

FX Series Selection & Array Sizing Guide

All Zomeworks fixed racks and trackers are sized according to the total module area.

$$\text{Length[ft]} \times \text{Width[ft]} \times \text{No. of Modules} = \text{Total Area [sq.ft]}$$

Or, for dimensions in inches:

$$\text{Length[in]} \times \text{Width[in]} \times \text{No. of Modules} \div 144 = \text{Total Area [sq.ft]}$$

Choose a gimbal size with the Maximum Module Area greater than or equal to the total area of the modules to be mounted. The names roughly correlate to maximum module area in square feet.

MODEL (Gimbal)	Maximum Module Area	Pole Dia. (Nominal)	Maximum Crossbar Width	Maximum Rail Length
FX2	20 square feet	2ö	55ö (4 ft 7ö)	117ö (9 ft 9ö)
FX3	30 square feet	3ö	55ö (4 ft 7ö)	117ö (9 ft 9ö)
FX4	45 square feet	4ö	120ö (10 ft)	117ö (9 ft 9ö)
FX6	65 square feet	6ö	120ö (10 ft)	117ö (9 ft 9ö)
FXL-090	90 square feet	6ö	144ö (12 ft)	180ö (15 ft)
FXL-120	120 square feet	6ö	144ö (12 ft)	192ö (16 ft)
FXL-168	168 square feet	8ö	144ö (12 ft)	192ö (16 ft)

The area capacity of a rack is driven mainly by wind load considerations, and is based largely on the bending strength of the steel pole and gimbal. Within this area limit, various array shapes are possible, but the maximum area is a limit that must not be exceeded.

It is important to note that while racks have a max crossbar width and max rail length, both maximums cannot be used at the same time. Doing so may exceed the module area limit. We can make an array tall and narrow, or we can make it short and wide. But, we *cannot* make it both tall and wide at the same time, even if both crossbar width and rail length are within their individual limits. The area limit takes precedence over the length limits. If using full width & length together will mount enough modules to exceed the area limit, then choose the next larger model.

Crossbar Size is determined by the spacing of the module mounting holes. There are two different ways of specifying mounting hole location: **distance apart**, or **distance from ends** (from the end of the module). The cross bar does not need to extend to the end of the modules, it only needs to reach far enough to set the rails under the outermost mounting holes.

For the FX2 and FX3, there will only be one column of modules, usually in Landscape, with rails running vertically. Choose a crossbar that fits the **distance apart** of the mounting holes.

For the FX4 and FX6 (arrays with more than one column of modules), choose crossbar width by the total width all modules, minus 2 X the mounting hole **distance from ends**, plus 2ö to accommodate mounting brackets.

Rail Length is simply the total length of modules, accounting for Landscape or Portrait orientation, plus ¼ö space between modules, plus ¼ö at each end. Round up to next whole inch. (The presence or absence of spacing between modules has negligible effect on wind loading, and may be ignored for purposes of module area calculations.)

Note: Nominal sizes of poles are not exact to their names, due to wall thickness and industry naming conventions for önominalö sizes. For convenience, we refer to a gimbal that fits on a Nominal 6-inch pole as a ö6-inch gimbalö (even though neither the pole nor the gimbal is exactly 6 inches).