Cold Coil II™ Reactor Module

Coil Reactor Heating and Cooling Unit for Flow Chemistry

UNIQSIS

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Cold Coil II™ Flow Reactor Module

Flexible standalone heating and cooling module for flow chemistry

- **Connects to a suitable circulator to achieve stable temperatures from -78°C to 260° C**

- **Optional chip module available for use with Uniqsis GSMs (shown opposite)**

- **Convert to a photoreactor by adding the PhotoSyn™ or Nebula™ LED modules**

- **Compatible with all Uniqsis coil reactors**

- **Optional remote temperature probe**

The Uniqsis **Cold Coil II™** is a versatile standalone temperature controlled coil reactor module that, when connected to a suitable external circulator, is designed to maintain stable temperatures between –78°C and 150°C for extended periods.

An internal temperature probe can be connected directly to the external heater/chiller (RS232) to ensure accurate remote control of the Cold Coil II reactor temperature. When connected to a **FlowSyn** or **Binary Pump Module** as the reagent delivery system, the heater/chiller can be controlled directly from the Uniqsis user interface.

The unit is compatible with all Uniqsis coil reactors, from 2.0ml up to 60 ml capacity. These are available in a wide range of materials that includes PTFE, PFA, FEP, copper, 316L SS and Hastelloy C-276. A proprietary clamping mechanism holds the coil reactor firmly in place and ensures optimal thermal contact whilst allowing coil reactors to be easily interchanged.

A glass cover is provided to eliminate convective effects within fume cupboards. A vacuum jacketed glass cover is also available and is recommended for use at very low temperatures.

The Cold Coil II is also compatible with the Uniqsis **HotColumn** multiple column reactor adaptor for packed bed applications.

Fitting the optional **GSM Adaptor** extends the utility of the Cold Coil further and allows a Uniqsis glass static mixer to be incorporated. This may be used as a rapid mixing device before flowing directly into a coil reactor as an incubation module (see Application Note 25).

Since the Cold Coil II is a true standalone module with no internal electronic control components it can be readily assimilated into an exis ng flow reactor system. Alterna vely, several units may be quickly connected in series to afford a rapid route to scale-up.

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Selected optional extras:

HotColumn Adaptor: The HotColumn Adaptor fits directly onto the Cold Coil II and allows up to 6 insulated column holders to be fitted. Holders are available in a range of sizes to accommodate columns from 10mm – 20mm OD.
Columns are available in glass, with adjustable plungers, or 316L stainless steel with fixed end pieces.
Columns may be connected in series to afford a rapid route to scale-up.
A temperature probe may be inserted directly into the column holder for accurate temperature control.

Cold Coil GSM ('chip') Holder: The GSM holder attaches to the top of the Cold Coil and connects directly to the internal coolant channels. It is compatible with smaller Uniqsis GSMs which are clamped in place to maximise thermal contact with the constant temperature plate

PhotoSyn LED Photoreactor: The Cold Coil II can be converted into a photoflow reactor by fitting the PhotoSyn high power LED light unit. This is available with a range of standard wavelength configurations (365nm, 455nm and 555nm) in addition to custom configurations.
The LED arrays are powered by an external power supply that operates at up to 700W.
Whilst the LED arrays are water-cooled, the coil reactor temperature is independently controlled by the circulator. Safety interlocks disable the LEDs if any attempt is made to remove the PhotoSyn whilst in operation.

Cold Coil II Options & Accessories	
UQ1050-M2	Cold Coil II including single wall glass cover
UQ7047	Remote temperature probe for Cold Coil II, Pt100
UQ1071	GSM ('chip') holder for Cold Coil II
UQ1041	HotColumn Adaptor™ (maximum of 6 column reactors)
UQ1037-15	Column holder assembly complete for 10 mm ID (15 mm OD) glass column
UQ1074	PhotoSyn™ High Power LED light hood and power supply, 455nm
UQ1075	PhotoSyn™ High Power LED light hood and power supply, 455/365nm