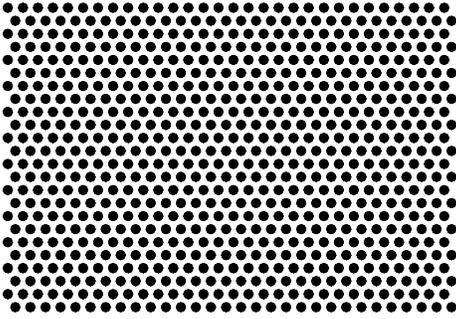
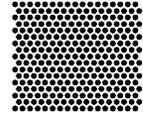
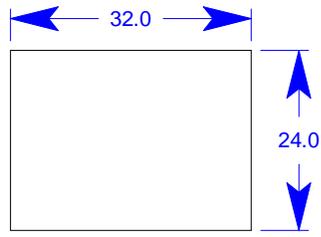


2.0 mm Pitch 1.2mm DIA at 1:1



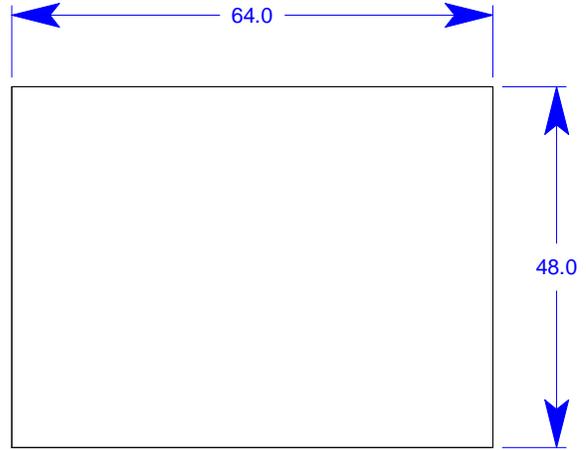
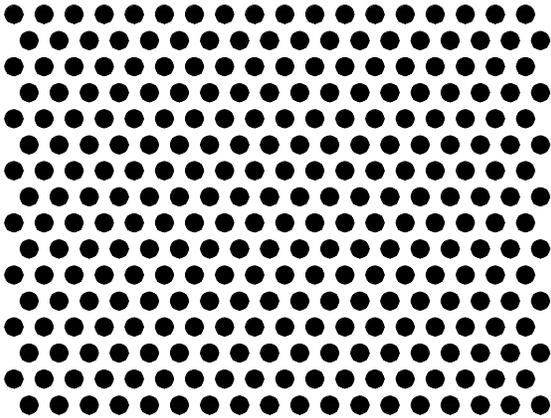
2.0 mm Pitch 1.2mm DIA at 1:1



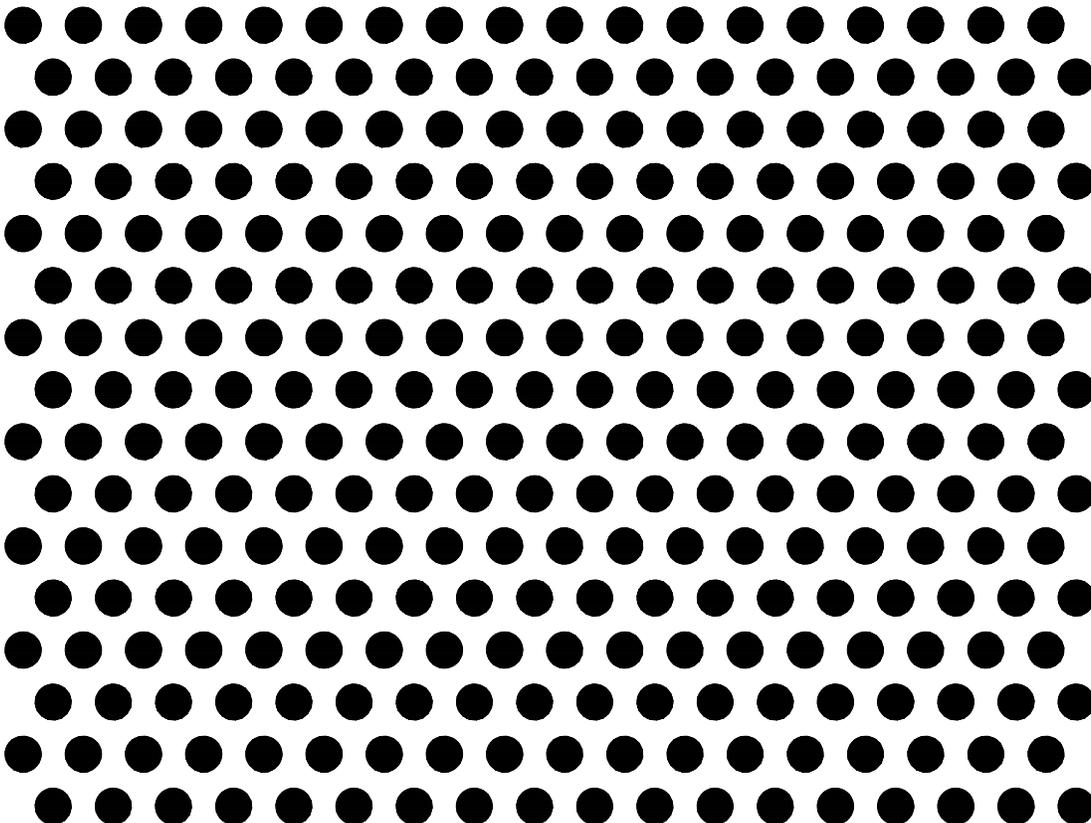
1.0 mm Pitch
0.6mm DIA 1:1

4.0 mm Pitch 2.4 mm DIA at 1:1

4.0 mm Pitch 2.4 mm DIA at 1:1



8.0 mm Pitch 4.8 mm DIA



Calibration Target – 1, 2, 4, and 8 mm

How to print and validate the calibration target

1. Print the target document on a printer with a minimum of 600 dots per inch (dpi) resolution.
2. To verify that the target printed correctly without distortion, measure the two rectangles toward the upper right on the target. The measurements should correspond to those shown.
3. If the measurements are not correct, check the printer settings or reprint the document on a different printer.
4. To make the target more permanent, you can glue it to a stiff piece of material such as light cardboard or foamcore board. Be sure that the target lies flat and smooth on the material.

How to calibrate the camera

(For more detailed instructions, refer to the IMPACT Reference Guide (PPT Publication 843-0093).)

1. Open VPM, click the Utilities tab, then click the Camera Calibration tab.
2. Select From Target from the Calibrate drop-down.
3. Be sure that the camera is mounted securely. Place the printed target in front of the camera.
4. Click the Live button. Be sure that the target is fully included in the field of view and that it is well lit. Calibration will be more accurate if the target image fills the image window.
5. Move the target left, right, up, or down as necessary until the yellow crosshairs in the image window are centered as much as possible on the center dot of the calibration image. When the target is placed correctly, focus the camera so that the target dots are clear and sharp.
6. Click the Snap button.
7. Type the dot pitch measurement into the Target Pitch (units) field. This measurement is indicated on the target.
8. Select the Target Dot Pattern type - Hexagonal.
9. Click the Calibrate button.

The Scale Factor (in Units per Pixel) is displayed when the calibration is complete. Scale Factor is the number of pixels in the image window per "real world" unit on the target. This value will be used to automatically calibrate measurements in VPM tools with the physical dimensions of the image.