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# **Your Seal** of Approval

Weld Bead Inspection (WBI) Tool



**GFPS WBI Tool** 

## **GF Piping Systems**

# Introducing the Weld-Bead Inspection (WBI) Tool

Built to provide peace of mind for piping systems in the microelectronics, chemical processing, life science, and energy sectors, the Weld-Bead Inspection Tool from GF Piping Systems assesses the quality of infrared-weld beads more reliably than ever.

When an infrared butt fusion process is used to join plastic piping components together, a weld (or fusion) bead is produced. In the past, experienced welders or quality control managers assess the quality of the bead with the naked eye to see whether it is perfectly fused and as uniform as possible. But there are fewer and fewer qualified workers with this expertise, so why take the risk?

### Better to be objective

As small as a computer mouse and packed with state-of-theart photo-sensory technology: welds for highly demanding applications can now be digitally inspected to ensure potential weaknesses are highlighted objectively, ensuring the risks of leaks resulting in millions of dollars worth of damage are reduced. There has never been a tool like it before that can assess a weld bead and provide a seal of approval as quickly and objectively.





# **Customer challenges**

### **Environments**

Small leaks in microelectronics or chemical processing environments have the potential to cause catastrophic issues. Weak welds can very quickly become hazardous and cause expensive delays.

### Financial efficiency

The WBI Tool helps eliminate damages, reduces costly repairs and provides peace of mind regarding your operational efficiency. Identifying problems before they arise not only saves money, but time too.

### Time efficiency

The WBI Tool enables automatic quality assurance and the results are digitally documented. With the WBI Tool's automatic documentation software you can save time during installation and have the reassurance that all welds have been inspected and logged for future inspection.

### 360 Partner

GF Piping Systems is the global leader in piping solutions, supporting installation teams worldwide. We are available to talk through and support any project you're currently working on. Your project is our priority.



WBI Tool assesses between 4-16 measuring points

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## **GF Piping Systems**

# Welds with integrity, features at a glance

The WBI Tool provides information about the geometry of the outer weld bead at the inspected points. Every element has been designed to be intuitive and efficient.

### 4 – 16 measurement points

At least four measuring points are needed in order to assess the entire weld bead for pipe diameters range from d20-63. For d75-225, eight measuring points are defined in order to measure the bead. Larger pipes may even require double this number.

### **Cutting-edge sustainability**

Built by GF to the highest standards, the WBI Tool has been ergonomically 3D printed.

### Accurate assurance

No misinformation or falsification, the WBI Tool automatically documents facts of bead shapes for both traceability and accurate accountability.



### **Intuitive software**

Our accompanying software has been designed with you in mind and has been made simple and intuitive to use. It provides you with weld-bead information on K-Value, Wall Offset, Width, Area, Heights, and Angle.

### **Photosensory capture**

Our elite photosensory capture systems ensures you are provided with direct detection for instant results.

## Compatibility

WBI-L and WBI-S are adaptive for both PROGEF and SYGEF components and has been designed to fit up to 15 different pipe diameters ranging from d20 to d225.

# Designed with you in mind

Every element of WBI-L and WBI-S have been meticulously designed to work with your needs. Completely adaptive to your requirements, the WBI Tool can fit up to 15 different pipe diameters and analyse from 4-16 different points of your weld. The intuitive software allows you to examine 6 different key areas of your weld, while simultanously providing you with a Pass / Fail certification per weld.

### **How it works**

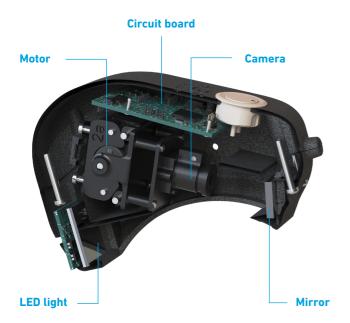
The housing of the WBI Tool contains a camera which moves over the entire width of the weld bead. The camera takes pictures which are merged into one picture. The software then defines the edges of the weld bead and calculates the following data:

- K-value
- Wall offset
- Width
- Heights
- Area
- · Angle of the components

If all values are within the defined the tolerances, the weld bead is rated OK.



WBI Software interface



### Quality you can measure

The WBI Tool is packed with state-of-the-art technology within a tiny space. A camera, a light source, a mirror, a circuit board, and a motor are needed to capture the fusion bead. And yet the WBI Tool is as small as a computer mouse. The WBI Tool comes in two sizes to check the connections of pipes in a range of sizes from d20 up to d225.

The WBI Tool is placed precisely on the weld bead with the aid of semicircular clamps. The key component of the WBI Tools is the camera, which is brought into position with a motor. The LED light source illuminates the bead from behind, and the mirror directs the light toward the camera. The camera now takes several pictures of the weld bead in quick succession from different positions and uses them to compose an optimized, undistorted image.





Tool set	WBI Tool Set L (d20-d225)	WBI Tool Set S (d20-d63)

Details			
Tools included	WBI-L & WBI-S Tool	WBI-S Tool	
Weight (incl. transport case)	22.4 kg	13.5 kg	
Length x width x height (transport case)	67 x 50 x 45 cm	67 x 50 x 23 cm	

### Power supply and temperatures

Additional	
Electrical power supply (printer)	100-240V 50/60 Hz
Electrical power supply (tablet)	100-240V 50/60 Hz
Voltage	5V, 3A
Working temperature range	+5°C to + 40°C
Storage temperature range	+0°C to + 55°C <70% relative humidity

### Your product offering options

Choose the set that's right for you.

### Small set

- WBI-S: Small Tool d20-d63
- · Printer with accessories
- Tablet with accessories
- Adapter d20-d63

### Large set

- WBI-S: Small Tool d20-d63
- WBI-L: Large Tool d75-d225
- · Printer with accessories
- Tablet with accessories
- Adapter d20-d225





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