

The SFA-20/SPEX series of stopped-flow rapid-kinetics accessories offers versatility for spectroscopic monitoring of fast reactions in solution.

- Dead time < 8 ms
- Observation cell optimized for best performance with SPEX[®] instruments
- Integrates into any current SPEX[®] fluorescence system
- Multi-mixing ability
- Flexible thermostat format
- Sample's path constructed of chemically inert Kel-F[™], silica, Teflon[®], and glass
- Crush-resistant flexible umbilical

Easy to fit and easy to use, this instrument has the versatility to handle the simplest teaching application or be used for leading-edge research with small quantities of novel or expensive materials.

Two- and Three-syringe versions

In addition to the conventional two-syringe mixing system, there is also a three-syringe version with two sequential mixers in the cell, giving you an option to do double-mixing. Further choices include a micro-volume version, reducing the volumes of reagents required to load the instrument, and thus improve sample economy.

Advanced features

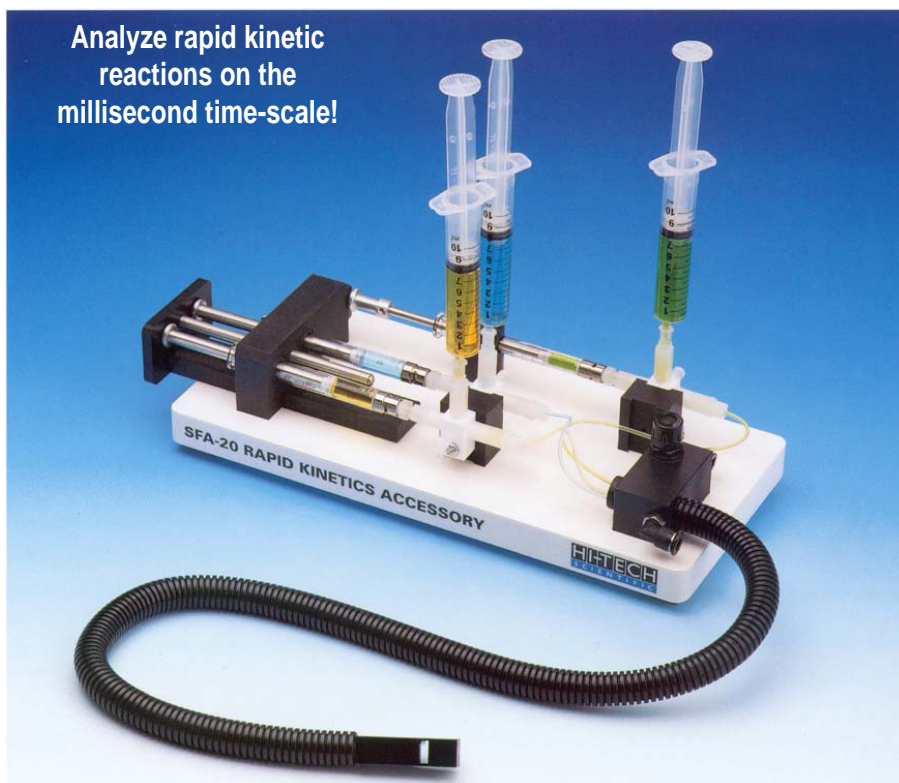
The SFA-20/SPEX Series is engineered from the highest-quality materials to meet the exacting demands of kinetics research, to ensure outstanding performance. Reagents flow from the high-precision, research-grade, gas-tight syringes through an inert, thermostatted sample circuit to a high-efficiency mixer housed in the flow-cell. Thermostating just the sample circuit and not the drive syringes and valves brings a number of benefits, yet there is no compromise on sample-temperature regulation. Not only is the potential of leaking syringes at low temperatures avoided, but also syringes may be rapidly exchanged for variable-ratio mixing applications. Syringes are mounted on a rigid drive-platform to allow the flow to be stopped precisely and instantaneously. This platform and the syringe mounting blocks are extremely resistant to chemical attack. The thermostatted sample circuit is housed in a crush-resistant flexible "umbilical cord" for maximum protection.

How it works

The SFA-series stopped-flow accessory permits observation of the reaction rate of two reactants forced through a mixing chamber, and into an observation cell. The reactant solutions are contained in drive syringes whose pistons simultaneously are driven. After leaving the observation cell, the reactants advance a stop syringe, triggering data-acquisition by the spectrofluorometer.

Specially designed for Spex[®] instruments!

This instrument has been designed to suit the particular needs of FluoroMax[®] and Fluorolog[®] spectrofluorometers. The optical cell matches the beam geometry of this instrument. A cable is supplied so data-acquisition can be externally triggered at stopping, providing a reproducible time-zero registration for all traces, and allowing accurate overlay and averaging.



Options

OPT-20A	Anaerobic Kit
OPT-20P	Pneumatic Drive Attachment

Specifications

Empirical dead-time	< 8 ms
Minimum volume per shot	100 μ L per reactant
Dead volume	700 μ L (SFA-20 and SFA-20mx); 350 μ L (SFA-20M and SFA-20mxM)
Window sizes	3 mm wide \times 10 mm high for excitation and emission, specifically designed for FluoroMax [®] and Fluorolog [®] instruments.
Optical path-lengths	3 mm for excitation and 3 mm for emission.
Flow-cell's beam height	15 mm from base of cell to center of window.
Piston drive	Manual drive standard Pneumatic drive optional on SFA-20/SPEX, but we recommend the SFA-20mx/SPEX and SFA-20mxM/SPEX
Temperature range	5 to 80°C
Adjustable stop volume	Available
Mixing ratio of reagents	Up to 20:1 by varying syringe-sizes
Umbilical length	600 mm (SFA-20/SPEX and SFA-20mx/SPEX) 300 mm (SFA-20M/SPEX and SFA-20mxM/SPEX) Other lengths available on request.
Drive syringes	2.5 mL (SFA-20/SPEX) 1 mL (SFA-20M/SPEX, SFA-20mx/SPEX, and SFA-20mxM/SPEX)
High-efficiency T-format mixer	Available for SFA-20/SPEX and SFA-20M/SPEX With 10 μ L delay available for SFA-20mx/SPEX and SFA-20mxM/SPEX <i>Longer delays may be available on request</i>