

Can I use the Dual Membrane diffusion sampler (DMPDB) for my project?

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What can the DMPDB sample for?

The DMPDB is successfully used for VOCs, SVOCs, metals, other inorganics, 1,4-dioxane, PFAS, physical parameters, and more. For some of these constituents of concern (CoCs), we have data on our website (Click “Data” link at bottom of the page) which has either been collected via bench test or as part of a third-party field study that was published or shared with EON voluntarily. However, the DMPDB is also regularly used for many other CoCs on projects where results are not available to the public.

For CoCs where data is not yet available, please use the following guidelines: If the sampler remains fully submerged in the saturated screen (screened water column) for at least 3 weeks leading up to retrieval, the DMPDB can generally be used to sample anything in the groundwater that is both:

- (1) present and dissolved or suspended in the water flowing through the screened well interval where the DMPDB is placed
- (2) smaller than the approximately 0.006 inch pores on the upper membrane.

What else do I need to consider when evaluating the DMPDB for my project(s)?

This is only a short overview. Please review the [linked SOP](#) for complete information, and/or send EON your well data for assistance with planning and troubleshooting according to best practice.

Well Diameters: DMPDBs can be used in 2” wells with Schedule 40 casing and in wells with diameters over 2”. We do not recommend using DMPDBs in 2” wells that have Schedule 80 casing, OR protrusions or obstructions inside the well, OR any other tubing/equipment present.

DMPDB Placement: All passive groundwater samples represent a specific interval of the saturated screen. Factors such as saturated screen length, the presence of formation stratification or bedrock fractures, and the density of your CoCs relative to water (i.e., “floaters” or “sinkers”) may affect where samplers should be placed to target your CoCs and how many DMPDBs are recommended to accurately represent the full well screen. [Ask EON for guidance!](#)

Sample Volume for passive methods is limited by the amount of water present in your screened interval. In a 2” well, each 5ft of saturated screen can usually yield just over 1 Liter of volume. Wider diameters or longer screened water columns can yield larger volumes when multiple DMPDBs are used together.

Suspended solids: DMPDB samples include background colloids that meet the 2 guidelines above, without contributing any additional, method-induced turbidity. If your site or lab requires you to submit filtered samples, you may need to filter your sample after retrieval or talk to EON about possible alternatives.

Suspension Tethers: DMPDBs are deployed on bottom-weighted suspension tethers. DMPDBs require more weight than other passive samplers to reach/maintain submergence depth. [Ask EON about our recommendations for total bottom weight and about our convenient and affordable service for your well-dedicated, custom tethers.](#)

Side-by-side Studies/Field Comparisons: [Please let EON know if you are planning to conduct a field comparison of the DMPDB to another sampling method or historical data!](#) We have guidance and recommendations (based on USGS and ITRC publications) for planning and evaluating your comparison.

SOP Link: <<https://www.eonpro.com/wp-content/uploads/2021/01/Dual-Membrane-Passive-Diffusion-Sampler-DMPDB-SOP-1.0.pdf>>

Data Link: <<https://www.eonpro.com/documents-resources/>>