations.

Figure 2 shows the minimum clearances required to ensure safe handling.

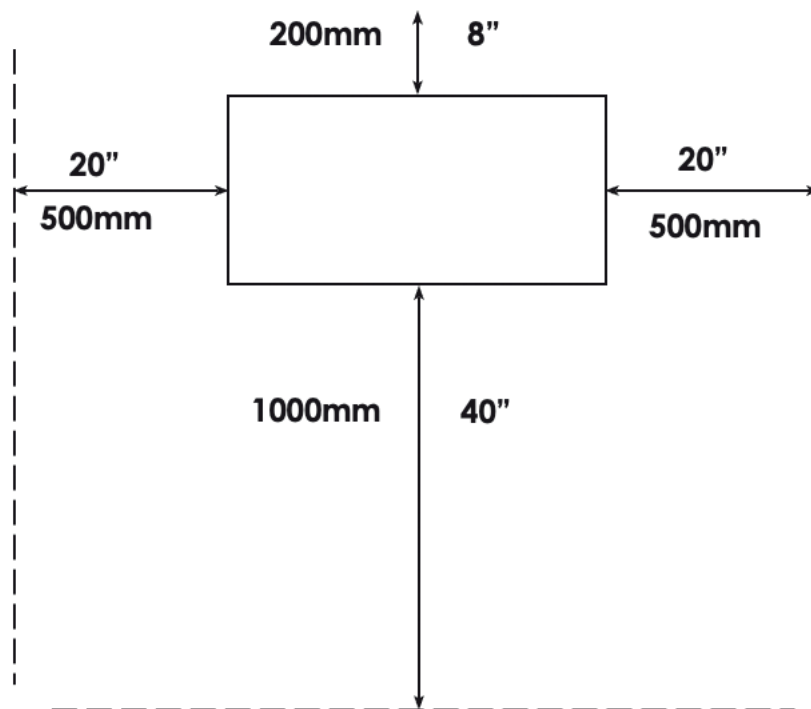


Fig. 2

Machine Start-Up

Power On Procedure

To turn on the machine, flip power switch (A) on the left side to the “I” position. Wait until the display (B) starts up completely. Ensure both doors are closed. Then proceed with the HOMING operations below.

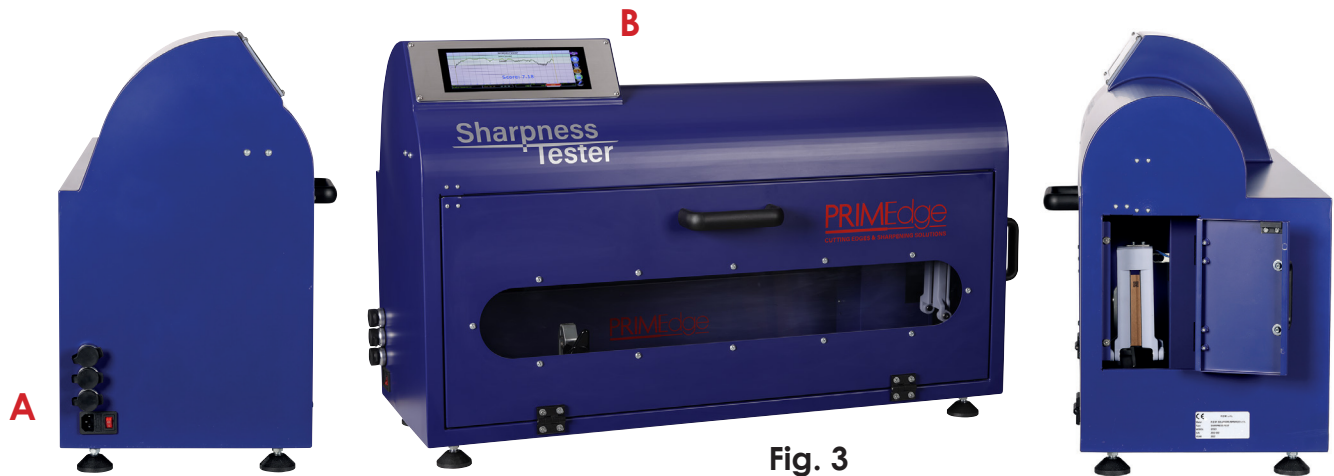


Fig. 3

Homing the Machine

Perform a home sequence on the machine after each initial power on by doing the following:

1. Close all doors
2. Navigate to the Information Screen
3. Press the Homing button

The system should now display “Ready for Load/Unload”

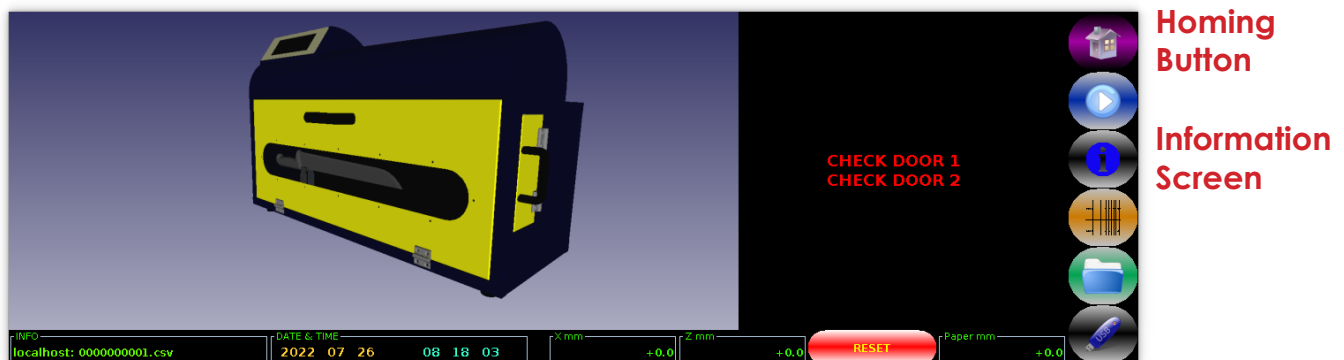


Fig. 4

Machine Start-Up - continued

Machine RESET Procedure

After each power-up, the calibration of the test media clamp must be performed before starting the tests.

The calibration procedure is as follows:

- Open the test media clamp and remove any test media
- Close the test media clamp leaving it empty
- Push the RESET button
- Verify the detected test media size which must be **0.0 mm**
- Insert new test media, as indicated in this manual
- Close the clamp with the test media inserted
- Push the RESET button
- Verify the detected test media size which must be **100.0 mm**
- The Sharpness Tester is now ready for tests

This calibration procedure is only required before the first test after start up.

Main Features / Components

Test Media Clamp

The test media clamp is accessed by the side door, and is specially designed for **PRIME**Edge test media. Each test will require a new test media. It is important to load the test media with the QR code facing the door, and with the test media moved to the bottom of the clamp. Correct positioning shown (Fig. 10)

The **Machine Reset Procedure** must be complete before the first test after each startup. Additional resets are not necessary unless you power cycle the machine.

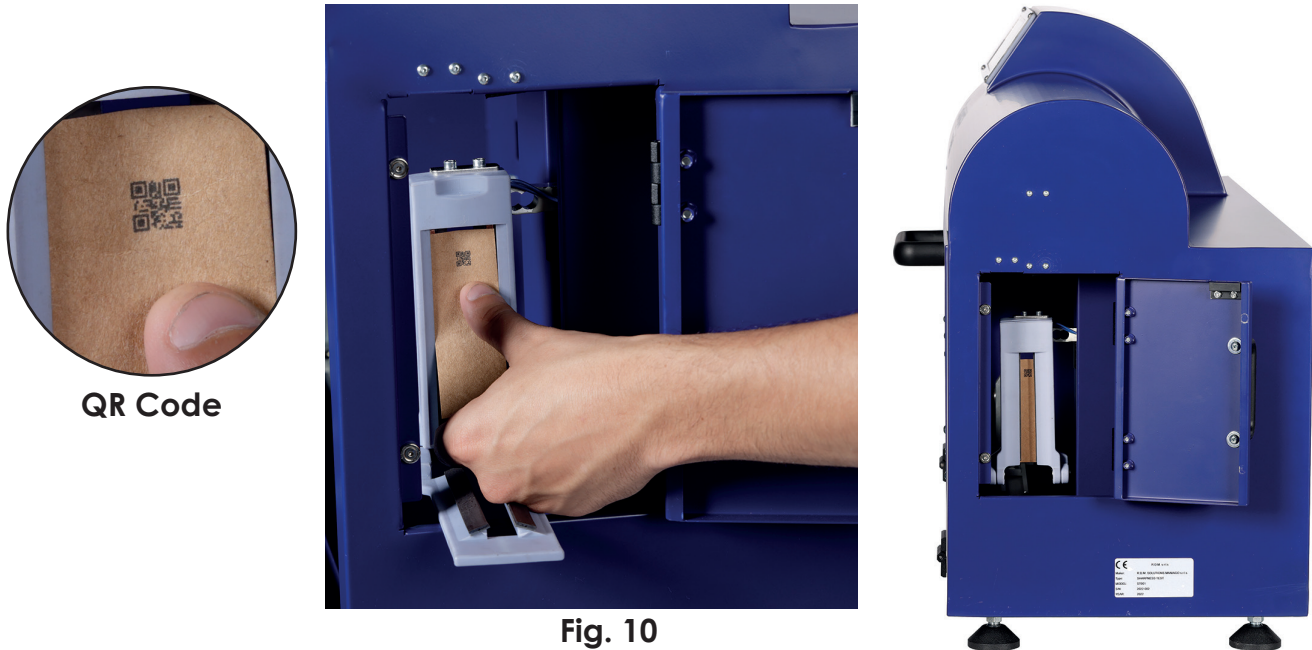


Fig. 10

Knife Clamp

The knife clamp is accessed by the front door. This clamp is operated by a single knob, and will hold various knife sizes and shapes. Care must be taken to ensure the knife is facing upwards and with a minimum angle (Fig. 11), and the knob is closed tight enough to ensure proper clamping.

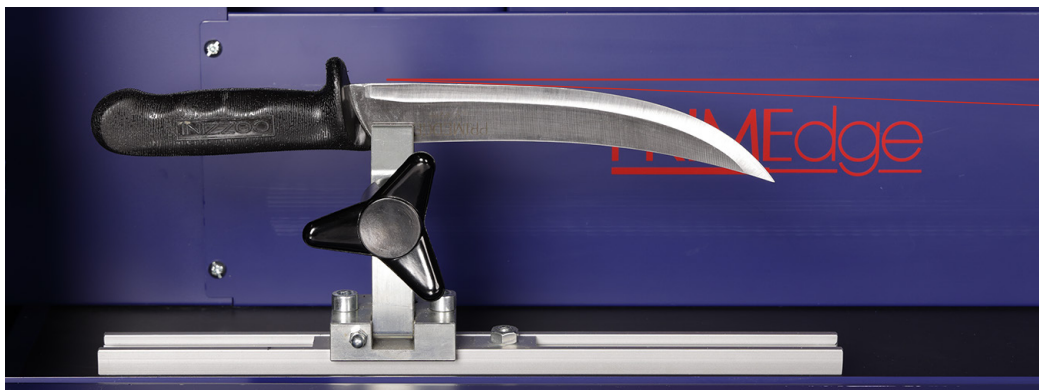


Fig. 11

Main Features / Components - continued

Touch Screen Control Panel

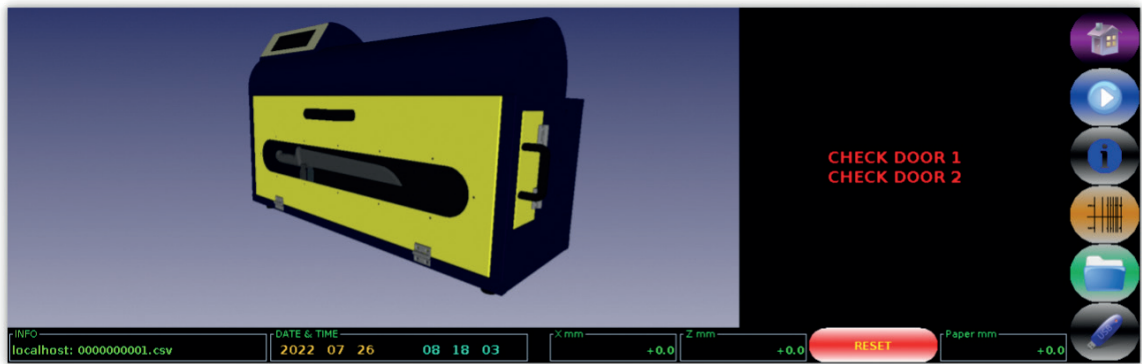


Fig. 5



Fig. 6

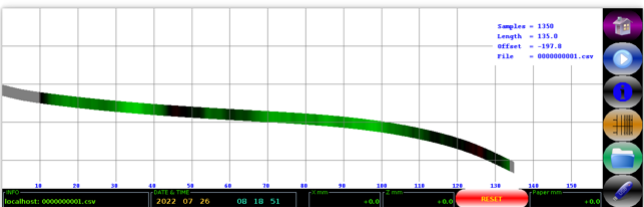
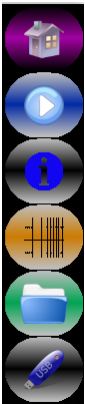


Fig. 7



- Start HOMING procedure
- Start a TEST cycle
- Display information related to operation (Fig. 5)
- Display operation information (Fig. 6, 7)
- Open a previously performed TEST
- Export data to USB flash drive

The control panel is a touch-screen user interface for operators. Buttons and their functions are shown above.

The main screen  (Fig. 5) displays general information about the current state of the machine. This includes live status of doors and test media, as well as error and ready messages.

Main Features / Components -continued

Test Results

Also included are several graph views  (Fig. 6,7) of your test results. Test graphs can be toggled by pressing graph views again. There are two styles of graphs: Sharpness Graph (Fig. 8) and Sharpness Profile Graph (Fig. 9.)

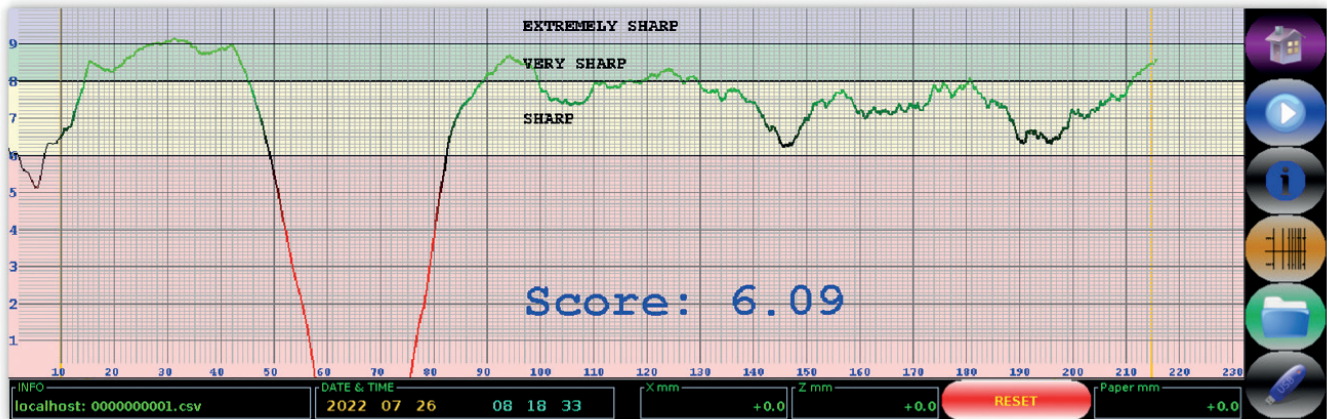


Fig. 8

The Sharpness Graph (Fig. 8) shows the average sharpness score of the knife. It also shows variation of this sharpness along the length of the knife. Sharpness values are broken into 4 categories: Unsharp (red), Sharp (yellow), Very Sharp (green), and Extremely Sharp (blue).

WHILE SCORE TARGETS MAY VARY, A KNIFE SCORE OF AT LEAST 7.00 WILL ENSURE KNIFE PERFORMANCE.

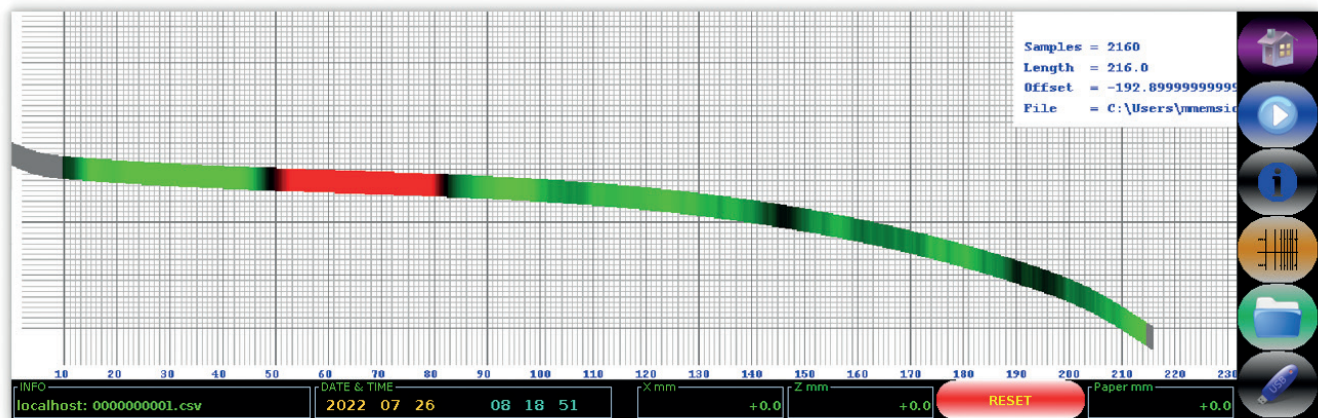


Fig. 9

The Sharpness Profile Graph (Fig. 9) shows the approximate profile or shape of the knife edge. It also shows relative sharpness at any given point along the knife edge where green indicates sharp, and red indicates dull. This information can help operators make sure they are not over/under-grinding certain areas of the knife edge.

Maintenance Schedule

The recommended maintenance procedures are important in helping to keep your **PRIME**Edge Sharpness Tester in good operating condition. Your Sharpness Tester represents a sizable investment, and following the recommended maintenance schedule will ensure many years of satisfactory use.

Item	Daily	Weekly	Monthly	Quarterly	Semi-Annual	As Needed
Check/wipe copper walls in test media clamp						X
Clean inside machine and under clamp with damp cloth (water)		X				
Clean outside of machine with damp cloth (water)	X					

Recommended Tester Parts & Consumables

Part No.	Description
PST-TM-100	Test Media Pack, 100 Quantity
PST-TM-500	Test Media Pack, 500 Quantity

Trouble Shooting Guidelines

Machine will not power on	Check power cord. Check power switch. Check power supply voltage.
Unable to Home	Verify doors are closed. Verify the presence of a test media in clamp. Verify the closure of clamp.
Error Message: "INVALID QR CODE"	Replace test media with new test media. Ensure the QR code is visible and undamaged.
Test starts but stops searching for blade	Blade is too low in the knife clamp. Reposition blade higher in clamp or utilize clamp extension.
Test gives unexpected results	Damaged or improperly installed test media. Blade improperly install in knife clamp and is not in accordance with directions. Blade heel is too dull to start test.

Residual Risks

Abrasion

In normal use of the machine, the operator should never have hands or fingers enter the operating area as the handling operations of the workpieces take place outside the dangerous area.

Cut

The risk of cutting is not a risk of the machine itself but could arise during the handling of the blade (picking, loading and unloading and deposit phases). The risk can be eliminated by prescribing the use of cut-resistant gloves when handling the blade.

Noise

The machine, under normal conditions of use, emits a sound level of less than 80 dB. However, it is essential to carry out an exposure analysis in normal working environmental conditions to assess the need or not to use hearing protection devices.

Schematics

(content to be added)

PRIMEEdge Locations

World Headquarters

PRIMEEdge, Inc.

1281 Arthur Avenue
Elk Grove Village, IL 60007
U.S.A.
T: +1-224-265-6600
E: contact@primedge.com
www.primedge.com

PRIMEEdge Scandinavia

Industrivej 44 A, ST
4000 Roskilde, Copenhagen
Denmark
T: + 45-98-111-700
E: contact-dk@primedge.com
www.primedge.com

PRIMEEdge Europe

Z.A. Les Pelletiers
89100 Soucy
France
T: +33-(0)-3-8686-6161
E: contact-fr@primedge.com
www.primedge.fr

PRIMEEdge Sweden

Transportvägen 8
241 38 ESLÖV
T: +46-413 403 400
E: sales-sweden@primedge.com
www.primedge.com/se

PRIMEEdge do Brasil

Alameda Caiapós, 433
Galpão 4, Tamboré
Barueri, São Paulo
Brazil
CEP: 06460-110
T: +55-11-4134-2230
E: primedge-brasil@primedge.com
www.primedge.com

PRIMEEdge Ibérica

Zona Ind. Pont Xetmar, c. I, 31
17844 Cornellà del Terri
Girona, Spain
T: +34-872 006 663
E: sales-iberica@primedge.com
www.primedge.com/es

Washing & Hygiene Systems

Mimasa

Zona Ind. Pont Xetmar, c. I, 31
17844 Cornellà del Terri (Girona)
Spain
T: +34 972 594 564
E: info@mimasa.com
www.mimasa.com

Blade Engineering and Manufacturing Facilities

GW Steffens GmbH & BE Maschinenmesser GmbH

Gewerbegebiet
Am Winkel 4
D-15528 Spreenhagen (Berlin)
Germany
T: +49 3 36 33 / 888 0
E: sales@be-maschinenmesser.com
www.be-maschinenmesser.com

