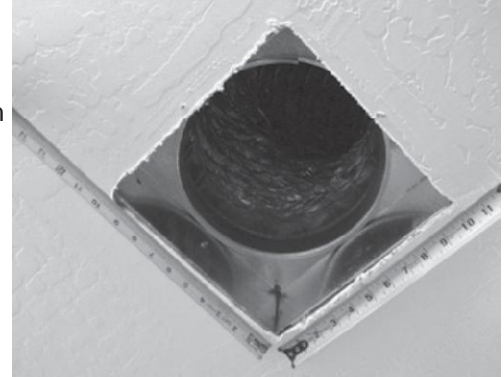




## HOW TO MEASURE

1. If possible, remove the existing register or grille.
2. Accurately measure the actual opening in the wall, ceiling or floor - width followed by height. (Example: If the rough opening measures 20-inches wide by 14-inches high, the correct size piece to order is 20"x14")
3. The register or grille's interior dimensions **are designed** slightly smaller, so the piece's frame and damper assembly fit into the duct opening.
4. The register or grille's outer framed dimension, or flange, will be larger. This ensures the flange fits flush on the finished surface and completely covers the rough opening. The outer flange may also have various screw holes to securely attach the register or grille to the surface.
5. Before installing the register or grille, paint the interior of the opening with flat black paint for a clean finished look.



## HOW TO ACHIEVE "THE PERFECT FIT"

### General Overview

- Pattern direction is dictated by stated opening size. Width then Height
- Pattern size is always  $\frac{3}{4}$ " smaller than stated register size, e.g. 12"x4" = 11.25" x 3.25"
- Standard mounting screw size #8 x 1  $\frac{3}{4}$ " and are counter sunk into the face of the register
- Frame on the back has an outside dimension size that is  $\frac{3}{8}$ " smaller than stated size overall, e.g. 14"x6" is 13  $\frac{5}{8}$ " x 5  $\frac{5}{8}$ " frame OD
- Frames are:
  - $\frac{3}{4}$ " deep without a damper
  - 2  $\frac{1}{4}$ " deep with damper
- Flange is the area between the pattern and the outer edge of the part, all flanges are 1" outside the **duct opening**, and 1  $\frac{3}{8}$ " outside the pattern.

### RAFF's (Filtered Cold air return)

- 2  $\frac{1}{4}$ " deep and match stated opening size **exactly**
- Duct opening sizes are typically oversized by the builder, as much as  $\frac{1}{2}$ "
- RAFF's are built to open according to size, e.g. 40" x 20" will hinge along the 40" side.
- All RAFF's come with a black fiber washable filter.