The prepFAST-MC is a fully automated low pressure chromatography system that isolates elements of interest from the sample matrix and collects up to multiple discrete eluent fractions for precise isotopic analysis. The syringe-driven system allows sample loading, multiple acid washes, column conditioning and elution cycles all at user-defined intervals (time, volume and flow rate).

**Figure 1.** After initial preconcentration of metals from seawater the chromatographic separation of Cu and Fe, Zn and Cd from remaining matrix components is fully-automated with the prepFAST-MC.

**Figure 2.** The prepFAST-MC system schematic illustrating three-steps of 1) loading sample into a loop 2) pushing sample reagent onto column and 3) eluting sample to destination vial.
**Benefits:**

- Fully automated
- User defined
  - sample size
  - elution volume
  - wash/load/elute rates
- Multiple fractions
- High throughput (30-50 samples/day)
- Stand alone system runs 24 hrs unattended

*Figure 3. SC-4 DX top view with locations for Sample, Fraction 1, Fraction 2, and Fraction 3. Vial sizes, styles and rack configurations are flexible.*