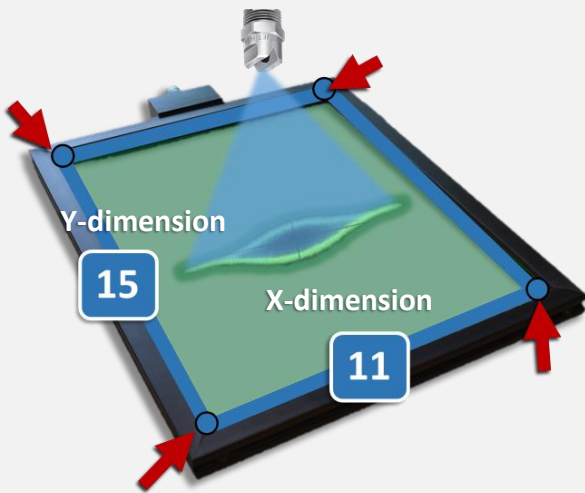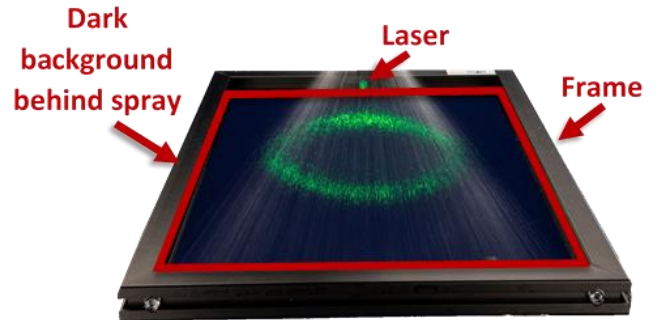# SPRAYSCAN™ mPT

The **SprayScan mPT** mobile patternator is a portable spray characterization instrument that allows a user to quickly and easily receive information on the coverage, pattern, and distribution of a spray.

Instructions

1. Data Collection Best Practices

When recording the spray, there are a few things to keep in mind:

- Use a black background behind the spray to help create a clearer image.
- An out of plane spray may obscure the video, therefore, try to shoot the video from a perspective where the spray pattern is unobstructed.
- Capture the video from either directly in front of, or behind, the laser. This will result in the brightest spray pattern being recorded, which leads to a more accurate analysis.

2. Load Data [Import]

Open the software and load a video/image file to be analyzed.

3. Frame & Spray Characterization

The software will attempt to auto-detect the frame of the SprayScan mPT, which is represented by a blue polygon. Some user adjustment may be required to position the polygon directly overtop the frame. To perform this adjustment, simply click and drag the **inner corners of the frame** until the blue polygon and the inside of the frame are aligned.

Verify the length and width of the SprayScan mPT frame being used.
The standard inner frame dimensions are **11"x 15"**. If necessary, these values can be changed by typing new values into the **X & Y dimension** boxes.

Press [Continue] **once the frame is fully defined.**

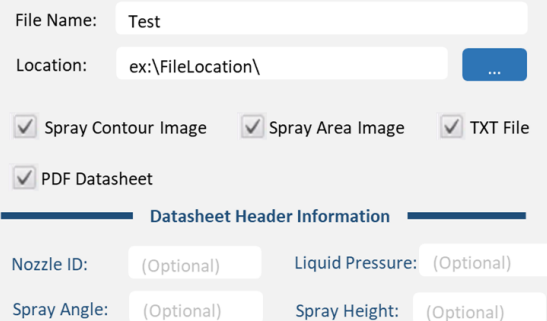**Press** [Continue] **once the spray is fully defined.**

4. Figure Display Settings

After the spray is fully defined, the distribution result will automatically load. The **Figure Display Settings** tab allows for customization of the spray distribution display. The user may:

- Define the minimum distribution threshold
- Toggle the units between inches and millimeters
- Change the plot color palette
- View a 1D Distribution of the spray
- Smooth the spray contours
- Rotate the spray area
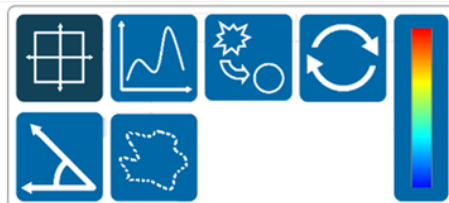
Adjust these parameters until the Spray Distribution plot represents the spray clearly and accurately.

File Name:	Test
Location:	ex:\FileLocation\

☑ Spray Contour Image   ☑ Spray Area Image   ☑ TXT File

☑ PDF Datasheet

Datasheet Header Information

Nozzle ID:	(Optional)	Liquid Pressure:	(Optional)
Spray Angle:	(Optional)	Spray Height:	(Optional)

5. Export Data

There are four different ways to save the data:

- An image of the Spray Distribution plot (*.png*)
- An image of the Spray Area (*.png*)
- A 2D dataset of the Spray Distribution matrix (*.txt*)
- A PDF containing information on the spray *(.pdf)*

spray.analysis@spray.com

Spraying Systems Co.®

SPRAYSCAN™ mPT

— Additional Features —

6. Frame Calibration

The frame calibration feature can be used to save the position points of the frame within the figure window. When loaded, a frame calibration file can be used to replace the **Frame Characterization** step detailed on page one.

When [Save current] is selected:

- The user will be asked to save a frame calibration file (*.fmpt* file extension) after the **Frame Characterization** step is complete

When [Load file] is selected:

- The software will load in a previously created frame calibration file
- Once loaded, the software will be able to run without any user input on the frame location
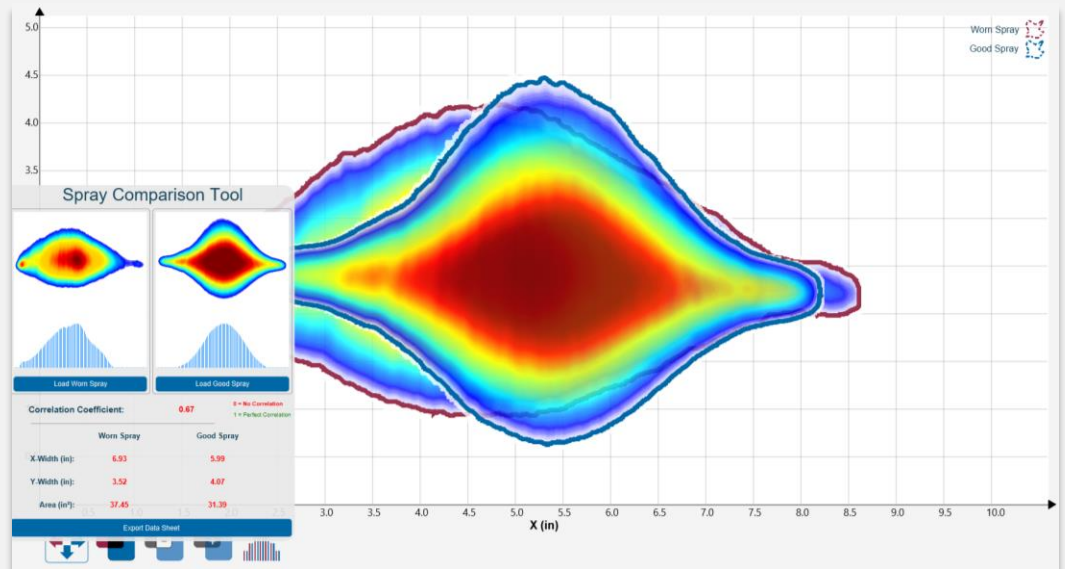
7. Spray Comparison Tool

The Spray Comparison Tool allows for a quick comparison of spray patterns. Simple comparisons will help reveal problems and if necessary, indicate if a different nozzle is required to achieve the desired coverage.

Within the Spray Comparison Tool, users can visualize the data in multiple ways:

- Traditional Overlay
- Solid Overlay
- Subtract Contours
- Add Contours
- 1D Overlay

In the Traditional Overlay and 1D Overlay views, users can **click & drag** to move the spray contours separate from one another.


Spray Comparison Tool Window

9. Software Preferences

The Spray Preferences window is used to customize different aspects of the software, such as:

- The number of frames to process on an imported video (default 100 frames)
- The video processing method (default frame averaging)
- The acceptable percent differences between the sprays in the **Spray Comparison Tool** (default 10%)
- The names of the sprays in the **Spray Comparison Tool**
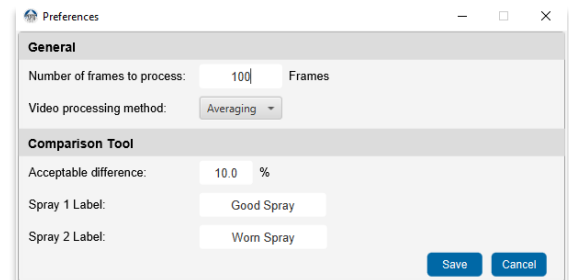
Preferences Window

8. Example Data

Example images and text files can be found in the folder: *C:\Users\(User Account)\Documents\SprayScan_mPT\Examples*

spray.analysis@spray.com

Spraying Systems Co.®