

INSTRUCTIONS TO CALIBRATE THE REGULATOR WHEN INSTALLING THE VAPORIZER



SHIELD OF HEAT

Instructions to calibrate the regulator when installing the vaporizer.

Do not operate the vaporizer, if you have not calibrated the regulator to 11" WC

The 2-stage regulator controlling the gas pressure to the thermostat and burners is a critical part of the Dragon Shield Vaporizer.

The regulator installed is designed to operate in temperatures between -40F and +165F (-40C and +70C). When replacing the regulator, it is very important to install the same regulator. It can be ordered from an authorized Dragon Shield Distributor. Warning: Installing any other brand and model of regulator must be approved by Dragon Shield.

The factory supplied regulator, provides the thermostat and burners with a gas pressure of **11" WC**. The regulator has a discharge range of 9.5" - 13" WC from the second stage.

The **11"WC** pressure is required for the pilot and burners to function properly and avoid combustion problems or compromising cycles of operation resulting in the formation of excessive soot and potential maintenance.

All Dragon Shield vaporizers are 100% tested in our factory and the regulator is set and measured to ensure it delivers **11" WC** gas pressure.

NOTE: Our factory is in Mexico City and the atmosphere pressure may vary due to the altitude difference where the vaporizer is installed. It is important to check the regulator discharge pressure at start-up to ensure it is at 11" WC.

If the discharge pressure is not 11" WC, the regulator must be adjusted by a qualified technician to ensure complete combustion at the burners and the vaporizer will perform properly.

- LP Gas pressure
- Altitude, above the sea level
- Temperature
- LPG mix (Propane & butane)




This is why it's extremely important to check the pressure of the regulator to the thermostat and burners when the equipment is installed.

Instructions for adjusting the discharge gas pressure of the regulator:

NOTE: If you have any questions, call for Technical Service Support at the Distributor where you purchased the vaporizer or Dragon Shield Technical Support at +1 (405) 204-7170 or E-Mail: customerservice@dsvap.com

It is necessary to follow all steps when the discharge pressure from the 2-stage regulator must be adjusted.

- Required tools for adjusting the regulator discharge gas pressure

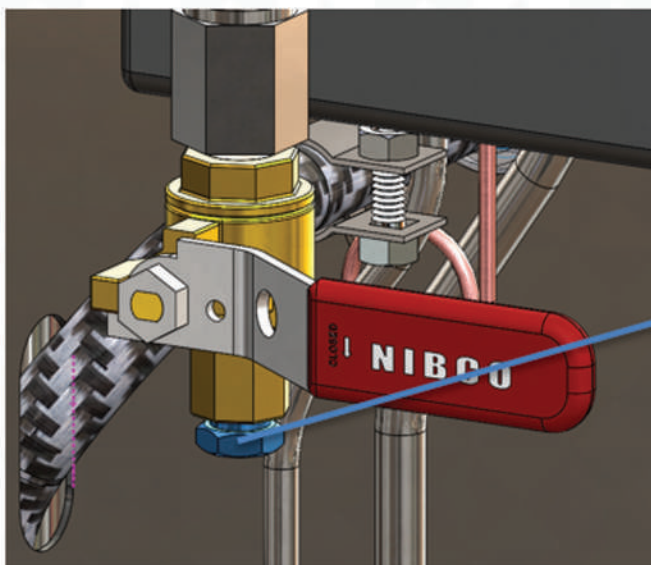
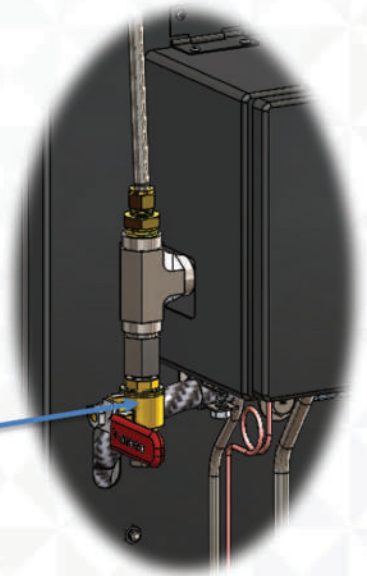
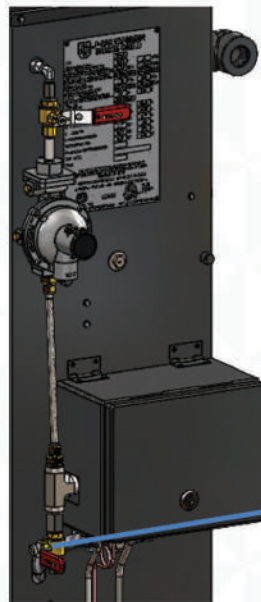
Description	Qty.	Image
Slotted 3/8" Screwdriver	1	
9/16" Combination Wrench	1	
Pressure gauge with 1/4" MNPT Inlet rated for LPG with a range of 0-30"WC or 0-35"WC with increments of 1"WC. For clarity use a gauge with a diameter of 2" or larger.	1	

Instructions

Once the installation of the Dragon Shield vaporizer is completed according to the recommendations indicated in the "Dragon Shield Direct Fired LPG Vaporizer Installation, Operation and Maintenance Manual (Step 3, Vaporizer Installation and step 4, Installation Diagram).

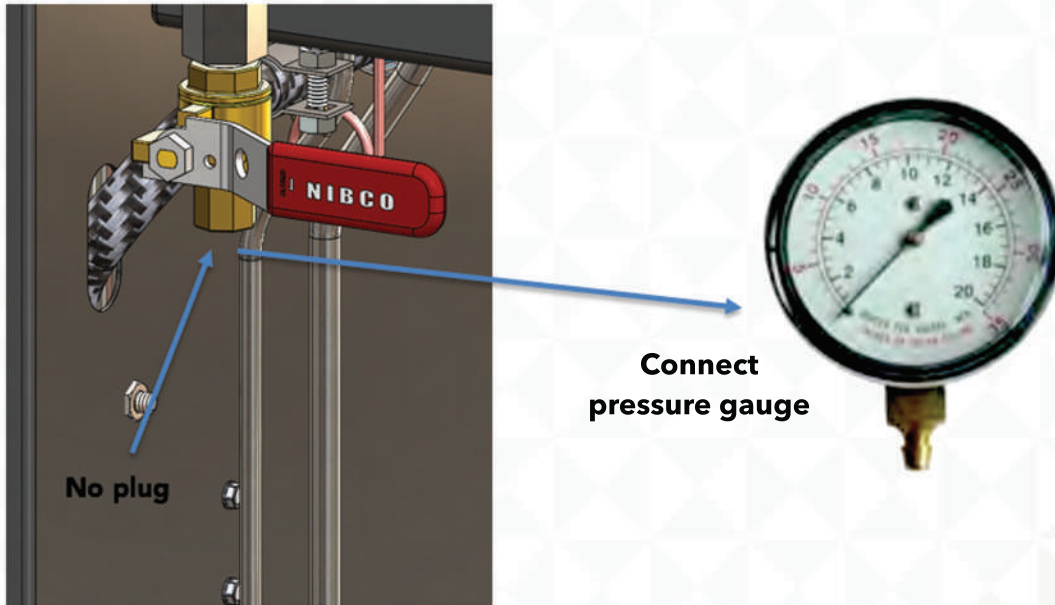
Proceed to operate the vaporizer as indicated in step 6. In 6.2 "Equipment Operation", follow all instructions up to section 4. Once all steps have been completed you can verify the discharge pressure of the regulator with the following steps:

1. Verify that the purge valve, connected directly downstream of the regulator, is closed.



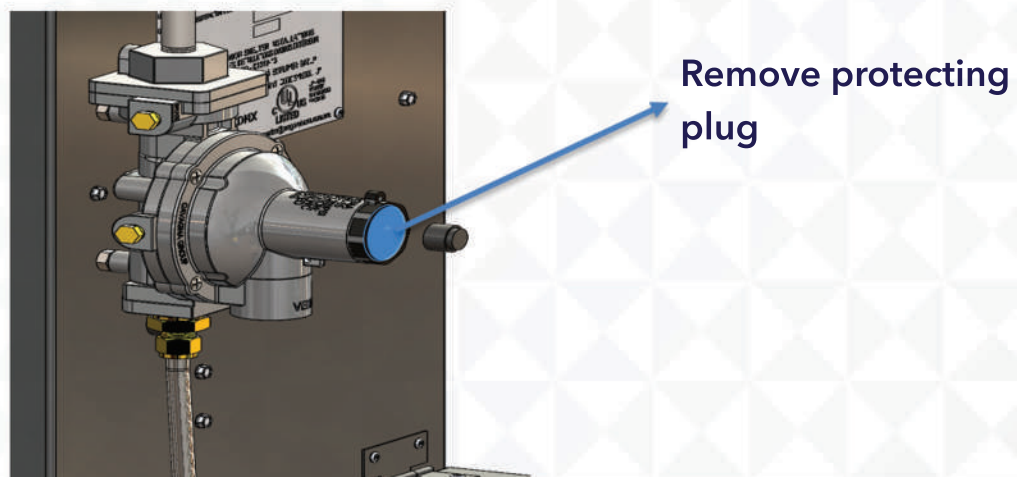
2. Remove the plug in the bottom of the purge valve in the regulator using the 9/16" combination wrench.

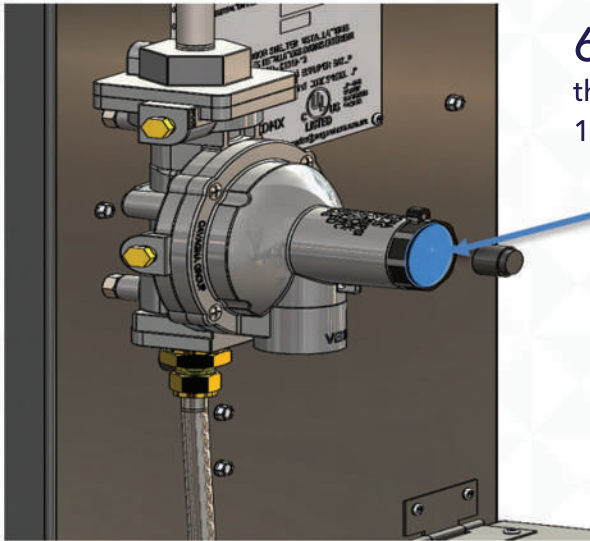
3. Once the plug has been removed, install the pressure gauge to the valve by using the wrench



4. Next, open the purge valve to verify what the gas pressure is at the discharge of the regulator. The pressure should be at 11" WC. In case it is not, follow the following steps to make necessary adjustments.

5. Remove the protecting plug/cap to locate the Pressure Adjustment Screw. The slotted 3/8" screwdriver is required to adjust the Pressure Adjustment Screw. By turning the screw clockwise, it increases the discharge pressure. Turning the screw counterclockwise reduces the discharge gas pressure.





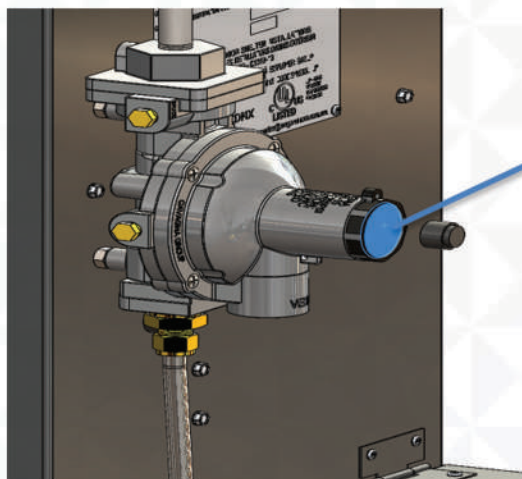
6. Use the slotted screwdriver to tighten or loosen the calibration screw as needed to achieve the 11"WC gas pressure reading on the gauge.



7. Once the regulator discharge pressure has been adjusted to 11" WC, continue the equipment operation according to Section 5). Once the vaporizer is in full operational mode and the burners are operating, the gas pressure might go down. In this case the regulator pressure will need to be again adjusted until it is 11" WC, repeating Step 6 of this Manual.

8. When the required pressure of 11" WC has been established, verify that the preheating cycle is completed and proceed to continue the operation of the equipment according to the Manual Step 6.2 up to Section 8).

9. Each time the desired pressure of 11" WC has been established, the protecting plug/cap needs to be re-installed



Place protecting plug

10. Next, close the purge valve and use the 9/16" combination wrench to remove the pressure gauge.

11. Using the 9/16" combination wrench, re-install the plug in the lower part of the purge valve from the regulator.

12. Verify there are no leaks. You can test it with any approved leak detection solution rated for to confirm there are no leaks through the use of an approved leak detection solution for LPG Piping Systems.

Verify that all components are in place and continue with the instructions shown in the Manual.

Having the discharge pressure of the regulator at the correct pressure setting to feed the burners and pilot helps ensure proper operation of the vaporizer and maximizes its performance.

IMPORTANT RECOMMENDATIONS:

a. Again, verify that there are no leaks where work was performed to make the adjustments.

b. Dragon Shield recommends that the vaporizer system be maintained per the Recommended Maintenance on pages 10 & 11 of the Installation, Operation and Maintenance Manual to help ensure the optimal performance, maximize its working life, and avoid unscheduled maintenance.