

Selecting the Right Screen

DRAPER manufactures the finest and most complete line of projection screens in the world. We want to help you incorporate these screens into the most effective presentation systems. Planning a projection system involves several steps: choosing the screen size, viewing surface, screen model and control system if required. We've provided detailed recommendations to help with these important decisions.

Projection Screen Size Selection

One of the most important decisions in screen selection is to determine the correct size of screen based upon—

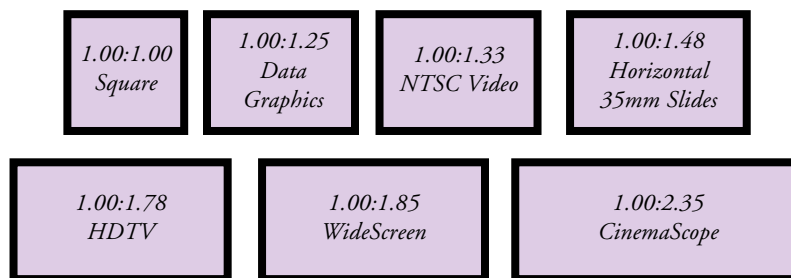
1. The dimensions of the audience area.
2. The projection format, or formats, to be used.

Other key considerations—

- **Audience Area**—The goal is to make the screen large enough so those in the back row can read the subject matter easily, but not so large as to overwhelm the closest viewer.
- **Height**—Use the following formulas for calculating screen height for maximum legibility. For 3:4 moving video and entertainment, screen height should be at least $\frac{1}{6}$ the distance from the screen to the furthest seat; for charts and data, as in a conference or lecture room, use $\frac{1}{4}$; for complex graphics found in command/control center, use $\frac{1}{2}$. For HDTV projection, screen height should equal or exceed $\frac{1}{3}$ the distance from the screen to the optimum seat.
- **Width**—Screen width is generally determined by the height of the screen and the projection formats to be used.
- **Ceiling Height**—The bottom of the screen should be approximately 40-48" above the floor in a room with a level floor and several rows of seats. In rooms with theatre seating or only one or two rows, the bottom of the screen should usually be 24-36" above the floor. Evaluate any barriers, and try to make sure that the lower part of the screen will be visible from all seats. Extra drop may be required to position the screen at a comfortable viewing level in a room with a high ceiling.
- **Projection Format**—Once you have determined the correct size of screen based upon the audience area, that size may be modified based upon the projection equipment. If the screen will only be used with one type of projector (NTSC video, HDTV, etc.), it is easy to determine the exact screen dimensions based upon its projection format.

Common Projection Formats (H:W)

Note: Vertical presentation of a slide reverses its aspect ratio. To allow this, use a 1.00:1.00 aspect ratio for any type slide.



Most models of DRAPER screens are offered in both audio visual and 3:4 NTSC video formats. Many models are also offered in HDTV and WideScreen formats. The differences between these formats are described below. We are glad to provide any DRAPER screen in the size and projection format of your choice, up to and including the largest published size.

Audio visual (or AV) format screens accommodate a variety of projector types and range from square to wide horizontal in aspect ratio. AV format screens are described in terms of height x width, and are standardly furnished without black borders, although borders are optionally available. Screens with TAB TENSIONING SYSTEM always include black borders.

NTSC video format screens, on the other hand, are specifically designed for use with video/data projectors. Their format is strictly defined as a 3:4 rectangle, and the size is usually described in terms of a nominal diagonal. Conventional models of NTSC format screens are standardly furnished with black borders to frame the image on all four sides. Tab-tensioned screens are standardly furnished with black borders at the sides and bottom; black masking at the top is optionally available. HDTV format (9 high by 16 wide) is designed for high-definition television projection, and WideScreen format (1:1.85) is suitable for letterboxed video images. Data graphics format (4:5) projectors more accurately reproduce the image from a 1024 x 1280 pixel computer screen. Data graphics format screens are available in any model by quotation.

How to Calculate a Custom Size

DRAPER also manufactures custom size screens to meet your specification. Virtually any size up to the maximum shown for a given model is available. If you need to calculate a custom size, these formulas may be useful (D = exact diagonal; H = viewing area height; W = viewing area width):

3:4 NTSC Video	9:16 HDTV	1:1.85 WideScreen	1:2.35 CinemaScope	4:5 Data Graphics
H = D x .6	H = D x .49	H = D x .4762	H = D x .3915	H = D x .625
W = D x .8	W = D x .87146	W = D x .881	W = D x .92	W = D x .781
D = H x 1.667	D = H x 2.04	D = H x 2.1	D = H x 2.554	D = H x 1.601
D = W x 1.25	D = W x 1.1475	D = W x 1.135	D = W x 1.0868	D = W x 1.281