

Screens for Worship Facilities

ONE QUESTION WE hear a lot at Draper is, “What screen should I use?” Unfortunately, the answer is, “it depends!”

We also get a lot of other questions which vary according to the type of venue we are talking about. Below are some of the most frequently asked questions we get from people looking for information on screens for worship facilities (with answers provided, of course!).

What do I need to think about when planning for a projection screen?

There are several questions you need to address. What should be the proper size of the screen for the size of the church? Seating arrangement and floor to ceiling height may affect this. Also, what is the layout of the church? Where can the projector be mounted? What type of surface is best suited for the lighting? What kind of content will be projected onto the screen?

Another question to ask is, “Where do I want to use projection?” Many churches are just using screens for the major weekly worship services, but might want to consider how projection can be used for fairly large gatherings that may be in alternate or changing locations. Draper’s large portable folding screens—including the FocalPoint[®], Ultimate Folding Screen, or



Targa (above) and Edgeless Clarion (lower left) projection screens installed in First United Methodist Church in New Castle, Indiana.

StageScreen[®]--are perfect solutions for such needs.

There seem to be so many technical terms relating to projection screens. What do they mean?

Gain is a relative measure of a screen’s reflectivity. Gain is a measure of brightness as compared to a block of magnesium carbonate, which serves as a standard for gain of 1.0. Gain is the statistic most frequently cited and charted to compare projection screen surfaces. A gain chart can also help in judging uniformity. The flatter the curve in the area where viewers are seated, the more consistent the image they will perceive.

Contrast is the surface’s ability to accurately reproduce and differentiate light and dark characters and backgrounds, or light and dark areas of an image. A front-projected image is created by a pattern of light on a light-colored surface. Naturally, the white areas are generally very bright. The dark areas, on the other hand, are simply the absence of projected light on a light-colored background—not solid dark objects like the opaque inks we see on a printed page.

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A projection screen that preserves strong dark tones actually makes the light-colored areas look brighter by comparison.

Ambient light is the light present in the room where the image is projected. A projection screen that rejects ambient light will retain better dark areas when the lights are on in the audience area—hence it will have better contrast under those conditions. This quality is very important for situations where the audience members are active participants in the presentation, or where the speaker wishes to move through the audience area, and whenever notes are likely to be taken.

Resolution is the clarity of the projected image. Resolution obviously depends primarily on the projector's output, but the smoother the projection surface, the less likely it is to create a distracting moiré pattern when a high-resolution video or data image is projected on it.

Uniformity refers to the consistency of the screen's performance when viewed from various points off the projection axis (both horizontally and vertically), and when the brightness of the center of the image is compared to the corners. Typically screens with low gain, or brightness, provide the most uniform images.

Projection format refers to the screen's size and shape. This depends on height and width of the projected image. 4:3, 16:9 and CinemaScope are the main formats for projecting video. Computer power point may mean that 16:10 is the best way to go.

How can I figure out what size I'll need?

Base off of room size, ceiling height, and type of screen preferred—roll down, fixed or rear projection. Consider its use—is it primarily for power point presentations, hymn lyrics, or video? One mistake we see involves screen size in comparison to font size. You have to consider how the screen is going to be used. Many times it is to use for projecting song lyrics and other text. You need to consider the legibility of the text—make sure it can be easily read from the last seat. If video is the primary content, then you have to place more importance on those distant seats, as opposed to the optimum seat locations.



Multiple screens allow good views no matter where the worshipper is seated in large facilities, such as The Rock in Anaheim, California.

While we're on the subject of screen size, also consider having more than one screen in sanctuaries or other large rooms. This might allow you to better reach everyone in the room, and might allow for smaller screens.

Should we use front or rear projection?

For new construction, or renovations where dedicated space for a rear projection room is possible—rear projection is ideal, because there are no ambient light issues. However, brighter projectors, controlled ambient lighting, and premium projection screen viewing surfaces designed for specific kinds of situations, such as Draper TecVision™ surfaces, have made front projection a more popular and viable option.

This sounds a bit complicated. Isn't it really just a case of shining a light on the wall? Or do I need to bring in a professional to help?

While anyone can plan and implement projection strategies, we always recommend bringing in a professional—an AV consultant or dealer. They have the experience to see potential problems and come up with the best and most cost-effective solutions. Nowadays, churches do seem to be more likely to bring in professionals for specifications and installations. But industry pros can also help with choosing the proper AV equipment for breakout rooms, Sunday school classrooms, and other locations. They know when it's best to use a folding screen, fixed pull down screen, or interactive screen like the Scribe™.