

+GF+ Fuseal Corrosive Waste Systems



Installation Instructions for

- **Fuseal II**
- **Large Diameter (LD)**
- **Mechanical Joint**

GEORGE FISCHER +GF+

Installation Instructions for Fuseal II

(Using the MSA 250 Power Control Unit)

For further detailed information, please consult the **MSA 250 Technical and Operation Manual**.

WARNING:
Releasing the clamp can be dangerous. Do not release with your face near the clamp. Broken pieces may fly off and cause injury.

TESTING:
Joints may be pressure tested 10 minutes after fusing.

Test in accordance with local plumbing code. All sections of the system shall be tested with a maximum of 30 foot head of water.

NOTE:
Teflon tape is recommended on all tapered pipe thread connections.

JOINT PREPARATION 1 1/2" - 6"

1. **Cut pipe end square** with axis of pipe. Use a fine tooth hand saw and mitre box, a power cutoff saw or a plastic tubing cutter.
2. Remove all burrs from pipe end. **Chamfer the pipe end** to ease insertion of the pipe and prevent the coil from being displaced.
3. Using a clean, dry cloth, **wipe the pipe** and inside of coil. Do not remove collar from fitting. If collar has to be cleaned prior to putting it back onto the fitting.
4. Vigorously **sand the outside surface** of the pipe where it enters the socket. Use 60 grit abrasive cloth.
5. **Clean sanded pipe surface and inside of coil with 70% Isopropyl Alcohol Solution** (i.e. IPA). (For proper use and safety regulations of Isopropyl Alcohol, please see supplier's Material Safety Data Sheets.)
Do not handle the freshly cleaned surfaces before assembling.
6. **Mark socket depth on the pipe.**

Fitting	Socket Depth (in inches)
1 1/2"	0.76 -
2"	0.88
3" -	0.94
4"	0.94
6"	1.26

SETTING UP 1 1/2" - 6" JOINTS

1. Rotate the Fuseal II coil for easy access to the receptacle.
2. Rotate the band clamp to orient the ratchet closure to the right or left of the duplex receptacle.
3. Insert the pipe into the fitting and push to the pipe stop. **The pipe must be fully inserted past the coil to the pipe stop. Check socket depth marks you previously indicated on the pipe. The fusion collar must be fully seated on the hub of the fitting socket.**
4. **Tighten the clamp. Proper clamp tightness will result when the fitting cannot be rotated on the pipe.**
For 4" and 6" only: Fit the steel band clamp to the joint. The clamp is placed on the fusion collar. Tighten band clamp until pipe will not rotate on the pipe.
5. Channellock #440 pliers work well for 1 1/2", 2" and 3" Fuseal II clamps.

NOTE: Clamp does not prevent pipe from being pulled out during handling.

JOINT FUSION WITH MSA 250SE/EX

1. Ensure that the MSA is standing firmly and the ventilators have an unobstructed power supply.
2. Plug the power cord into a suitable AC power source:

MSA 250SE

Volts	90 to 130 VAC
Frequency	60 Hz
Input Current	15 amps
Length of Power Cord (10 gauge/3 strand)	150' max.


MSA 250EX

Volts	200 to 250 VAC
Frequency	50 Hz
Input Current	15 amps
Length of Power Cord (10 gauge/3 strand)	150' max.

3. Connect the factory-supplied fusion cables to the duplex receptacle of the fitting(s). A green light will illuminate on the display of the MSA if continuity is achieved.
4. Select the appropriate barcode (i.e. correct material and size) and scan the barcode with the barcode reader.

The fusion unit screen will display the required voltage followed by the time required for the fusion (the time will count down until zero is reached).

The barcode reader operates best when held at an angle of 10° to 30° from the vertical position and is run across the barcode strip in one continuous movement.

5. To start fusion press the start/stop key .
6. When the audible horn sounds, read the display.
If the display indicates **E0**, immediately compress the ratchet closure on the band clamp. **Tighten the clamp as tight as possible (note: not to exceed 1 to 2 clicks). If clamp breaks, replace immediately.**
For 4" and 6", tighten the steel band clamp approximately one full turn.
If the display shows an error code, consult the MSA 250SE/EX Technical and Operation Manual to determine the source problem, and correct the problem before attempting another fusion.
7. Allow the joint to cool to touch before disturbing.
8. To re-fuse a leaking joint, drain any liquid from the area surrounding the joint and repeat steps 3 through 6 using a new clamp for sizes 1 1/2" through 3".

Note: Do not re-fuse a leaking joint more than one time.

The technical data given in this publication are for informational purposes only. They imply no warranty of any kind. Please consult our General Conditions of Supply.

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Installation Instructions for Fuseal Large Diameter (LD)

(Using the MSA 250 Power Control Unit)

JOINT PREPARATION 8", 10" & 12"

1. **Cut pipe end square** with axis of pipe.
2. **Remove all burrs from pipe end.** Chamfer the pipe end to ease insertion of the pipe and prevent the coil from being displaced.
3. Using a clean, dry cloth, wipe the pipe and inside of coil.
4. Vigorously **sand the outside surface of the pipe** where it enters the socket. Use 60 grit abrasive cloth.
5. **Clean sanded pipe surface and inside of coil with 70% Isopropyl Alcohol Solution** (i.e. IPA). (For proper use and safety regulations of Isopropyl Alcohol, please see supplier's Material Safety Data Sheets.)
Do not handle the freshly cleaned surfaces before assembling.
6. **Mark socket depth on the pipe.**

Fitting	Socket Depth (in inches)
8"	1.88
10"	2.75
12"	2.75

SETTING UP 8", 10" & 12" JOINTS

1. Place the fusion coil on pipe end. The lead wires for the female plug adapter should point away from the pipe end. Leave the coil end flush with the end of the pipe.
2. Insert pipe (with coil) into the fitting socket. Push in until pipe end touches large shoulder. Check socket depth marks you previously indicated on the pipe. The coil will slide up the pipe the distance between the small and large shoulders.
NOTE: If coil is loose on pipe, place coil into socket and insert pipe carefully so as not to displace coil.
3. Fit the steel band clamp to the joint. For 8" allow the clamp to seat flush with the socket entrance. For 10" and 12" sizes the clamp is placed against the shoulder. Tighten the band clamp until the pipe will not rotate in the socket.
4. Connect the MSA fusion cable to the fitting plug adapter on the coil. Make sure the connection is solid.

JOINT FUSION WITH MSA 250SE/EX

1. Ensure that the MSA is standing firmly and the ventilators have an unobstructed power supply.
2. Plug the power cord into a suitable AC power source:

MSA 250SE

Volts	90 to 130 VAC
Frequency	60 Hz
Input Current	15 amps
Length of Power Cord (10 gauge/3 strand)	150' max.


MSA 250EX

Volts	200 to 250 VAC
Frequency	50 Hz
Input Current	15 amps
Length of Power Cord (10 gauge/3 strand)	150' max.

3. Connect the factory-supplied fusion cable(s) to the duplex receptacle of the fitting(s). A green light will illuminate on the display of the MSA if continuity is achieved.
4. Select the appropriate barcode (i.e. correct material and size) and scan the barcode with the barcode reader.

The fusion unit screen will display the required voltage followed by the time required for the fusion (the time will count down until zero is reached).

The barcode reader operates best when held at an angle of 10° to 30° from the vertical position and is run across the barcode strip in one continuous movement.

5. To start fusion press the start/stop key .
6. When the audible horn sounds, read the display.
If the display indicates **EO**, immediately tighten the band clamp approximately one full turn for 8" and approximately two turns for 10" and 12".
If the display shows an error code, consult the MSA 250SE/EX Technical and Operation Manual to determine the source problem, and correct the problem before attempting another fusion.
7. Allow the joint to cool to touch before disturbing.
8. To re-fuse a leaking joint, drain any liquid from the area surrounding the joint and repeat steps 3 through 6 and tighten the band clamp two additional turns.

Note: Do not re-fuse a leaking joint more than one time.

For further detailed information, please consult the **MSA 250 Technical and Operation Manual**.

TESTING:
Joints may be pressure tested **10 minutes** after fusing.

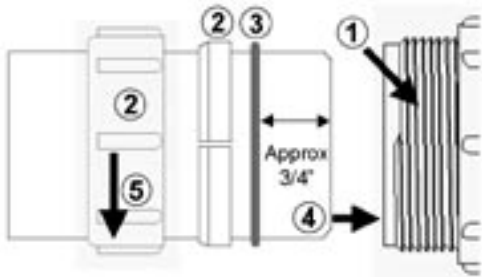
Test in accordance with local plumbing code. All sections of the system shall be tested with a maximum of 30 foot head of water.

NOTE:
Teflon tape is recommended on all tapered pipe thread connections.

Installation Instructions for Fuseal Mechanical Joint

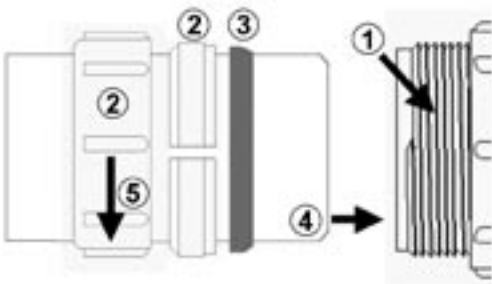
Special Note: George Fischer Mechanical Joint Fittings are to be used only in exposed or easily accessible under bench locations.

1-1/2" and 2" Installation Instructions



1. Lubricate threads of fitting with silicone
2. Slide nut over pipe, slide grabber ring over pipe, with tapered side facing nut
3. Assemble o-ring over pipe, approx $\frac{3}{4}$ " from end
4. Insert pipe into socket bottom, slide o-ring against socket entrance and grabber ring against o-ring
5. Tighten nut by hand to allow proper o-ring seating, then with George Fischer spanner wrench (p/n 8100) until joint is securely tightened

3" and 4" Installation Instructions



1. Lubricate threads of fitting with silicone
2. Slide nut over pipe, slide grabber ring over pipe, with tapered side facing nut
3. Assemble gasket over pipe, with flat side facing grabber ring
4. Insert pipe into socket bottom, sliding gasket into socket and grabber ring against gasket
5. Tighten nut by hand, then with George Fischer spanner wrench (p/n 8101) until joint is securely tightened

George Fischer does not recommend mechanical joints for use in systems discharging high temperature water, or with appliances such as autoclaves and sterilizers. The Fuseal Fusion Joint should be used in these applications in order to insure long term joint integrity. Fusion joints must be used within 75 feet of these appliances.

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