

Gas Addition Module II (GAM II)

Gas-liquid coil reactor

The Gas Addition Module II (GAM II) is a coil reactor that permits gas to be introduced 'on-demand' to reactions performed under flow-through conditions by diffusion through gas-permeable membrane tubing. A length of gas-permeable DuPont AF2400 membrane tubing runs inside the full length of the coil reactor tubing containing the liquid phase in a 'tube-in-tube' arrangement. The gas and liquid phases do not come into direct contact with each other at any point. As the gas dissolved in the flowing liquid phase is consumed, more gas rapidly diffuses through the AF2400 tubing to replace it.

The GAM II can be heated and cooled just as with more conventional coil reactors and is available in 2 versions: To ensure the most efficient heat transfer, the standard outer reactor tubing can be manufactured from 316L stainless steel (UQ1095S). Alternatively, a thick-walled PTFE version (UQ1095) offers both improved chemical compatibility whilst allowing visualisation of the reaction mixture through the opaque tubing walls. Other options such as Hastelloy and PTFE-lined stainless steel are available to special order.

For maximum flexibility, the GAM II coil reactor is based upon a standard Uniqsis coil reactor mandrel. It is therefore compatible not only with [FlowSyn](#), but also with the [Polar Bear Plus Flow](#), the [HotCoil](#) and [Standalone Cold Coil Mk II](#). Moreover, where longer residence times and/or higher throughputs are required, up to 2 of these reactors may be fitted in series to each of these instruments.

A key advantage of the GAM II is that, typically, the flowing liquid phase does not contain any undissolved gas bubbles, thereby ensuring greater stability, consistent flow rates and reproducible residence times.

To facilitate management of the gas input an optional stainless steel [Gas Manifold](#) (UQ1095M) fitted with a pressure gauge, additional in-line valving and safety burst valve is also available.

- DuPont AF2400 gas permeable inner membrane tubing
- Outer tubing is PTFE for optimal chemical compatibility
- Or 316L for optimal heat transfer
- Optional Gas Manifold available to help manage gas input



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