

## APPLICATION

Most building codes require a certain amount of fresh air to overcome the effects of CO<sub>2</sub> during times when the space is occupied. Use of fresh air dampers on HVAC equipment is an inexpensive way to allow fresh air into the building. McDaniel Metals offers both a manual and motorized fresh air damper to fit Daikin light commercial packaged equipment. The manual fresh air damper is installed and fixed in place to allow a certain amount of fresh air to circulate at all times. The motorized fresh air damper includes a small two position actuator that opens the damper when the indoor blower is running and closes the damper when the blower turns off.

## MANUAL FRESH AIR DAMPER INSTALLATION

1. Remove the damper assembly from its container and inspect for damage or shortages
2. Locate and remove the filter access panel and evaporator access panel below it.
3. Attach the damper panel in place of the evaporator access panel with the screws removed in step 2.
4. Locate the 5/16 set screws at the bottom of the slide damper and loosen them.
5. Slide the damper down until the damper is positioned to provide the correct amount of fresh air. See 'DETERMINING DAMPER SET POINT' section for guidance.
6. Tighten the set screws.
7. Assemble the hood.
8. Use the screws provided to secure the hood to the damper.
9. Reinstall the filter access door.

## MOTORIZED FRESH AIR DAMPER INSTALLATION

1. Remove the damper assembly from its container and inspect for damage or shortages.
2. Locate and remove the filter access panel and evaporator access panel below it.
3. Attach the damper panel in place of the evaporator access panel with the screws removed in step 2.
4. Locate the 5/16 set screws at the bottom of the slide damper and loosen them.
5. Slide the damper down until the damper is positioned to provide the correct amount of fresh air. See 'DETERMINING DAMPER SET POINT' section for guidance.
6. Tighten the set screws.
7. Assemble the hood.
8. Use the screws provided to secure the hood to the damper.
9. Locate the economizer/damper harness in the evaporator section and remove the factory installed jumper and plug the male pin damper plug into the unit harness. **NOTE: Please leave the factory jumper with the unit should it be needed for future service.**
10. Reinstall the filter access door.

## DETERMINING DAMPER SET POINT

While it is possible to estimate the amount of fresh air by visually adjusting the manual fresh air damper, a more accurate determination can be made using a digital thermometer and the equation below.

$$(To \times OA) + (Tr \times RA) = Tm$$

To = Outdoor air temperature

OA= Percent of outdoor air

Tr = Return air temperature

RA= Percent of return air

Tm= Resulting mixed air temperature

Example:

Fresh air required is 10% outdoor air.

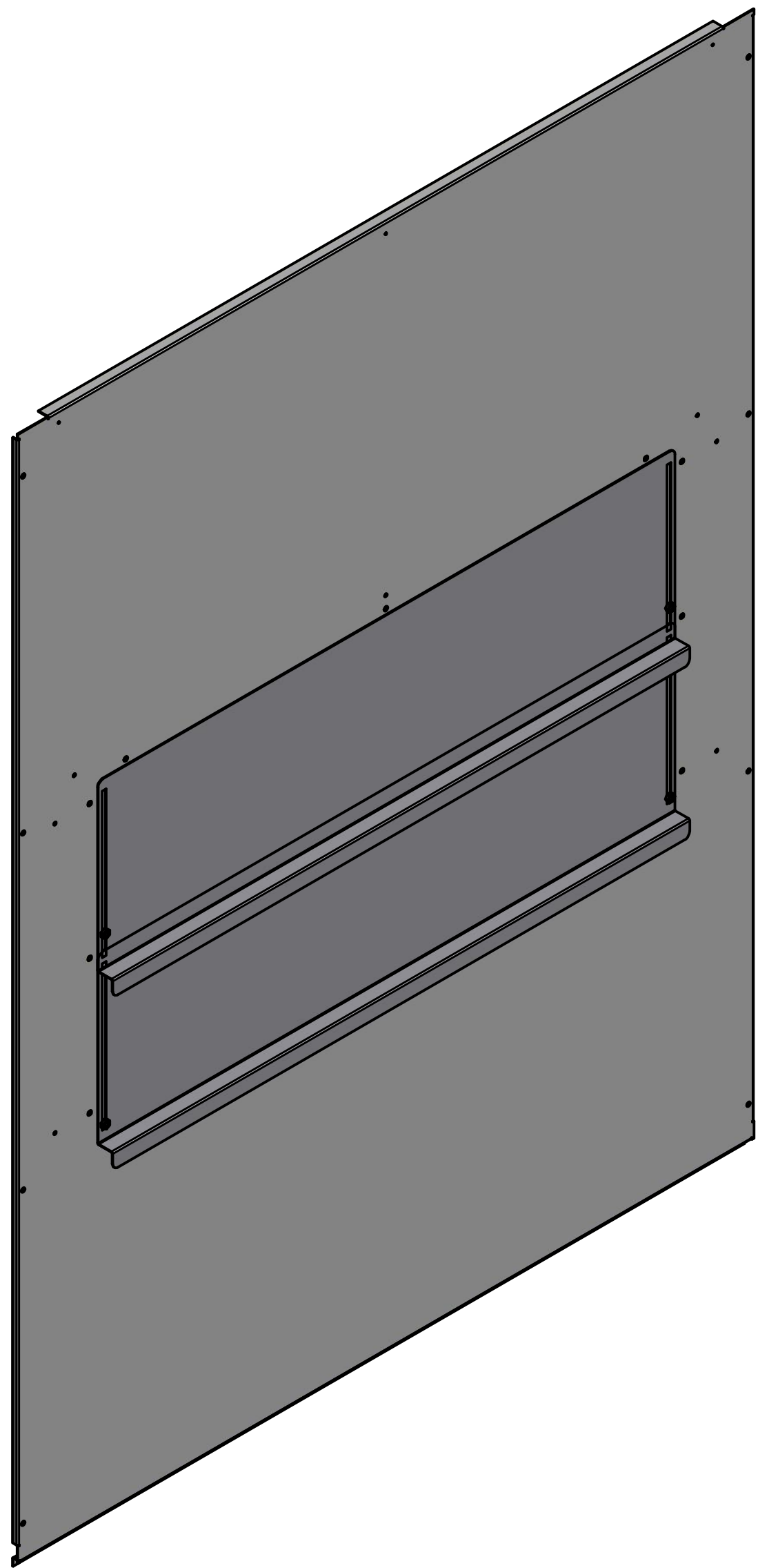
Outdoor air temperature is 60 degrees F.

Return air temperature is 75 degrees F.

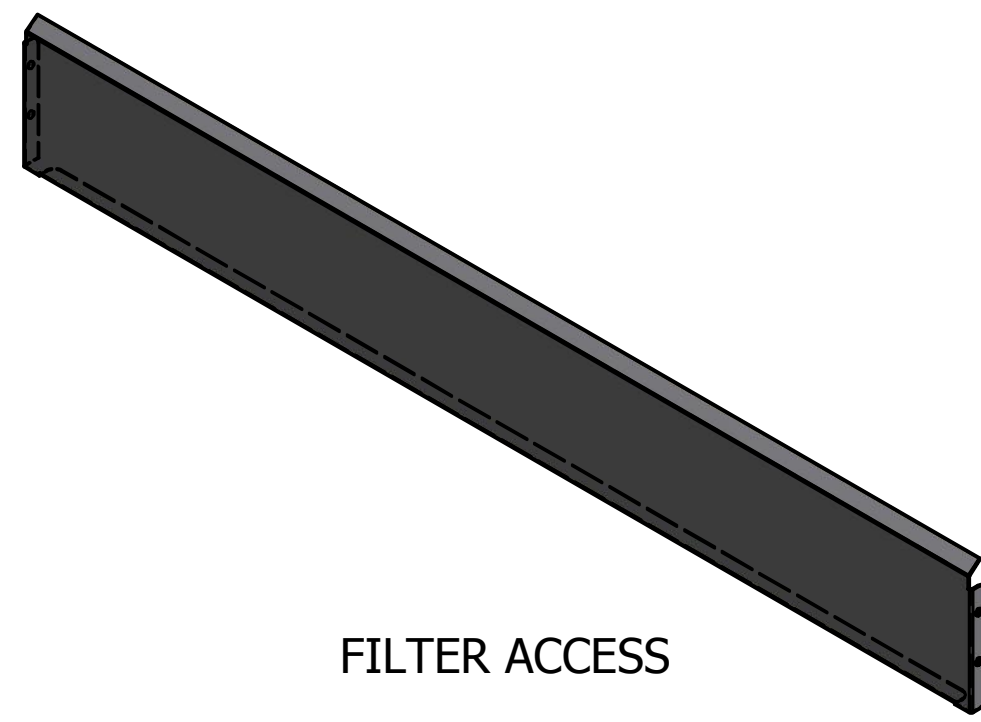
$$(0.1 \times 60) + (0.9 \times 75) =$$

$$6.0 + 67.5 = 73.5$$

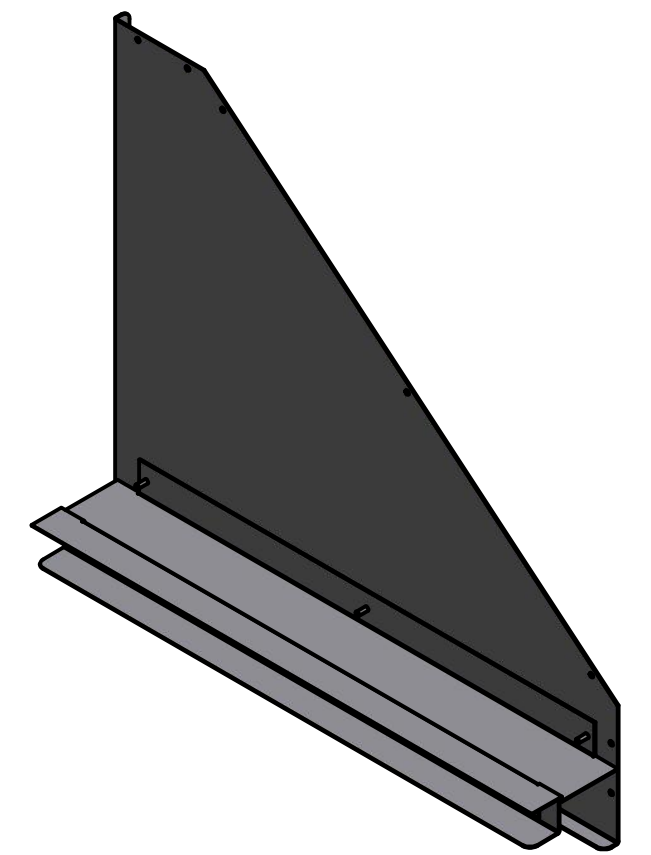
Mixed air temperature will be 73.5 degrees F when the OA is 60 degrees F and the RA is 75 degrees F with 10% outdoor air.



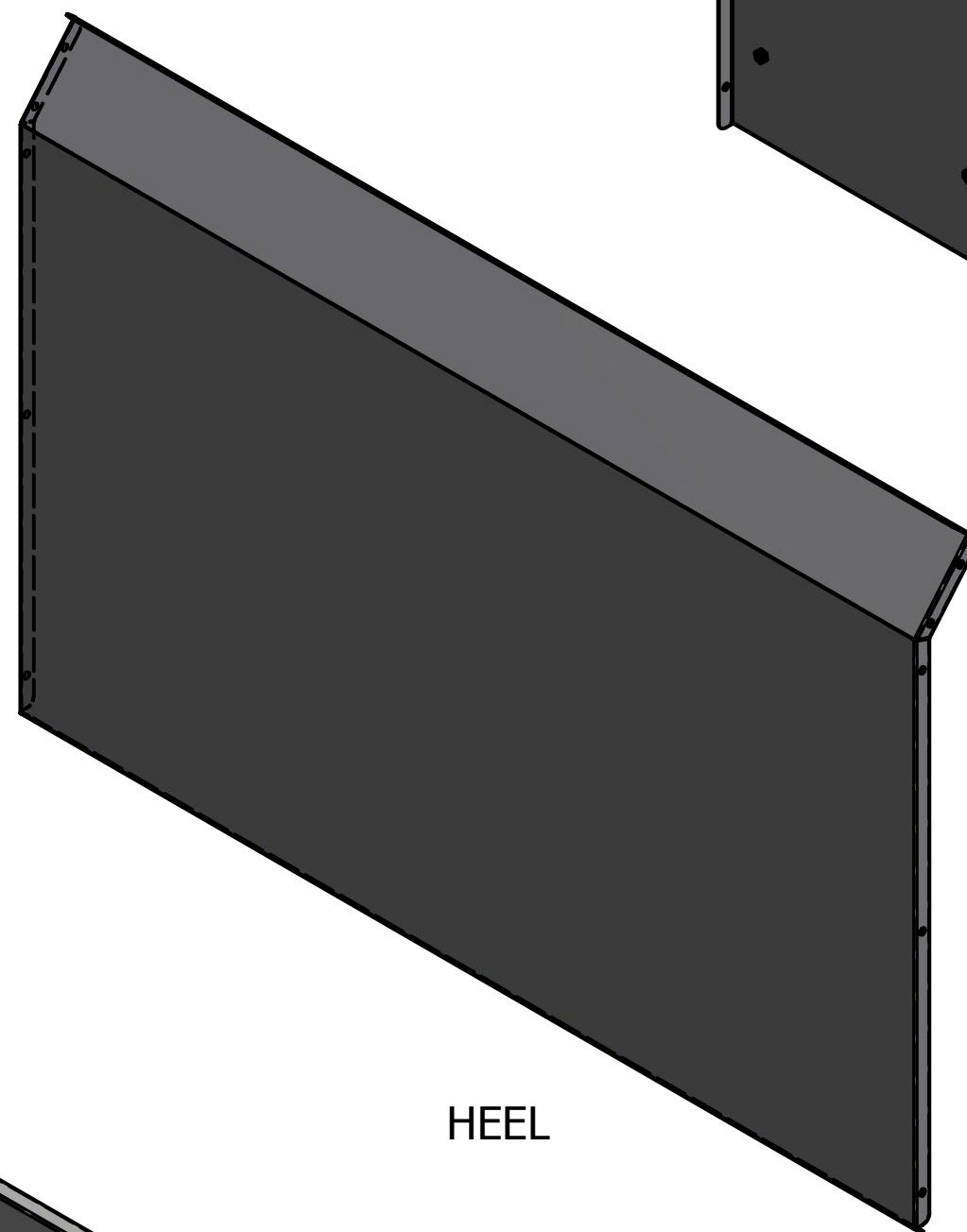
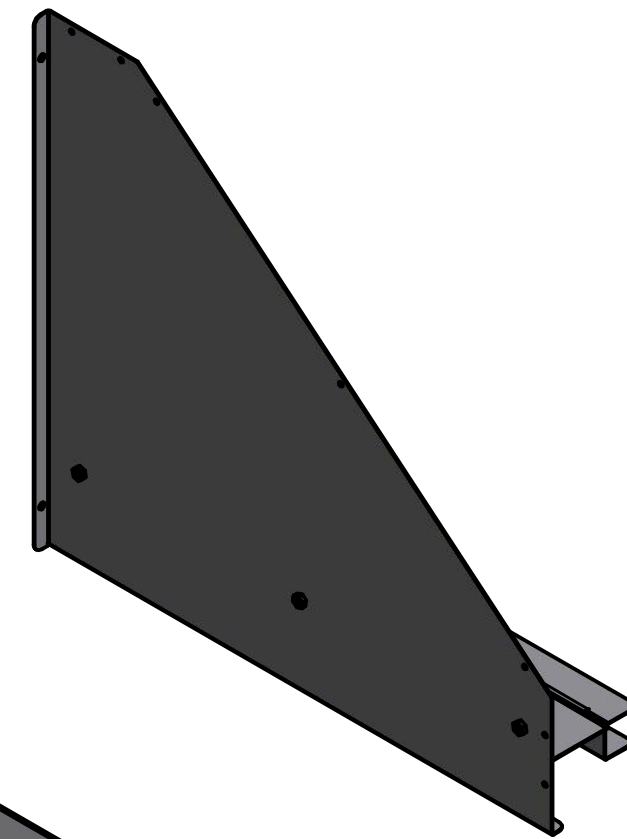
PANEL WITH DAMPER SLIDES



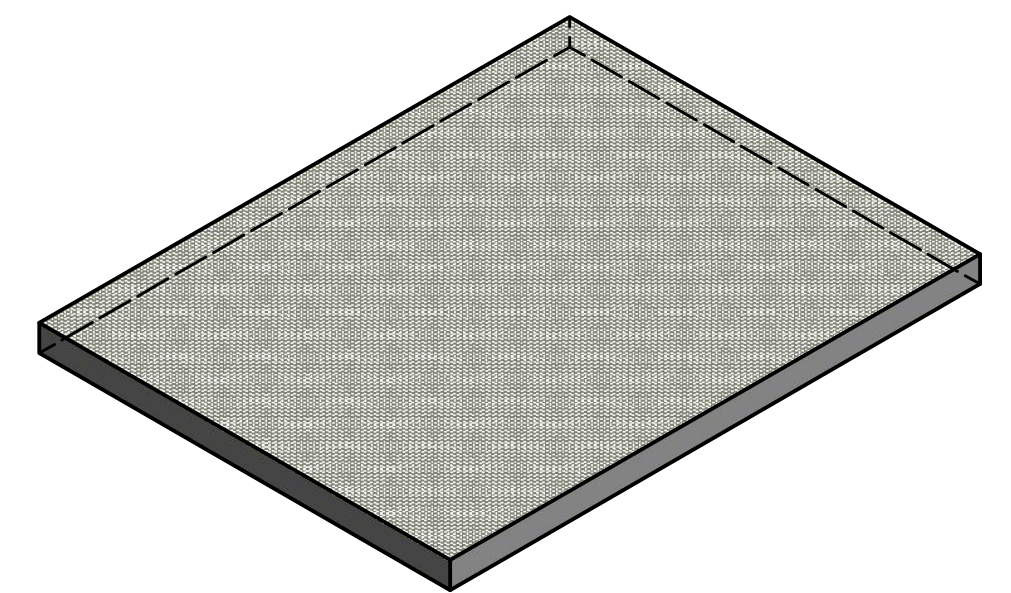
FILTER ACCESS



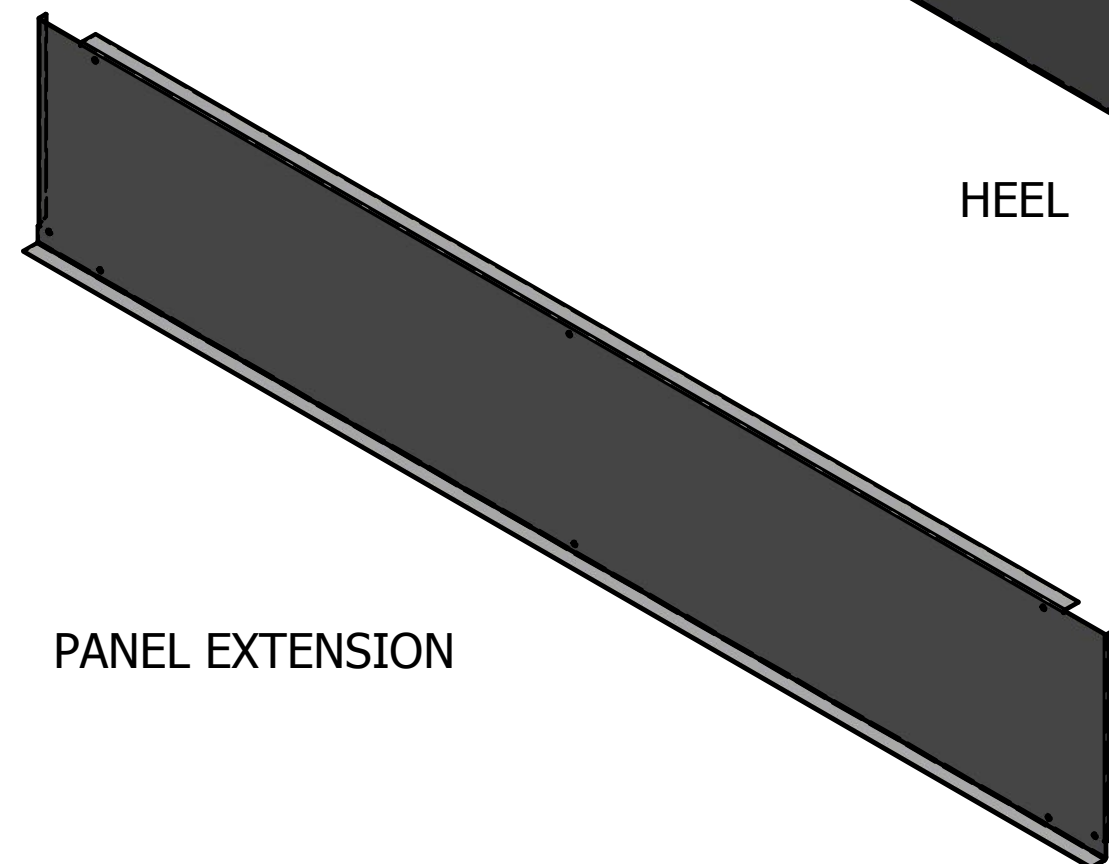
HOOD SIDES



HEEL

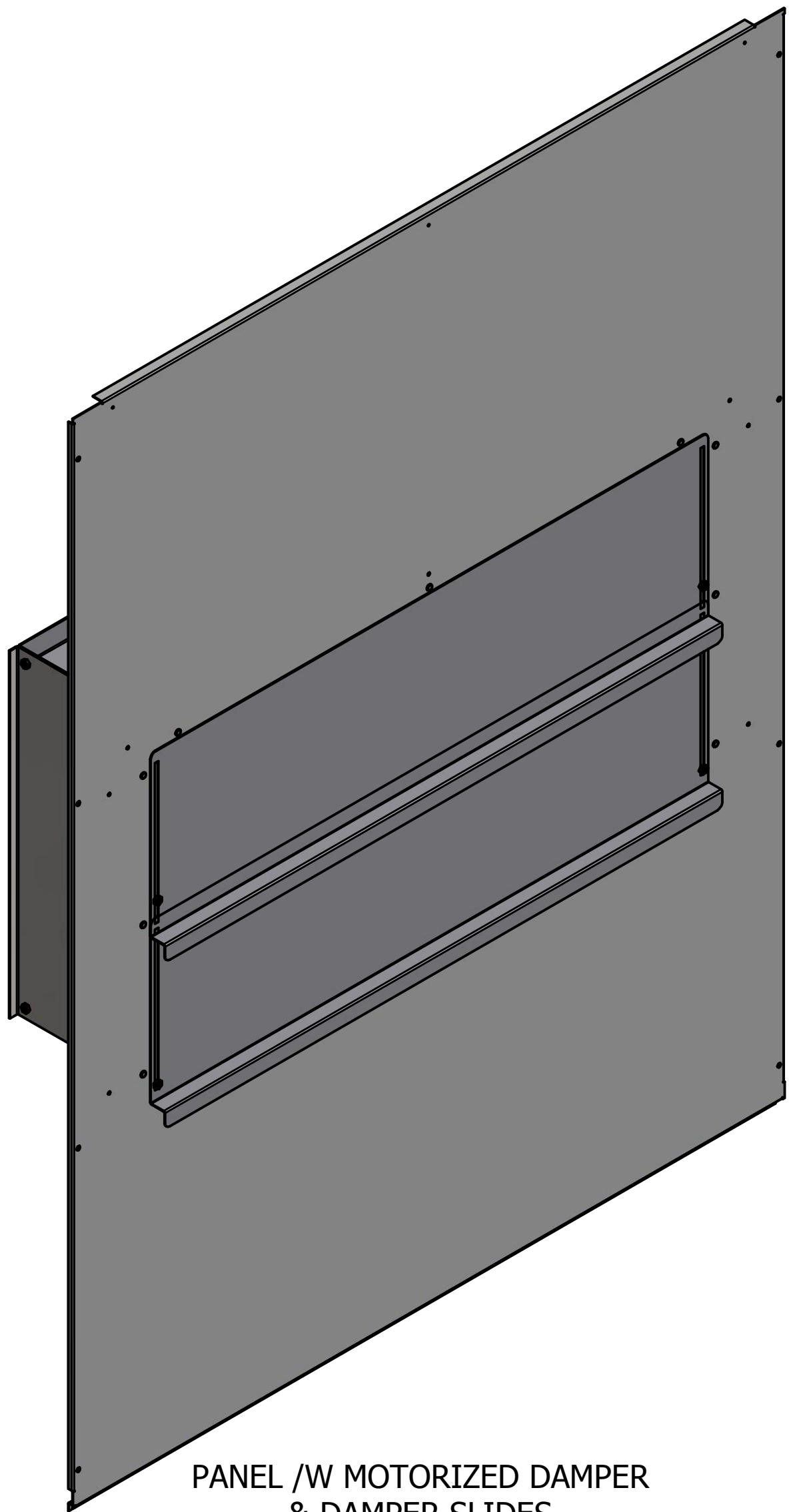


27 3/4" X 16 3/4"  
ALUMINUM MIST ELIMINATOR

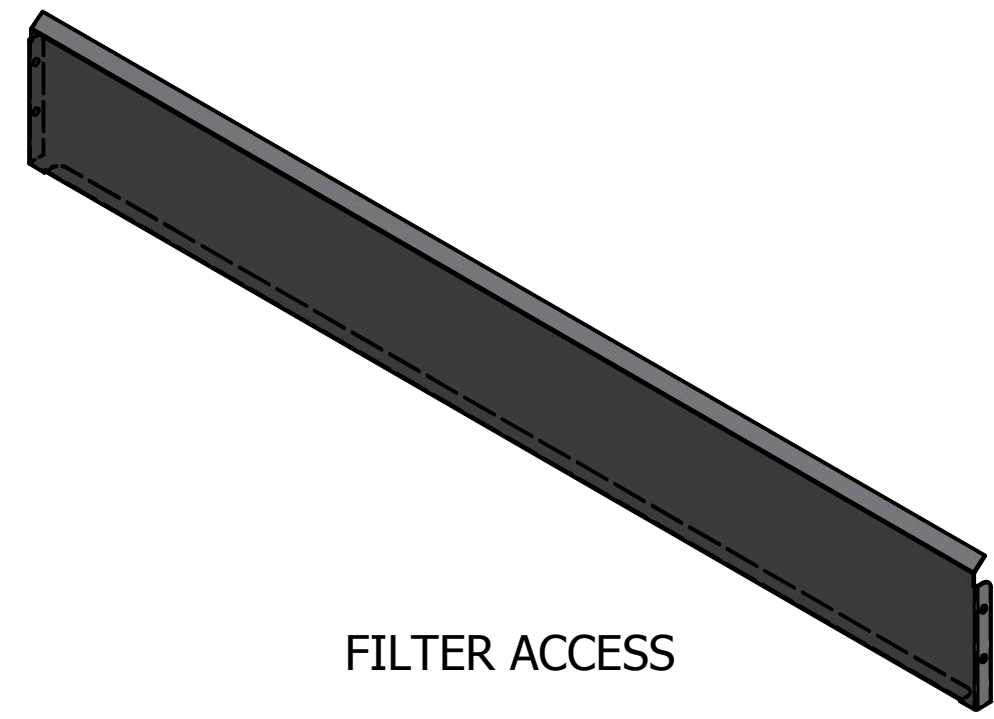


PANEL EXTENSION

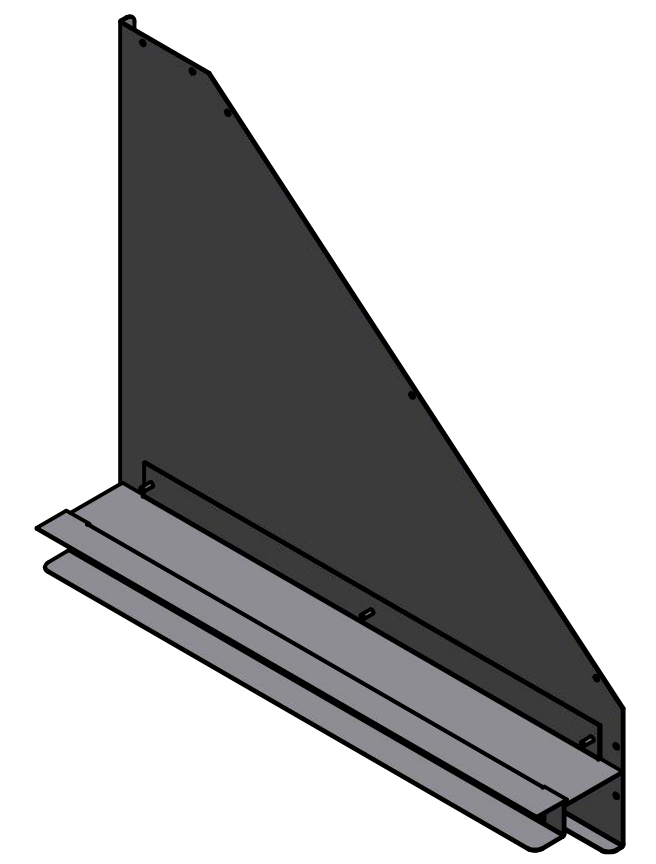
# D50FD90150 PARTS



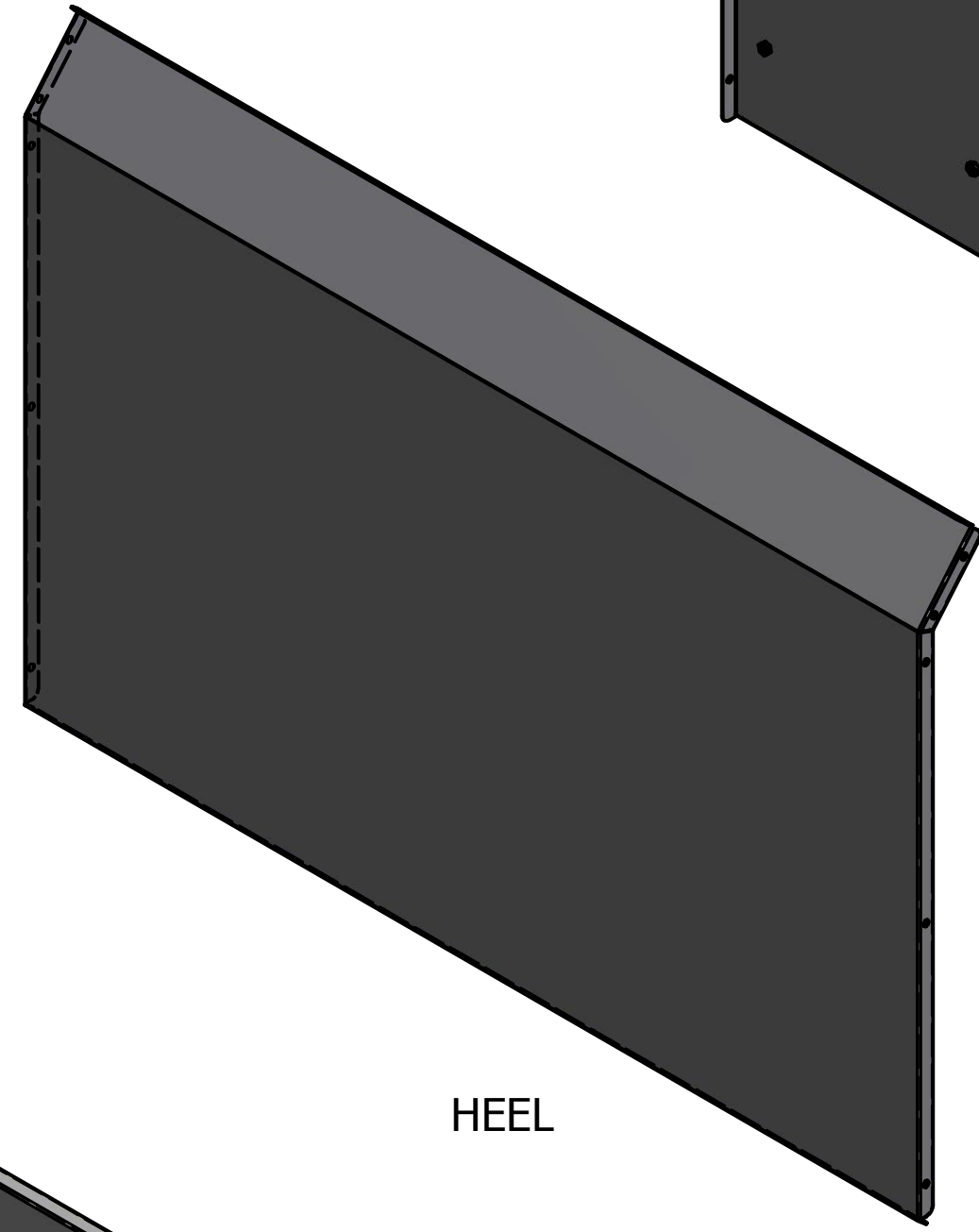
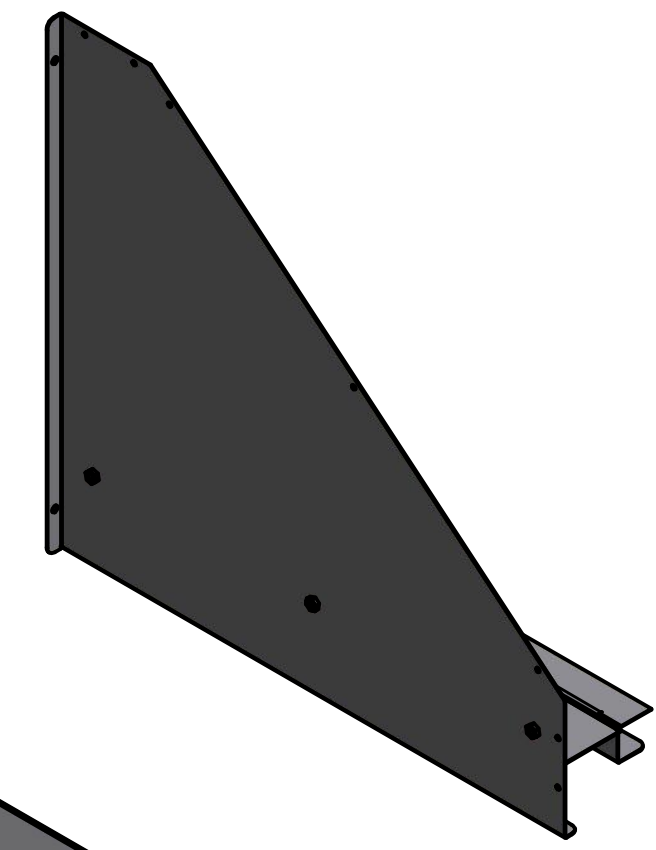
PANEL /W MOTORIZED DAMPER  
& DAMPER SLIDES



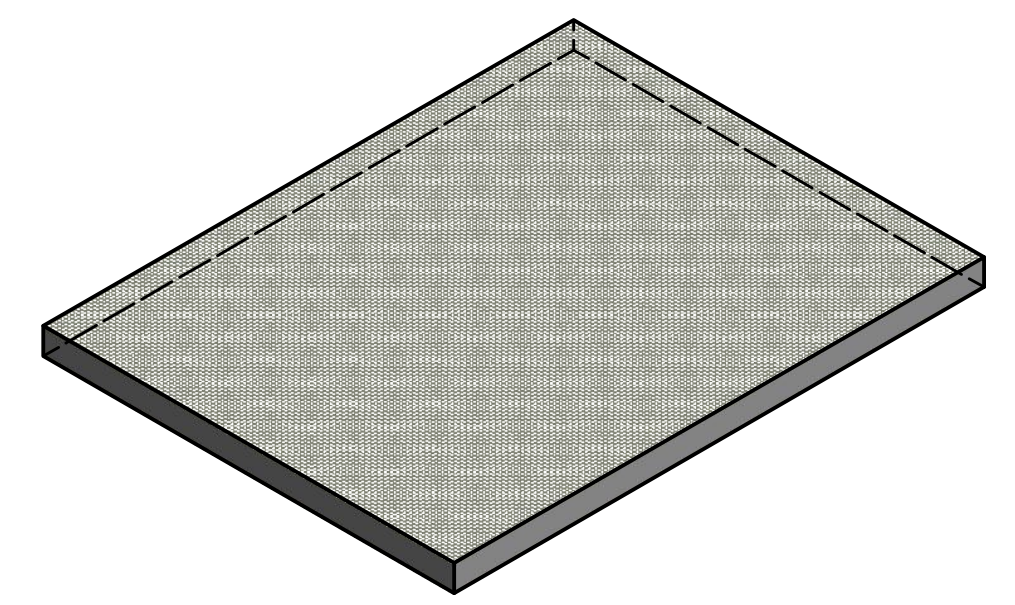
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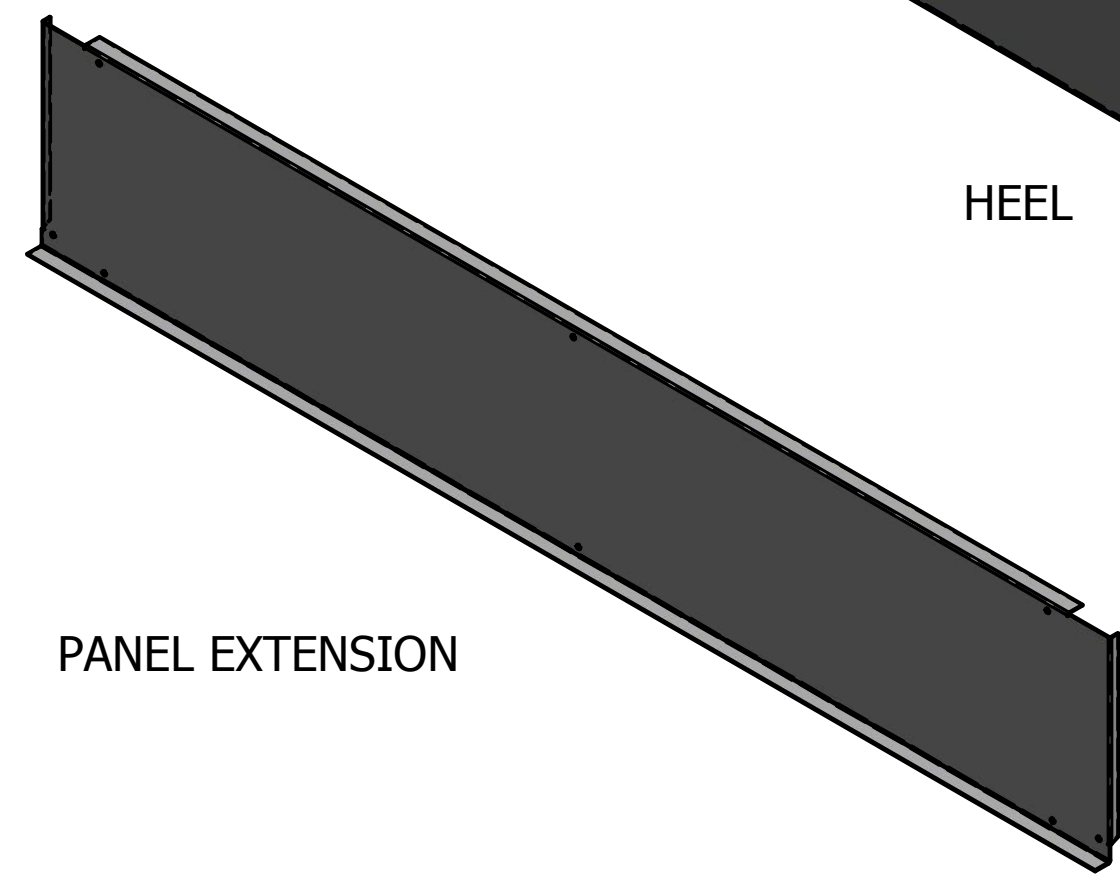
HOOD SIDES



HEEL



27 3/4" X 16 3/4"  
ALUMINUM MIST ELIMINATOR



PANEL EXTENSION

# D50MFD90150 PARTS

TFB24 WIRE DIAGRAM REV 1

