



COMBUSTION AIR SYSTEM

Model: CAS-1



4" VRV

4" IAH HOOD

This product is designed for use on the Beckett AFII Series oil burners and AF/AFG Series oil burner with a combustion air intake. For the purpose of routing combustion air directly to the burner, with the added safety feature of the vacuum relief valve.

Note: For burner inputs up to 2.0 GPH.



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THE PURPOSE OF THE VACUUM RELIEF VALVE (VRV)

The Vacuum Relief Valve is a safety device to guard against combustion problems associated with directly connecting oil burners to the outside. Typical problems can be caused by blockage of the intake termination, icing up of the duct work and effects of leeward side wind effects on a building. The VRV gate operates on changes in the vacuum pressure generated by the inlet to the oil burner.

VRV OPERATION

The VRV gate will remain closed during normal burner operation. During an abnormal operation (i.e., blockage of the intake or change in external building pressures) an increased negative pressure on the intake of the burner causes a reduction in burner air flow. Under this condition the VRV gate opens, stabilizing and maintaining proper air flow to the burner. The VRV gate closes again once the abnormal condition is corrected.

INSTALLATION

MOUNTING ON BECKETT AFII SERIES BURNER

1. Remove burner inlet cover. (See Figure 1)
2. Mount VRV tee assembly or 90o elbow onto the burner inlet. Fasten using three (3) sheet metal screws on all joints. (See Figure 2)
3. Assemble VRV balance weight onto the gate. Screw the weight all the way in. Then attach lock nut and knurl nut. (See Figure 3)
4. Mount the VRV assembly into the tee and fasten with a screw and nut in collar tabs. (See Figure 4) To ensure proper operation, check the gate for being level across the pivot point and plumb.

MOUNT ON BECKETT AF/AFG SERIES BURNERS WITH A COMBUSTION AIR INTAKE

1. Mount VRV tee assembly or 90o elbow onto the combustion air intake inlet. Fasten using three (3) sheet metal screws on all joints. (See Figure 5)
2. Assemble VRV balance weight onto the gate. Screw the weight all the way in. Then attach lock nut and knurl nut. (See Figure 3)
3. Mount the VRV assembly onto the tee and fasten with a screw and nut in collar tabs. (See Figure 4) To ensure proper operation, check the gate for being level across the pivot points and plumb.

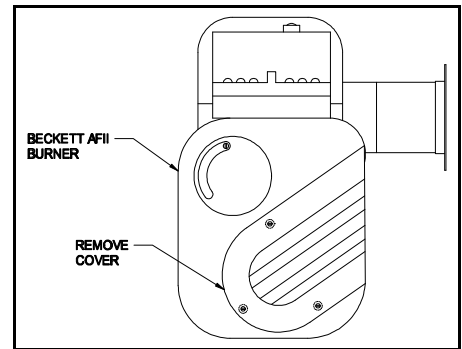


Figure 1

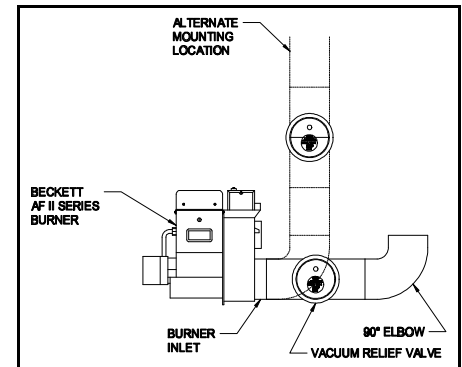


Figure 2

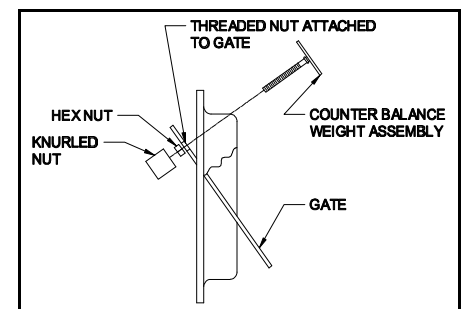


Figure 3

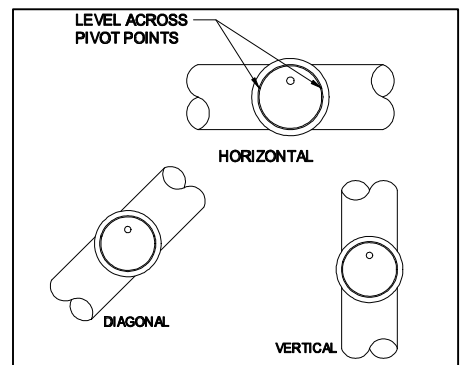


Figure 4

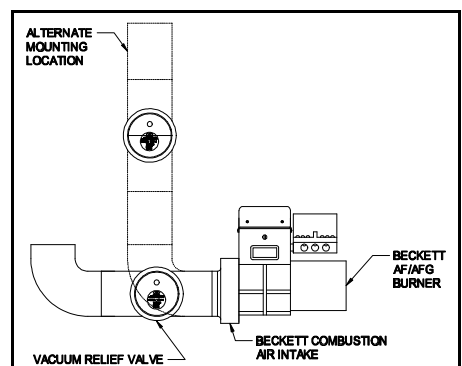


Figure 5

TERMINATION LOCATION GUIDELINES

1. Mount intake hood 12 inches above finished grade. If mounting on the side of a building prone to drifting snow, mount 12 inches above the snow line.
2. Mount at least 12 inches away and on the same wall if sidewall venting.
3. Always mount with the inlet vent termination opening pointing down.

INLET VENT TERMINATION INSTALLATION

1. Cut a 4 1/4" diameter hole through the sidewall of the building.
2. Slide the inlet vent pipe through the hole and fasten to the wall with appropriate fasteners. Seal the edges of the mounting plate with a silicone sealant or equivalent.

DUCT WORK INSTALLATION

1. Duct length distance, a maximum of 30 linear feet of standard duct pipe and two (2) 90o elbows. Subtract 7 feet from the maximum linear feet for every 90o elbow added. Maximum linear footage will be less for flex duct. Consult manufacturer for equivalent lengths.
2. Route duct work from the VRV tee to the inlet vent termination with as minimum a number of elbows as possible.
3. Secure and support the duct work for the design and weight of the material used, to prevent physical damage and separation of joints. For guidelines refer to recognized national building codes or according to any local codes.
4. To reduce uncontrolled air leakage into the duct, tape all joints and seams using standard duct tape.

Note: To prevent sweating on the outside of the duct, when operating in areas that have -10oF or below design temperatures. Insulate the duct work at least 10 feet from the inlet vent termination.

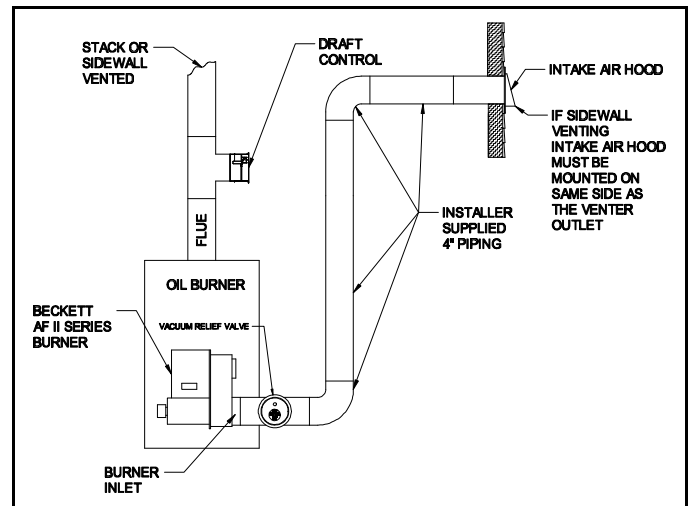


Figure 6

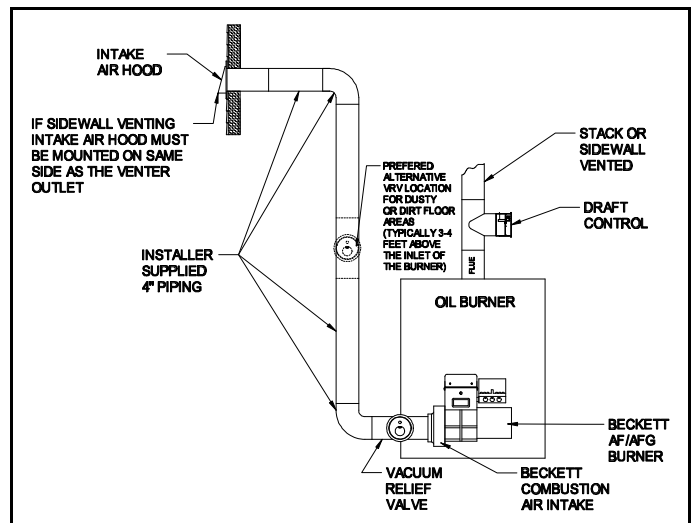


Figure 7



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