




Non-Return Valve	Function/Operation of the NRV	Cleaning the NRV
	<p>A Non-Return Valve with self-seating pressure control valve prevents the backflow of flue gas into an idle condensing appliance. When the condensing appliance is idle, its pressure control valve is closed, thus separating the flue gas vent system from the condensing appliance. During operation of the condensing appliance, the pressure control valve is opened by the positive pressure created by the condensing boiler, thus allowing for the flue gas to flow into the vent system. When a low load condition exists, operating appliances may natural draft and create a negative pressure within the vent system. When this occurs it is normal for the pressure control valve of an idle appliance to lift off its seat (open) as dilution air gets drawn into the system. Condensate accumulated within the vent system is discharged into the condensing appliance via an external siphon.</p>	<p>During the annual appliance inspection/maintenance, the NRV should be checked and cleaned if necessary.</p> <ul style="list-style-type: none"> • Check the NRV's siphon and clean if necessary. • Check the NRV's closing discs for dirt and clean or flush with water if necessary. <hr/> <p style="text-align: center;">Leakage Test of the NRV</p> <div style="display: flex; align-items: center;">  <p>The leakage test is performed by using a dew mirror at the NRV's lower removable condensate port. The appliance of which the NRV has to be tested is switched off; the other appliances are working with nominal load.</p> </div> <p>Hold the dew mirror to the lower condensate port for 10 seconds. The dew mirror must not fog up due to flue gas escaping the vent system.</p> <p>This test has to be performed at each NRV.</p> <hr/> <p style="text-align: center;">Filling the Siphons</p> <div style="display: flex; align-items: center;">  <p>The siphons of the NRVs and Horizontal Drain Fitting have to be filled with water!</p> </div> <p>A siphon not filled allows flue gas to enter the appliance room. In case of longer down time of the appliance or appliance's extended operation with high return temperature (>140°F), the fill levels of the siphons have to be checked and re-filled with water if necessary.</p>

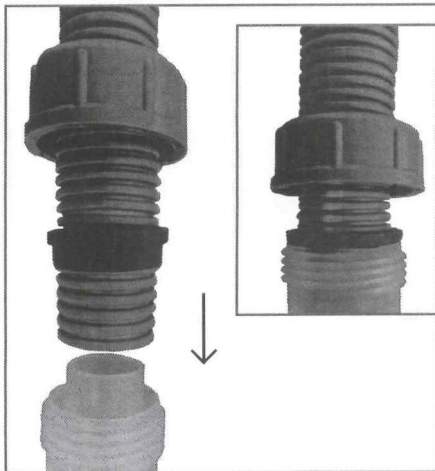
Attaching the Siphon

Condensate siphon tubing will be attached to upper port of NRV as shipped from factory. If the tubing becomes dislodged from the upper port, or needs to be removed for any reason, take the following steps when reattaching:

- Make sure the O-ring is properly seated in the notch on the upper port of the NRV
- Slide the tubing on past the O-ring, make sure the O-ring does not come out of the notch
- Tighten the hose clamp around the tubing directly on top of where the O-ring is located

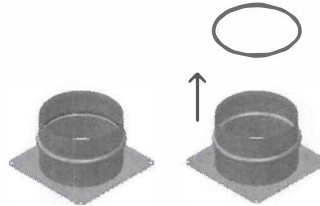
Secure opposite end to NRV with gasket and compression fitting. Make sure lower lip of the gasket is completely inserted into the plastic housing and that the upper shelf of the gasket is pressed down flush with the top of the plastic housing. See *Image A*. Tighten compression fitting to secure.

Image A

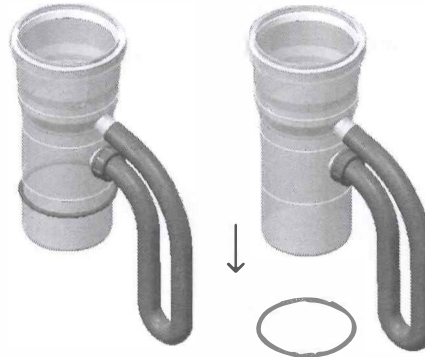


Installing the NRV into the Flue Collar

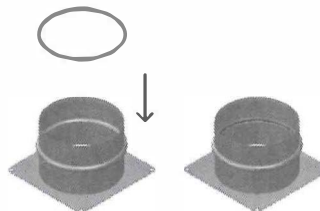
- 1** Remove black gasket from flue collar



- 2** Remove red O-ring from the ISNRVDH10004



- 3** Replace the black gasket with the red O-ring



- 4** Insert ISNRVDH10004 into flue collar. Use centrocerin to lubricate

If additional support is desired or required, a bead of silicone can be used around the entire circumference of the NRV above the flue collar gasket.



- 5** Pour a cup of water into the top of the NRV to fill the condensate siphon loop.

Assure condensate siphon loop hangs down a minimum of 6" to assure proper backpressure during normal operations.

