

Downstream Defender Pipe Connections

Defender Outlet

The Defender outlet pipe passes through the manhole wall and is connected internally with a coupling to the overflow pipe stub. The overflow pipe stub is part of a roto-molded plastic component that has an outside diameter that corresponds to SDR 35 plastic pipe and cannot be modified. We recommend supporting the pipe and making the internal connection first, and then grouting the manhole opening with non-shrink grout after. Alternately, a manhole penetration boot may be used to obtain a watertight connection through the manhole wall.

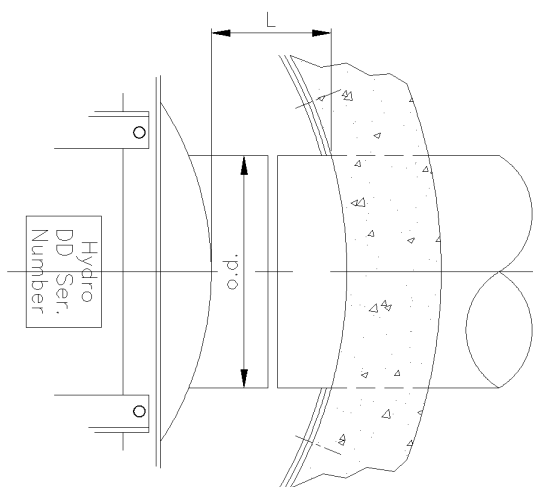
Depending on the difference in pipe o.d., the internal connection to the pipe stub can be accomplished with a standard pipe coupling, a large diameter coupling and bushing arrangement similar to the Fernco L.D.C.X. product line, a bituminous pipe wrap similar to Mar Mac Polyseal, or pvc fittings. (The pipe wrap is typically the most cost effective means of making the connection.)

Where the outside diameters differ by more than 6" a pipe wrap may be the only option. In some instances where there is a very large difference in pipe o.d., a short length of pipe with an o.d. close to the stub should be connected with a standard "Fernco type" coupling and the connection to the larger o.d. pipe should be made outside of the Defender manhole. An external pipe wrap connection for pipes with very large differences in o.d. should utilize a grout diaper around the joint to ensure a watertight connection. In some cases there may be a lead-time of several days to fabricate and ship the required coupling. Please refer to the attached Downstream Defender Coupling Information sheet.

Defender Inlet

To initiate the vortex flow pattern, the inlet pipe enters the Defender manhole tangent to the inside diameter rather than passing through the manhole center line. The end of the pipe gets cut off at a 30° angle inside the manhole. An internal connection is not necessary on the inlet. To ensure a watertight connection, we recommend grouting the inlet with non-shrink grout. The shape and size of the inlet penetration in the manhole wall make it unlikely that a penetration boot can be used on the inlet.

Downstream Defender® Overflow Pipe Coupling Information



DIMENSIONS

DEFENDER Diameter (ft.)	L (in.)	Plastic o/flow pipe stub o.d. (in.)
4	6-3/8	12-1/2
6	9-9/16	18-11/16
8	12-3/4	24-13/16
10	15-1/4	36
12	22	44

VENDORS

Product	Manufacturer	Contact	Phone
Fernco	Fernco - East		800.521.1283
Fernco	Fernco - West		800.232.3092
Esky Wrap	Cadilloc, Inc.		906.786.0460
Indiana Seal	Indiana Seal		800.428.5309
PipeConX**	Uniseal		800.443.9081
Polyseal (need to supply pipe materials)	Mar Mac	Rich Howle, Bob Weir	877.962.7622

To ensure procurement of correct coupling, it is recommended that the coupling manufacturer be contacted directly well in advance with the o/flow pipe stub o.d. as listed above and the material and o.d. of the outlet pipe being utilized. Additional or different equipment may be required to connect to outlet pipe of different diameter or to CPP (Corrugated Plastic Pipe).

*Large Diameter Coupling Extra (LDCX) sizing, availability, costs and delivery to be determined by contractor.

**PipeConX - no couplings larger than 25", no custom sizes.

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