

## DesignFlo - Installed after Hard Ceiling Installation

### **(For DFL Frame Style FF ordered with Concealed Fastening Only)**

Krueger's DesignFlo linear diffusers with concealed mounting are designed to be installed after the ceiling installation. Figure 1 below summarizes the steps required to install a DesignFlo diffuser system after the hard ceiling installation.

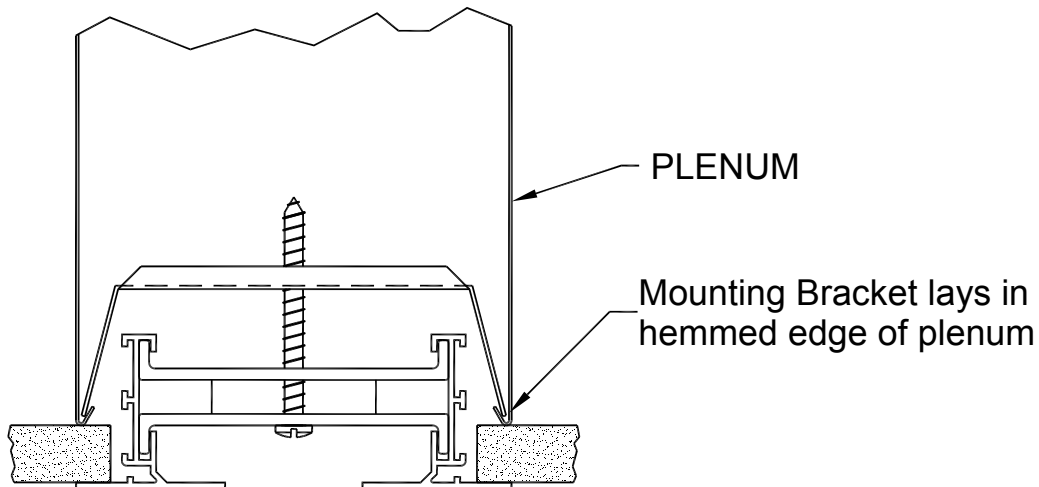


Figure 1. Installed DesignFlo in a Hard Ceiling application

### **Summary of Steps to Install DesignFlo with a Hard Ceiling**

[STEP 1. Plenum Installation](#)

[STEP 2. Damper Installation \(if required\)](#)

[STEP 3. Hard Ceiling Installation](#)

[STEP 4. Concealed Mounting Bracket Installation](#)

[STEP 5. Diffuser Installation](#)

## STEP 1. Plenum Installation.

**NOTE:** If there is no access above the ceiling, the plenum will need to be mounted before the ceiling is installed.

- Install Krueger DesignFlo Plenum (DFP) by securing with hanger wire to the ceiling above.
  - Alternate Method: Attach plenum to a framed out opening
- If a non-factory plenum is being provided, a hemmed edge is required at the bottom edges to properly attach the concealed mounting bracket(s).
- If using an inlet damper proceed to Step 2, otherwise attach ductwork to the plenum and proceed to Step 3.

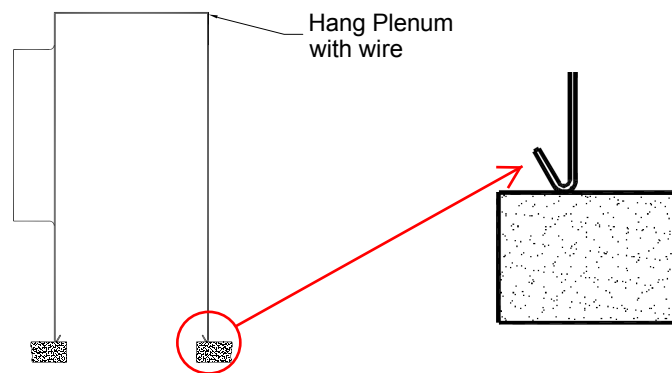


Figure 2. Installation of DesignFlo Plenum & Hemmed Edge Detail

## STEP 2. Damper Installation (if required).

- Attach the inlet damper assembly to the inlet collar. Position the lever inside the plenum on the bottom of the inlet collar.
- Install the inlet duct on the plenum inlet collar using the methods prescribed by the sheet metal specification.
- Note: inlet damper adds 6" to inlet depth

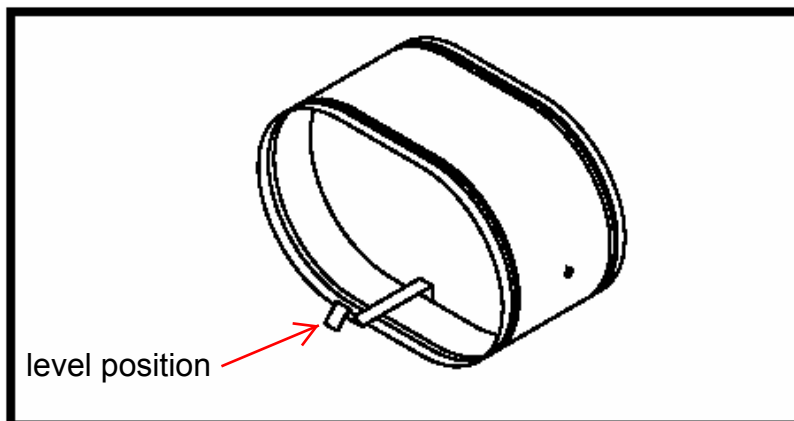


Figure 3. View of Inlet Damper

**STEP 3. Hard Ceiling Installation.**

- The ceiling contractor can now install the hard ceiling and finish the ceiling surface.
- The width of the ceiling opening depends on the DesignFlo being installed. The ceiling opening widths, dimension 'O', are listed in Table 1.

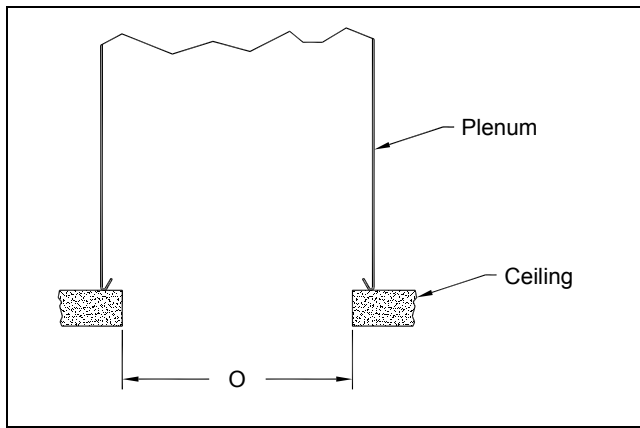


Figure 4. Ceiling Opening Widths

Ceiling Opening Width "O"		
DesignFlo Model	1-Slot	2-Slot 2NV & 2WV
DFL10	3"	5 1/2"
DFL15	4"	7 1/2"
DFL20	5"	9 1/2"
DFL25	6"	11 1/2"
DFL30	7"	13 1/2"

Table1. Ceiling Opening Widths

Please note that the width provided in Table 1 is **not the actual width of the DesignFlo Diffuser**. For the width of the diffuser refer to the DesignFlo submittal below:

<https://www.krueger-hvac.com/file/6308/GC0110-8.PDF>

#### STEP 4. Concealed Mounting Bracket Installation.

- Concealed Mounting Brackets are shipped loose for field attachment to the DesignFlo diffuser.
- Position the brackets at a maximum of 24" intervals along the diffuser.
- Insert the #10 x 2 ½" screw (provided by Krueger) into the spacer of the diffuser through the face. The spacer has a hole drilled in the center.
- Loosely fasten the screw to the concealed mounting bracket.

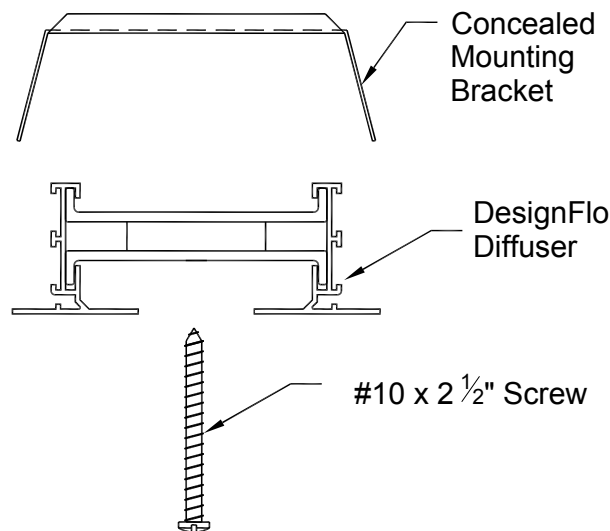


Figure 5. Concealed Mounting Components

**STEP 5. Diffuser Installation.**

- Lift the DesignFlo diffuser into the ceiling opening. The concealed mounting bracket will snap into the hemmed edges of the plenum. (You have to push on the screw head to get the concealed mounting bracket to snap in).
- Tighten the screw until the DFL is tight against the ceiling; make sure that the ceiling opening is covered by the flanges of the diffuser.
- If multiple sections of DesignFlo are required, repeat previous step by lifting additional sections into the ceiling opening. Be sure to insert Spline Support Clips (SS clips) into the DesignFlo butt-cut ends to ensure a tight and aligned connection as shown in Figure 6.

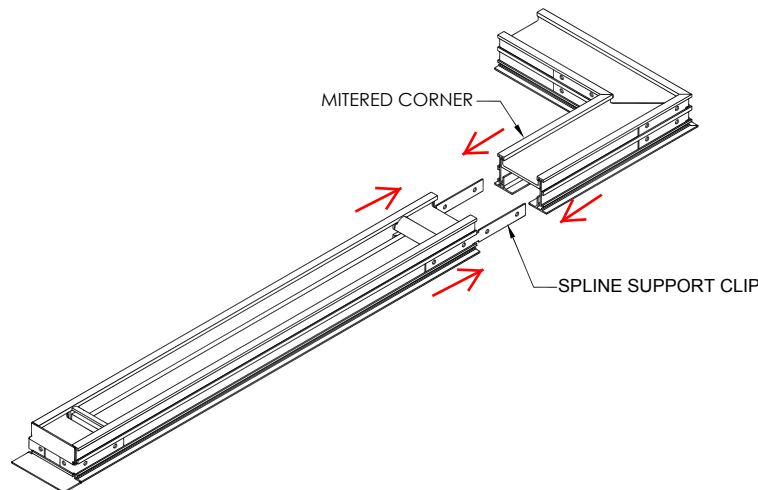


Figure 6. Connecting segments

- Figure 7 depicts the finished installation of the diffuser and plenum in the hard ceiling.

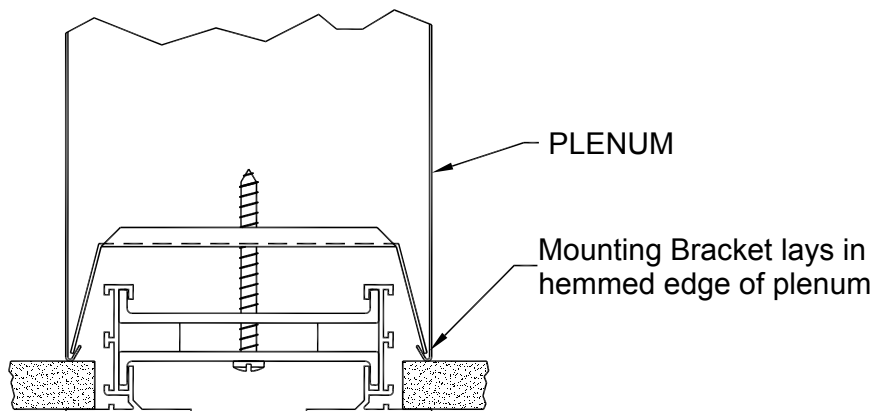


Figure 7. Finished Installation of Diffuser in Ceiling