



**Franklin Fueling Systems**



# MD Series Flexible Entry Boots (FEB-XXX-MD/MDD)

## Installation Instructions



**Warning**

Follow all federal, state and local laws governing the installation of this product and its associated systems. When no other regulations apply, follow NFPA codes 30, 30A and 70 from the National Fire Protection Association. Failure to follow these codes could result in severe injury, death, serious property damage and/or environmental contamination.



**Caution**

The part described in this document is one element of a system. All components of this system should be installed according to the manufacturer's specifications so that the system's integrity is not compromised. Test the complete system after installation according to all pertinent local, state and federal laws to ensure its proper operation. Failure to properly verify operation could lead to environmental contamination.

**Note:** When installing pipe into entry boots, piping must not be more than 15 degrees from perpendicular to the sump walls or the APT warranty will be voided. Entry angles in excess of 15 degrees from perpendicular can cause excessive stress, which may damage entry boots.

**Note:** Do not install pipe entries into the bottom of any APT sump.

### Preparing - Using the Adhesive Template

**Note:** Use the following procedures for all APT sumps.

1. Remove the protective covering from the adhesive-backed drill template and apply the template to the sump wall in the required location.

**Note:** Position the template so that the hole locations do



not align straight up and down.

2. Using a 5/16" (8 mm) drill bit, drill out the set of mounting holes that apply to your entry boot.
3. Use a 3 1/2" (8 cm) hole saw to drill out the center hole for the pipe entry.
4. Remove the paper template from the sump wall so that the boot seals properly against the sump.
5. De-burr all of the holes to remove any rough edges, and proceed to Step 6 in the Completing Boot Installation section.

### Preparing - Using the Steel Drill Template

1. Place the self-tapping screw in the center hole of the steel drill template and screw the steel drill template to the sump in the required location.



2. Next, rotate the steel template so that the hole locations do not point straight up and down. Use a 5/16" (8 mm) drill bit to drill out the first mounting hole that applies to your entry boot. Insert the wooden dowel in the hole to prevent the template from spinning.
3. Use a 3 1/2" (8 cm) hole saw to drill out the center hole for the pipe entry.
4. For metallic ducted (MD) flexible entry boots (FEBs) with eight studs, use a hole saw to drill out a 3 1/2" (8.9 cm) pipe entry hole.
5. De-burr all of the holes to remove any rough edges, and proceed to Step 6 in the Completing Boot Installation section.

Manual #	Revision	Date	Changes from Previous Revision
771-201-01	6	Dec, 2010	Added Torque Specifications

## Completing Boot Installation

6. Place the larger interior diameter (external) entry boot for the metal ducted pipe on the studded backer plate so that the entry boot is facing back through the studded backer plate.
7. Add urethane sealant to the sealing surface between each stud on the backer plate and the external entry boot assembly. *APT recommends using Bostik 1100 or equivalent marine grade urethane sealant.*
8. From outside of the sump base, insert the backer plate/entry boot assembly. Tap it in with a rubber or plastic mallet if required.

**Note:** APT recommends using Bostik 1100 or equivalent marine grade urethane sealant as a precautionary sealant between the sump wall and the external entry boot.

9. Add the same urethane sealant to the sealing surface of the internal entry boot and place the internal entry boot over the studs, making sure that the boot faces the inside of the sump as shown.

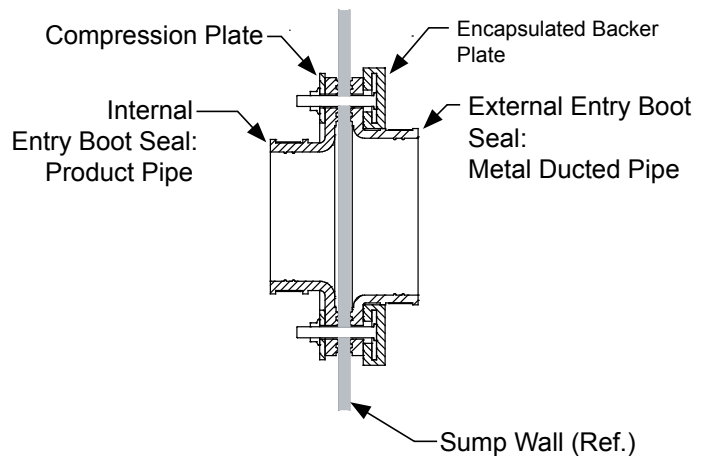


10. Add the compression plate over the stud assembly and tighten the hex nuts.
11. Using a 7/16" (12 mm) socket, tighten all of the nuts from Step 10 in a cross pattern until the boot is sealed. Follow torque guidelines shown in the chart.



**Note:** After tightening the entry boot in place, proceed with installing the system as described in the manufacturer's instructions. After all of the piping connections have been made, tighten all of the band clamps to seal the entry boots onto the piping jackets and ducting as necessary.

**Note:** During piping installation, ensure that the scuff guard is trimmed back outside of the sump wall so that the entry boot will seat on the secondary jacket.



## Entry Boot Torque Specifications

Correct installation of entry boots is critical to a proper installation. Excessive torque on the fastening nuts may cause the bolts to pull away from the backer plate hindering the boot's ability to seal to the sump wall.

When installing pipe into entry boots, piping must not be more than 15 degrees from perpendicular to the sump walls or the APT warranty will be voided. Entry angles in excess of 15 degrees from perpendicular can cause excessive stress, which may damage entry boots. Flexible and ducted entry boots are designed to seal to the flat walls of our sumps, but will work on rounded sumps with a diameter of 36" (91.5 cm) or greater.

**Note:** Do not install pipe entries into the bottom of any APT sump.

Follow the torque guidelines below.

Application	Torque (Inch-Pounds)	Torque (N-m)
<b>Boot Fastening Nuts</b>		
HDPE without Permthane	60	7
Fiberglass without Permthane	75	9
HDPE with Permthane	55	6
Fiberglass with Permthane	55	6
<b>Band Clamp</b>		
Flexible Side	25	3
Ducted Side	20	2



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