

BenchTOF-dx Specifications

BenchTOF-dx is a compact, high performance time-of-flight mass spectrometer (TOFMS). It can be interfaced to industry-standard gas chromatograph systems and corresponding GC/MS data analysis platforms. BenchTOF-dx is characterised by high sensitivity with fast data-rates, and, uniquely for GC/TOFMS, has the ability to produce 'classical' electron impact ionisation (EI) spectra.

GC Sensitivity (EI mode):	1 pg Octafluoronaphthalene (m/z 272.0) will give a signal-to-noise ratio (S:N) >800:1 rms while acquiring full spectra up to m/z 800
Linear Dynamic Range:	At least 4 orders
Mass Range:	1-1000 Dalton standard, 1-1500 Dalton optional
Mass Resolution:	>1200 (FWHM) over 1-1000 Dalton
Mass Accuracy:	<0.00005 (abs)
Mass Stability:	<0.10 Da (abs) over 30 days
Time Resolution:	1 ns, with continuum spectra recorded to 0.01 amu resolution
Data Conversion Rate:	1.0 GHz (default)
Carrier gas flow capacity:	Up to 4.0 ml/min (Helium)
Acquisition rate:	Up to 560 full range spectra (to m/z 1000) stored to disk per second
Native spectral acquisition rate:	10,000 Hz
Ionisation mode:	Electron Impact, with variable electron energy (70 eV default)
Vacuum System:	Differentially pumped, with separate source and analyser chambers; using a single split-flow turbomolecular pump; backed by an oil-free roughing pump
Vacuum measurement:	Integrated digital transmitter with continuous pressure measurement from 10^{-3} to 10^{-9} mBar
System equilibration time:	30 min from full system vent (e.g. following a column change)
GC Compatibility:	Integrates with Agilent 6820 / 6850 / 6890 Series & 7820 / 7890 Series GCs; ThermoFisher Scientific TRACE/FOCUS GC Series; Shimadzu 2010 Series GC; other GCs by request
GC interface temperature control:	50°C to 420°C (± 0.1 °C)
Instrument control & data analysis software:	Proprietary real-time data interface (dx-Connect), featuring dynamic baseline compensation; and integration into popular MS data analysis systems: Agilent ChemStation; ThermoFisher Xcalibur; Shimadzu GCMSsolution; Zoex GC Image; others by request
Supported Data formats:	Automatic output to Agilent ChemStation (.d), ThermoFisher Xcalibur (.raw), Andi (.cdf)
General	
Power Requirements:	115/230V Switchable, 50/60 Hz, 400 VA
Dimensions:	630mm (W) x 635mm (H, max) x 600 (D)
Weight:	80kg