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DEVIL-FORGE DFHS1+1D/2.8

DEVIL-FORGE Propane Gas Forge DFHS1+1D/2.8" User Manual

1. IMPORTANT SAFETY INFORMATION

Operating a propane gas forge involves high temperatures and flammable gases. Failure to follow these safety instructions can result in serious injury, property damage, or death. Always prioritize safety.

- **Ventilation:** Always operate the forge in a well-ventilated area to prevent the accumulation of carbon monoxide and other harmful fumes. Never use indoors or in enclosed spaces.
- **Protective Gear:** Always wear appropriate personal protective equipment (PPE), including heat-resistant gloves, eye protection (safety glasses or face shield), and fire-resistant clothing.
- **Gas Leaks:** Before each use, check all gas connections for leaks using a soapy water solution. Never use an open flame to check for leaks.
- **Flammable Materials:** Keep the forge area clear of all flammable materials, liquids, and vapors. Maintain a safe distance from walls and other objects.
- **Stable Surface:** Place the forge on a stable, non-combustible surface.
- **Children and Pets:** Keep children and pets away from the operating forge.
- **Emergency Plan:** Have a fire extinguisher (Class B or ABC) readily available and know how to use it.
- **Temperature:** The forge can reach temperatures up to 2500°F (1370°C). Exercise extreme caution.

2. PRODUCT OVERVIEW

The DEVIL-FORGE DFHS1+1D/2.8" is a compact and powerful propane gas forge designed for blacksmithing, knife making, and metalworking. It features a single DFP burner capable of reaching high temperatures for various forging tasks.

Key Features:

- **Internal Dimensions (WxHxD):** 7.2" x 2.8" x 10" (180mm x 70mm x 250mm)
- **Weight:** 19lb / 8.8kg
- **Maximum Temperature:** 2500°F / 1370°C
- **Insulation:** 1" (25mm) ceramic blanket lining with a 20mm refractory brick base for superior durability.
- **Burner:** 1 DFP model burner (80,000 BTU) with adjustable air shutter.

- **Construction:** 16 gauge (1.5mm) steel body.

Package Contents:

- DFHS1+1D/2.8" Propane Gas Forge
- 1 DFP Burner
- Refractory Bricks
- Forging Tongs
- Heat-Resistant Gloves (appearance may vary)
- Gas Pressure Regulator with Pressure Gauge
- 6.5ft / 2m Gas Hose
- 2 Clamps
- 1 Door Handle
- Rigidizer Powder
- Brush
- User Manual



Figure 2.1: The DEVIL-FORGE DFHS1+1D/2.8" Propane Gas Forge with its gas line and regulator connected, showing the interior with refractory bricks.

3. SETUP AND ASSEMBLY

3.1. Unpacking and Inspection

Carefully unpack all components. Inspect for any shipping damage. If any parts are missing or damaged, contact customer support immediately.

3.2. Applying Rigidizer

The rigidizer must be applied before initial use. This forms a protective, rigid layer on the ceramic insulation, increasing its durability and lifespan.

1. Mix the rigidizer powder with water according to the instructions on the rigidizer packaging to create a slurry.
2. Using the provided brush, apply an even coat of the rigidizer slurry to all exposed ceramic fiber surfaces inside the forge.
3. Allow the rigidizer to dry completely. This may take several hours depending on humidity. Ensure the forge is fully dry before proceeding.

3.3. Installing Refractory Bricks

Place the refractory bricks on the bottom of the forge chamber. These bricks provide additional heat retention and a durable working surface.



Figure 3.1: Interior of the forge with ceramic insulation and refractory bricks in place.

3.4. Burner and Gas Line Connection

Connect the DFP burner to the forge body and then connect the gas hose and regulator assembly.

1. Insert the burner into the designated opening on the top of the forge. Secure it if necessary with any provided fasteners.
2. Attach the gas hose to the burner's gas inlet and secure it with a clamp.
3. Connect the gas pressure regulator to the other end of the gas hose, securing it with the second clamp.
4. Ensure the gas regulator connection type matches your country's propane tank valve.

Gas Regulator Connection Types:

For Italy: W20 x 1/14" LH internal thread.



Figure 3.2: Gas regulator connection for Italy (W20 x 1/14" LH).

For Germany, Austria, France, Netherlands, Spain, Belgium, Slovenia, Finland, Poland, Latvia, Russia: W21.8 x 1/14" LH internal thread.

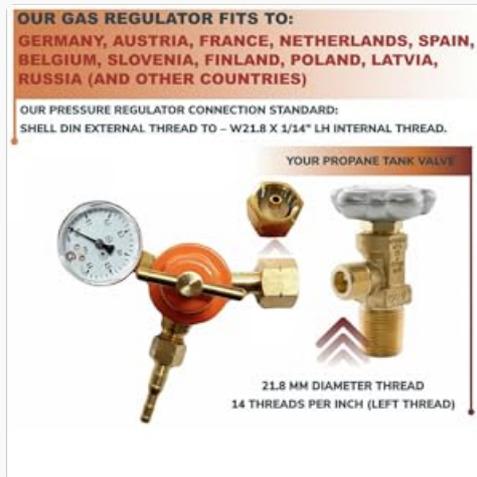


Figure 3.3: Gas regulator connection for Germany and other European countries (W21.8 x 1/14" LH).

For United States, Canada, Sweden, Norway, Australia, New Zealand, Israel, Mexico, Indonesia, Thailand: POL CGA-510 connection.



Figure 3.4: Gas regulator connection for USA and other countries (POL CGA-510).

For United Kingdom, South Africa: G 5/8" UK POL LH connection.



Figure 3.5: Gas regulator connection for UK and South Africa (G 5/8" UK POL LH).

3.5. Door Handle Installation

Attach the door handle to the forge door using the provided hardware. Ensure it is securely fastened for safe operation.

4. OPERATING INSTRUCTIONS

4.1. Pre-Operation Checks

- Ensure the forge is on a stable, non-combustible surface in a well-ventilated area.
- Verify all gas connections are tight and free of leaks using a soapy water solution.
- Confirm the propane tank valve is closed and the regulator knob is turned off.
- Wear all necessary personal protective equipment (PPE).

4.2. Lighting the Forge

1. Slowly open the main valve on the propane tank.
2. Slowly open the gas ball valve on the burner assembly.
3. Using a long lighter or igniter, introduce a flame to the burner nozzle inside the forge chamber.
4. Once ignited, slowly increase the gas pressure using the regulator knob until a stable flame is achieved. The operating pressure range is 1-25 PSI.
5. Adjust the air shutter on the burner to achieve a neutral flame (neither too rich nor too lean) for optimal heating.



Figure 4.1: Rear view of the forge, highlighting the burner and gas connections.

4.3. Adjusting Temperature

The temperature inside the forge is primarily controlled by adjusting the gas pressure via the regulator and the air intake via the burner's air shutter. Higher pressure and proper air mixture will result in higher temperatures.

4.4. Shutting Down the Forge

1. Close the main valve on the propane tank first.
2. Allow the flame to extinguish as the remaining gas in the line burns off.
3. Close the gas ball valve on the burner assembly.
4. Turn the regulator knob to the off position.
5. Allow the forge to cool down completely before handling or storing.

5. MAINTENANCE

5.1. Regular Cleaning

After each use, once the forge has cooled, remove any debris or scale from the interior chamber and refractory bricks. Use a brush or vacuum cleaner for this purpose.

5.2. Inspection

Periodically inspect the ceramic insulation and refractory bricks for cracks or damage. Damaged insulation can reduce efficiency and pose safety risks.

5.3. Rigidizer Reapplication

Over time, the rigidizer layer may degrade. Reapply rigidizer as needed to maintain the integrity and durability of the ceramic insulation. Follow the same application steps as during initial setup.

5.4. Burner Maintenance

Ensure the burner nozzle and air shutter are free from obstructions. Clean any soot or carbon buildup to maintain optimal performance.

6. TROUBLESHOOTING

6.1. Burner Not Lighting

- **No Gas Flow:** Check if the propane tank valve is open and if there is sufficient propane in the tank. Ensure the regulator knob and burner ball valve are open.
- **Gas Leaks:** Check all connections for leaks. Tighten any loose connections.
- **Ignition Source:** Ensure the igniter or lighter is producing a strong flame and is positioned correctly at the burner nozzle.
- **Clogged Burner:** Inspect the burner nozzle and air shutter for obstructions. Clean if necessary.

6.2. Low Heat Output

- **Low Gas Pressure:** Increase the gas pressure using the regulator knob. Ensure the propane tank is not running low.
- **Improper Air Mixture:** Adjust the air shutter on the burner to optimize the air-to-gas ratio. A yellow, lazy flame indicates too much gas/too little air. A loud, roaring flame with a blue cone indicates too much air/too little gas. Aim for a neutral flame.
- **Damaged Insulation:** Inspect the ceramic insulation and refractory bricks. Damage can lead to heat loss.

6.3. Gas Smell

- Immediately shut off the gas supply at the propane tank.
- Ventilate the area thoroughly.
- Check all gas connections for leaks using soapy water. Do not use the forge until the leak is found and repaired.

7. PRODUCT SPECIFICATIONS

Feature	Specification
Model	DFHS1+1D/2.8"
Internal Dimensions (LxAxP)	7.2" x 2.8" x 10" (180mm x 70mm x 250mm)
Weight	19lb / 8.8kg
Maximum Temperature	2500°F / 1370°C
Insulation	1" (25mm) Ceramic Blanket, 20mm Refractory Brick Base
Burner Type	1 DFP Burner
Burner BTU	80,000 BTU (approximate, depends on pressure)
Body Material	16 Gauge (1.5mm) Steel
Gas Compatibility	Butane, Propane, Butane+Propane, LPG (Not Natural Gas)
Regulator Pressure Range	0-0.6Mpa (0.1Mpa - 1Bar - 14.5PSI)

7.1. DFP Burner Performance Table



Figure 7.1: DFP Burner performance data at various pressures.

8. WARRANTY AND SUPPORT

For warranty information, technical support, or to inquire about replacement parts, please refer to the contact details provided with your purchase documentation or visit the official DEVIL-FORGE website. Keep your proof of purchase for warranty claims.