

SCORPION STINGER 2D CALIBRATION GRIDS

SCOPE

Scorpion Stinger™ is a family of machine vision components and products. They provide building blocks for OEM and system integrators.

The Scorpion 2D calibration grids are used to do 2D and 3D calibration. Proper calibration is required for sub-pixel measurement thus accurate 3D machine vision. The location target dots with smaller and larger diameter have a small target circle. They are added for efficient 2D and 3D Robot Calibration.

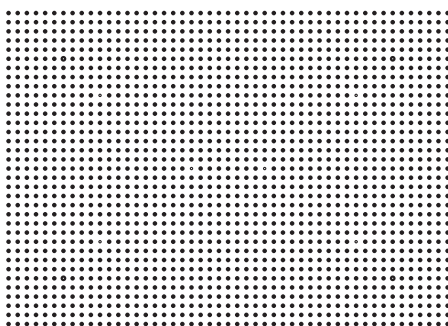
The Scorpion Vision Software installer provides sample profiles showing best practice for 2D Calibration - both manual calibration and automatic calibration.

Methods for automatic validation of calibration results are also available using Scorpion Vision Software.

2D CALIBRATION GRIDS

The article 90-808 calibration grid is available in four sizes: A5, A4, A2 and A0. They provide 2D calibration grids for Scorpion Vision systems.

2D CALIBRATION GRID A5 ART.NO 90-808-A5



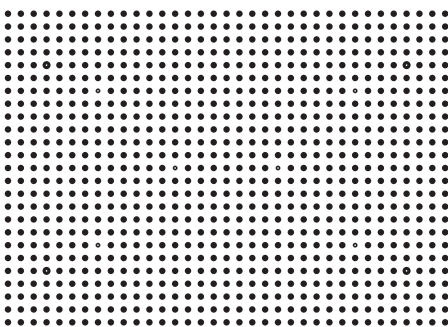
SIZE
A5 - 210 x 148 mm

NUMBER OF DOTS
49 x 35

DOT SIZES

- diameter 2mm
- small dot diameter 1,5mm
- big dot diameter 2,5mm
- white center diameter 0,5mm
- distance between dot centers 4mm

2D CALIBRATION GRID A4 ART.NO 90-808-A4



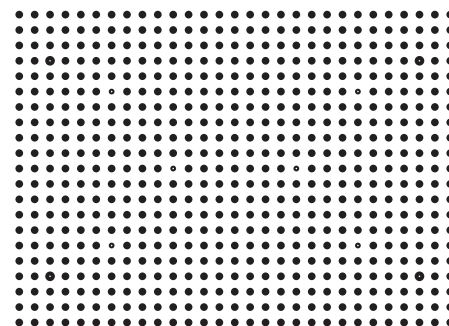
SIZE
A4 - 297 x 210 mm

NUMBER OF DOTS
35 x 25

DOT SIZES

- diameter 4mm
- small dot diameter 3mm
- big dot diameter 5mm
- white center diameter 1mm
- distance between dot centers 8mm

2D CALIBRATION GRID A2 ART.NO 90-808-A2



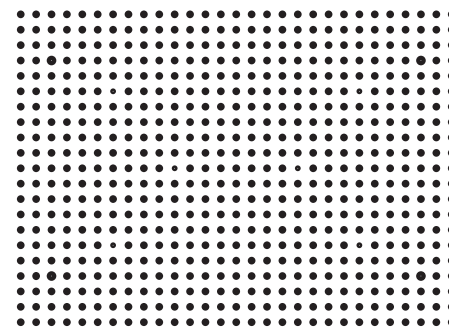
SIZE
A2 - 594 x 420 mm

NUMBER OF DOTS
29 x 21

DOT SIZES

- diameter 10mm
- small dot diameter 7,5mm
- big dot diameter 12,5mm
- white center diameter 2mm
- distance between dot centers 20mm

2D CALIBRATION GRID A0 ART.NO 90-808-A0



SIZE
A0 - 1189 x 841 mm

NUMBER OF DOTS
29 x 21

DOT SIZES

- diameter 20mm
- small dot diameter 15mm
- big dot diameter 25mm
- white center diameter 2mm
- distance between dot centers 40mm

For more information:

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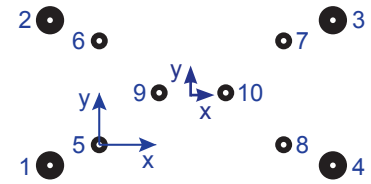
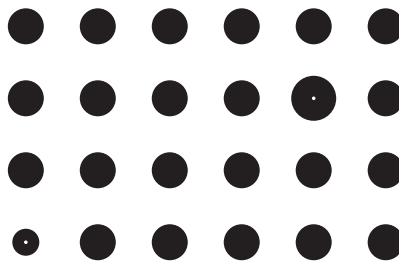


2D CALIBRATION GRID PATTERN

The special pattern of smaller and bigger dots are designed for efficient and automatic 2D and 3D Robot Calibration.

Each calibration grid has a given pattern of smaller and bigger dots with white centers included between the uniform dots in the grid.

The smaller and bigger dots constituting the pattern are numbered as seen in the image. The dot coordinates for each grid size are given in a table below. The origo is defined as the center of dot number 5 or in the center point of the grid.



2D Calibration grid details; small and big dots with white center in a given pattern.

2D Calibration grid pattern with dot numbering.

2D CALIBRATION GRID SPECIFICATION

	CALIBRATION GRID A5	CALIBRATION GRID A4	CALIBRATION GRID A2	CALIBRATION GRID A0				
Article number	90-808-A5	90-808-A4	90-808-A2	90-808-A0				
Size	210 x 148 mm	297 x 210 mm	594 x 420 mm	1189 x 841 mm				
Number of dots	49 x 35	35 x 25	29 x 21	29 x 21				
Dot diameter normal, small, big, white center	2mm, 1,5mm, 2,5mm, 0,5mm	4mm, 3mm, 5mm, 1mm	10mm, 7,5mm, 12,5mm, 2mm	20mm, 15mm, 25mm, 2mm				
Distance between dot centers	4mm	8mm	20mm	40mm				
DOT PATTERN COORDINATES (x, y) IN MM								
Dot number	Origo dot 5	Origo center	Origo dot 5	Origo center	Origo dot 5	Origo center	Origo dot 5	Origo center
1	-16, -16	-72, -48	-32, -16	-112, -64	-80, -40	-240, -140	-160, -80	-480, -280
2	-16, 80	-72, 48	-32, 112	-112, 64	-80, 240	-240, 140	-160, 480	-480, 280
3	128, 80	72, 48	192, 112	112, 64	400, 240	240, 140	800, 480	480, 280
4	128, -16	72, -48	192, -16	112, -64	400, -40	240, -140	800, -80	480, -280
5	0, 0	-56, -32	0, 0	-80, -48	0, 0	-160, -100	0, 0	-320, -200
6	0, 64	-56, 32	0, 96	-80, 48	0, 200	-160, 100	0, 400	-320, 200
7	112, 64	56, 32	160, 96	80, 48	320, 200	160, 100	640, 400	320, 200
8	112, 0	56, -32	160, 0	80, -48	320, 0	160, -100	640, 0	320, -200
9	40, 32	-16, 0	48, 48	-32, 0	80, 100	-80, 0	160, 200	-160, 0
10	72, 32	16, 0	112, 48	32, 0	240, 100	80, 0	480, 200	160, 0