

Ion Sources

STRUCTURE OF ION SOURCES - Thermionic sources are small (0.062 inch diameter x 0.40 inch long) ceramic cylinders composed of a loop of wire coated with layers of ceramic materials. Additives in the ceramic determine its activity. Source types are identified as TID-1, TID-2, TID-3, TID-4, TID-5, TID-6, and CFID, according to their chemical formulations and their work functions for the emission of thermionic electrons. Also available is an FID Probe consisting of an uncoated loop of wire.

SOURCE MOUNTING CONFIGURATIONS - A standard source mounting is a hexagonal shaped stainless steel flange which fits all DET structures as well as the Agilent 6890/7890 NPD structure. Also available is a 1/4 inch tube mounting for use in other customer-designed NPDs such as those in the Thermo Electron Trace GC and the SRI Instruments GC. Sources mounted in a round flange that fits the Finnigan/Tremetrics 9001 GC are also available.

SOURCE RECYCLING SERVICE - Return depleted DET or Agilent 6890/7890 NPD ion sources to DET for an environmental friendly disposal. Electrical connector and Aluminum connector holder can be reused with other new parts in a RECYCLED ION SOURCE ASSEMBLY priced lower than a new source, but with the same performance.

PRICES (hex or 1/4 tube mounts with connector):
\$350 each (new), \$315 each (recycled)

Designed Uses of the Ion Source Types:

- **TID-1**, low work function for operation in Nitrogen, Air, or Oxygen; detects electronegative compounds.
- **TID-2**, moderate work function for NPD-like operation in dilute Hydrogen/Air; detects N or P compounds with minimal tailing of P peaks.
- **TID-3**, moderate work function for operation in Nitrogen, Air, or Oxygen; detects volatile Halogenates.
- **TID-4**, moderate work function for NPD-like operation in dilute Hydrogen/Air; provides the best N response for the NPD.
- **TID-5**, high work function for operation in dilute Hydrogen/Air; selective for Br and I.
- **CFID**, high work function for operation downstream of Hydrogen/Air flame; in Remote FID detector provides selectivity for Pb, Sn, P, or Si.
- **TID-6**, high work function for operation in pre-mixed high flow of Hydrogen/Air; used in PTID for selectivity and very high sensitivity for P.

**DETECTOR Engineering and Technology,
inc.**

Copyright (c) 2001 DETECTOR Engineering and Technology, inc.