

DMK H25-M10-F10

DMK QILIN Laser Welding Nozzle H25-M10-F10 Instruction Manual

Model: H25-M10-F10 | Brand: DMK

1. INTRODUCTION

This manual provides essential information for the safe and effective use of the DMK QILIN H25-M10-F10 Laser Welding Nozzle. This nozzle is designed for use with QILIN portable hand-held fiber laser welding guns and laser welder heads, specifically for wire feeding applications. Constructed from high-quality copper, it offers excellent electrical conductivity, rapid heat dissipation, and enhanced durability for precise welding performance.

The H25-M10-F10 nozzle is engineered to facilitate smoother welding processes, minimize residue accumulation, and prevent clogging. Its high concentricity and efficient design contribute to improved welding quality and operational efficiency.

2. SAFETY INFORMATION

WARNING: Laser welding equipment can be dangerous if not handled properly. Always follow safety guidelines.

- Always wear appropriate personal protective equipment (PPE), including laser safety glasses, welding gloves, and protective clothing.
- Ensure the laser welding machine is properly grounded and maintained according to manufacturer instructions.
- Never look directly into the laser beam or allow it to strike unprotected skin or reflective surfaces.
- Perform all nozzle installation and maintenance with the laser welding machine powered off and disconnected from its power source.
- Work in a well-ventilated area to avoid inhaling welding fumes.
- Keep flammable materials away from the welding area.

3. PRODUCT OVERVIEW

The DMK QILIN H25-M10-F10 is a specialized copper laser welding nozzle designed for wire feeding applications. Its robust construction ensures longevity and consistent performance.

Type F

Wire Feed
0.8/1.0/1.2/1.6

H25-M10-F08/10/12/16



Figure 1: DMK QILIN H25-M10-F10 Laser Welding Nozzle with indicated dimensions (25mm height, M10 thread).

Key features include:

- **Material:** High-quality purple copper for superior conductivity and heat transfer.
- **Thread:** M10 standard thread for secure attachment.
- **Design:** Optimized for wire feeding, ensuring stable wire flow and reducing jamming.
- **Durability:** Thickened material enhances hardness and extends service life.
- **Heat Dissipation:** Excellent heat dissipation prevents damage to internal laser torch components.



QILIN Laser Welding Nozzle



H25-M10-A
outer corner



H25-M10-B
plane angle



H25-M10-C
inner corner



H25-M10-T
cutting nozzle



H25-M10-D
1.0/1.2/1.6



H25-M10-E
0.8/1.0/1.2/1.6



H25-M10-F
0.8/1.0/1.2/1.6

Figure 2: Overview of various H25-M10 series laser welding nozzles, including the F-type for wire feeding.

4. SETUP AND INSTALLATION

Proper installation of the laser welding nozzle is crucial for optimal performance and safety.

1. **Power Off:** Ensure the laser welding machine is completely powered off and disconnected from the main power supply before beginning installation.
2. **Remove Old Nozzle (if applicable):** If replacing an existing nozzle, carefully unscrew it from the laser welder head. Dispose of worn nozzles responsibly.
3. **Inspect Welder Head:** Check the nozzle seating area on the laser welder head for any debris, damage, or residue. Clean if necessary.
4. **Install New Nozzle:** Gently screw the H25-M10-F10 nozzle onto the laser welder head. Ensure it is hand-tightened securely. Avoid over-tightening, which can damage the threads.
5. **Verify Alignment:** After installation, visually inspect the nozzle to ensure it is properly seated and aligned with the laser path and wire feed mechanism.

6. **Reconnect Power:** Once the nozzle is securely installed, reconnect the laser welding machine to its power supply.
7. **Test:** Perform a low-power test weld to confirm proper function and alignment before commencing full operation.

DMK LASER



H25-M10-D
D08/10/12/16



H25-M10-E
E08/10/12/16



H25-M10-F
F08/10/12/16



Figure 3: Detailed view of H25-M10 series nozzles, illustrating the M10 thread for installation.

5. OPERATING INSTRUCTIONS

The H25-M10-F10 nozzle is designed for wire feeding laser welding applications. Always refer to your specific laser welding machine's operating manual for detailed instructions on power settings, wire feed speed, and gas flow.

- **Parameter Settings:** Adjust laser power, pulse width, frequency, and wire feed speed according to the material being welded and desired weld characteristics.
- **Gas Shielding:** Ensure proper shielding gas flow (e.g., Argon, Nitrogen) to protect the weld pool from atmospheric contamination.
- **Nozzle-to-Work Distance:** Maintain the recommended nozzle-to-work distance for optimal laser focus and shielding gas coverage.

- **Welding Technique:** Use a consistent travel speed and angle to achieve uniform welds. The F-type nozzle is specifically designed to guide the wire effectively into the weld pool.
- **Monitoring:** Continuously monitor the welding process for any signs of instability, excessive spatter, or poor weld quality, which may indicate a need for parameter adjustment or nozzle inspection.

6. MAINTENANCE

Regular maintenance of the laser welding nozzle extends its lifespan and ensures consistent welding quality.

- **Daily Inspection:** Before each use, inspect the nozzle for any signs of wear, damage, or excessive spatter buildup.
- **Cleaning:** After each welding session, or as needed, carefully remove any spatter or residue from the nozzle tip. Use a non-abrasive tool or brush specifically designed for welding nozzle cleaning. Avoid using harsh chemicals that could damage the copper.
- **Internal Lens Protection:** The nozzle helps protect the internal lens. Ensure the nozzle is free from debris to prevent damage to the laser torch's optical components.
- **Replacement:** Replace the nozzle when it shows significant wear, deformation, or when welding performance degrades despite cleaning. A worn nozzle can lead to poor gas shielding, inconsistent wire feeding, and reduced weld quality.
- **Storage:** Store spare nozzles in a clean, dry environment to prevent contamination or damage.

7. TROUBLESHOOTING

This section addresses common issues that may arise during the use of the laser welding nozzle.

Problem	Possible Cause	Solution
Poor Weld Quality / Inconsistent Weld	◦ Worn or damaged nozzle tip ◦ Incorrect nozzle-to-work distance ◦ Insufficient shielding gas coverage ◦ Incorrect welding parameters (power, speed, wire feed)	◦ Replace the nozzle ◦ Adjust distance according to machine specifications ◦ Check gas flow rate and connections ◦ Adjust welding parameters
Wire Jamming / Inconsistent Wire Feed	◦ Nozzle clogged with spatter ◦ Damaged wire feed mechanism ◦ Incorrect wire spool tension	◦ Clean or replace the nozzle ◦ Inspect and repair wire feeder ◦ Adjust wire spool tension
Excessive Spatter	◦ Nozzle wear or damage ◦ Incorrect welding parameters ◦ Insufficient shielding gas	◦ Replace the nozzle ◦ Optimize laser power and travel speed ◦ Increase shielding gas flow

8. SPECIFICATIONS

Parameter	Value
-----------	-------

Parameter	Value
Product Name	Laser Welding Nozzle
Brand	DMK
Model	H25-M10-F10
Material	Purple Copper
Thread Size	M10
Item Dimensions (L x W x H)	0.39 x 0.39 x 0.98 inches
Included Components	Laser welding nozzle x 1



Figure 4: Main product image of the DMK QILIN H25-M10-F10 Laser Welding Nozzle.

9. WARRANTY AND SUPPORT

For warranty information, technical support, or to purchase additional consumables, please contact DMK Laser directly. Refer to the seller information on your purchase receipt or visit the official DMK Laser store for contact details.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question