A Dual Inlet Aerosol Switching (DIAS) system is used to alternate between sample and standard aerosol streams. The balanced DIAS system practically eliminates uptake and washout time, greatly improving the frequency of sample standard bracketing for mass bias correction.

Features:

- Rapid sample standard bracketing
- Dual inlets
- Perfectly balanced spray chambers and nebulizers
- Aerosol switching
- Minimal dead volume
- Temperature controlled

Figure 1. Ten replicate one minute injections (RSD < 0.63%) illustrate stability, reproducibility, rapid uptake and complete washout during aerosol switching.
Figure 2. The DIAS schematic illustrates washing (2% HNO₃) Inlet 1 while Inlet 2 is used to analyze standard.

Figure 3. Switching the aerosol valve between Inlet 1 (Blank: 2% HNO₃) and Inlet 2 (Standard: Hf) demonstrates a 5 sec 1,000,000x washout to baseline and a 5 sec uptake to reach a stable signal.
Figure 4. The DIAS schematic illustrates analyzing sample in Inlet 1 while a stable standard aerosol is maintained in Inlet 2.

Figure 5. Aerosol switching between Inlet 1 (Sample: Mo) and Inlet 2 (Standard: Hf) demonstrates 5 sec transitions from stable sample to stable standard signals. Near elimination of uptake and washout times greatly reduce time required for sample standard bracketing.
Figure 6. Running Nd simultaneously in Inlet 1 and 2 indicates seamless switch between balanced inlets with identical sensitivity.

Benefits:
- Rapid uptake < 5 sec
- Rapid washout < 5 sec 1,000,000x
- < 5 sec sample - standard switching
- Rapid sample standard bracketing
- Balanced inlets