

PROPixx Lens Selection Report

This is an example. Generated March 26th, 2025 by L. Fraser for illustrative purposes.

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General information

Each PROPixx is fitted with a lens chosen to produce the desired image width (IW) at the desired throw distance (TD). The PROPixx produces a 16:9 image, and the TD is the distance measured from the front of the projector to the screen. The throw ratio (TR) characterizes the correct lens for your application where $TR = TD/IW$

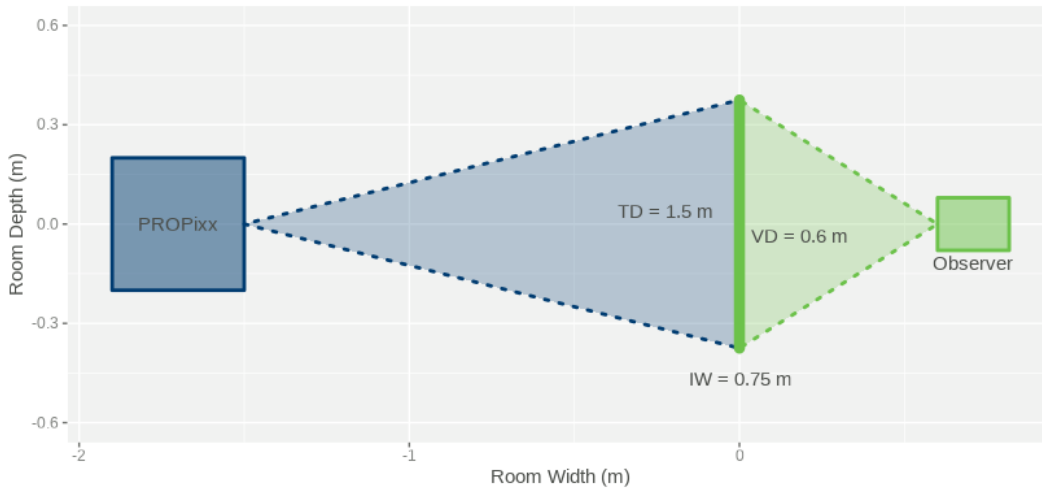
To learn more about the principles of PROPixx configurations and projection geometry, please see the following guide on the VPixx Online Classroom and Library:
https://vpixx.com/vocal/propixx_geometry_configuration/

Projection Geometry Requirements and Room Layout

When the PROPixx projector is installed 1.5 m from the screen with a throw ratio value of 2, it will project an image measuring 0.75 m x 0.42 m.

This image size corresponds to the 16:9 aspect ratio of the PROPixx's native 1920 x 1080 p video format. If the participant is seated at 0.6 m from the screen, the achieved horizontal and vertical field of views are 64.01 and 38.74 dov.

Here is the corresponding layout, as seen from a top-down view:



The PROPixx projector can also display reduced resolution video modes. These video modes proportionally reduce the dimension of the projected image. These are the corresponding image dimensions:

	Image Width (m)	Image Height (m)	Horizontal FOV (deg)	Vertical FOV (deg)
1920 x 1080 (16:9)	0.75	0.42	64.01	38.74
1280 x 720 (16:9)	0.50	0.28	45.24	26.38
1280 x 1024 (5:4)	0.50	0.40	45.24	36.87
1024 x 768 (4:3)	0.40	0.30	36.87	28.07

Lens Selection

We recommend the lens VPX-ACC-6503 with a theoretical throw ratio range of 1.85 to 2.4 .

Theoretical image sizes that can be achieved at the target throw distance TD = 1.5 m

	Image Width (m)	Image Height (m)
TRmax =2.4	0.62	0.35
TRtarget =2	0.75	0.42
TRmin =1.85	0.81	0.46

Note that it is important to confirm with a Staff Scientist that these image sizes can be achieved in practice.