

VGA for Zeeman Adapter Kit Instruction Sheet

The VGA for Zeeman Adapter allows the VGA (Vapor Generation Accessory) to be used with the SpectrAA 220Z/880Z instruments. The adapter allows installation of the following cells in the sample compartment:

- Mercury flow-through cell
- Standard hydride absorption cell
- ETC 60 cell Mk 2

In all cases, a VGA 76 or VGA 77 is required. The ETC 60 is required for hydride analyses.

NOTE

The VGA 76, VGA 77 and ETC 60 are supplied separately.

These instructions describe how to:

- Assemble the kit
- Install the adapter
- Install the cell
- Align the cell using the horizontal and vertical controls

Assembly

The following instructions outline the steps required to assemble and change cell holders of the VGA for Zeeman Adapter. When assembled the adapter is hooked over the sample compartment.

The VGA for Zeeman Adapter is shipped with the Standard Cell Holder and a bracket for the ETC 60 Workhead Mk 2.



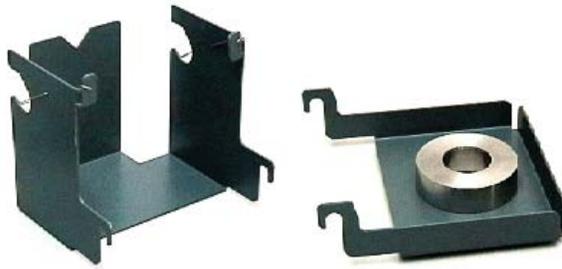


Figure 1. Standard Cell Holder, rear view (left) and ETC 60 Bracket, side view (right)

Adapter and Standard Cell Holder Installation

NOTE

It is necessary to remove the Zeeman workhead to install the adapter.

To install the adapter:

- 1 Remove the sampler and the Zeeman workhead from the instrument (refer to your sampler and instrument manuals for detailed instructions).

NOTE

The VGA 77 can be fitted to the front of the instrument as described in the instrument operation manual.

WARNING



Heavy Weight Hazard

The workhead weights approximately 16 kg (35 lbs). To avoid injury or damage always handle carefully.

- 2 Make sure that the sample compartment is empty.

TIP

Now is a good time to develop a method and align the lamps.

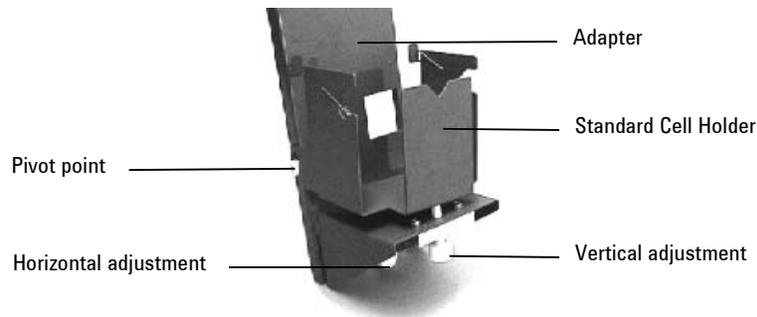


Figure 2. Adapter and Standard Cell Holder

- 3 Attach the Standard Cell Holder to the adapter outside the sample compartment. Lower the hooks of the Standard Cell Holder onto the pivot points of the adapter.

- 4 Pass the adapter fitted with the Standard Cell Holder under the crossbar of the sample compartment.
- 5 Hook the adapter on the top rear edge of the sample compartment.

TIP

If the lamp is in position and operating, this is a good time to align the cell.

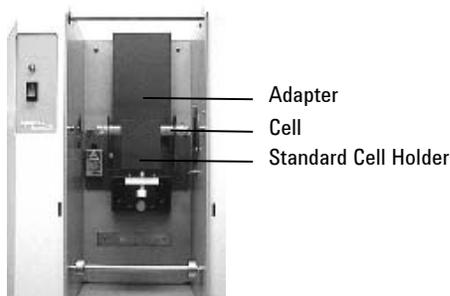


Figure 3. Adapter, Standard Cell Holder and cell inside SpectrAA sample compartment

- 6 Hook the VGA into the slots at the front of the sample compartment.
- 7 Connect the black tubing from the gas-liquid separator of the VGA to the absorption cell. Refer to your VGA 77 Operation Manual.

Cell Installation

To install the Standard Flow-through Cell, refer to your VGA 77 Operation Manual.

Cell Holder and Adapter Removal

The standard cell holder must be removed to allow installation of the ETC 60 Workhead Mk 2.

- 1 Lift the cell holder up to unhook cell holder from the adapter mounting.
- 2 Lift the adapter out of the sample compartment carefully avoiding the crossbar.

Adapter and ETC 60 Workhead Mk 2 Installation

NOTE

It is not necessary to remove the cell from the cell holder.

To install the ETC 60 Workhead Mk 2:

- 1 Make sure that the sample compartment is empty.

TIP

Now is a good time to develop a method and align the lamps.

- 2 Attach the thermocouple cable (yellow) to the yellow connection at the rear of the ETC 60 Workhead Mk 2.
- 3 Attach the ETC 60 bracket to the adapter outside the sample compartment. Lower the hooks of the ETC 60 bracket onto the pivot points of the adapter.
- 4 Feed the power cable (brown) and the thermocouple cable (yellow) through the hole at the back of the Adapter.



Figure 4. ETC 60 Workhead Mk 2

- 5 Fit the ETC 60 Workhead Mk 2 to the ETC 60 bracket (which is now attached to the adapter).
- 6 Pass the adapter fitted with the ETC 60 bracket and the ETC 60 Workhead Mk 2 under the crossbar of the sample compartment.

NOTE

Allow the cables to hang down over the top of the adapter when passing the adapter underneath the crossbar.

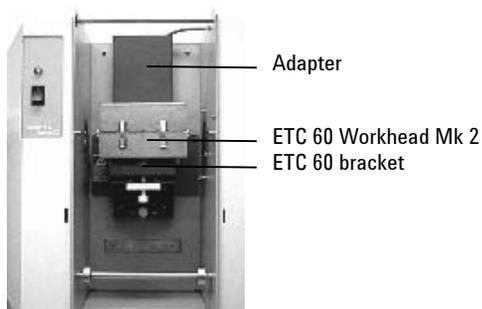


Figure 5. Adapter, ETC 60 Workhead Mk 2 and ETC 60 bracket inside SpectrAA sample compartment

- 7 Hook the adapter fitted with the ETC 60 bracket and the ETC 60 Workhead Mk 2 on the top rear edge of the sample compartment
- 8 Pull the power cable and the thermocouple cable up through the sample compartment. This will allow them to be attached to the Temperature Control Module which can be placed on top of the instrument.

TIP

If the lamp is in position and running, this is a good time to align the cell.

- 9 Hook the VGA into the slots at the front of the sample compartment.
- 10 Connect the black tubing from the gas-liquid separator of the VGA to the absorption cell.

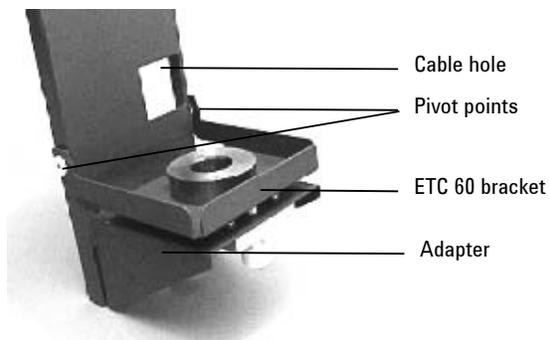


Figure 6. ETC 60 Bracket fitted to the adapter

Alignment and Optimization

NOTE

This instruction sheet assumes the Zeeman workhead has been moved out of the light path and the lamp has been optimized before the installation of the adapter. To optimize the lamp, refer to the appropriate instrument operation manual.

The adapter has two alignment screws to allow optimization of the cell position in the optical path. To align the cell, go to the 'Optimization' page and adjust the horizontal and vertical adjustment screws to achieve maximum light throughput.

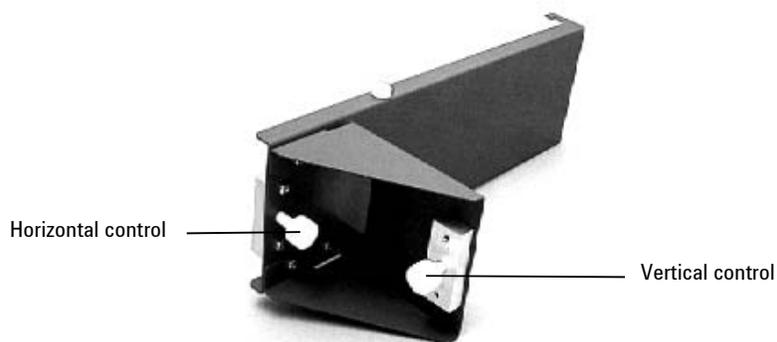


Figure 7. Optimization controls on the VGA for Zeeman Adapter

Software

To use the VGA for Zeeman accessory with the SpectrAA 220Z/880Z Zeeman systems you must develop a vapor method.

To complete an automated sequence of elements in one run you must develop and run a vapor sequence.

When you develop a vapor method set the atomizer type to 'Cold vapor' when the element being determined is Hg. Select 'Electric Hydride' when determining any other hydride element with the ETC 60 (to atomize the analyte hydride).

NOTE

Ensure background correction is deselected on the 'Optical parameters' page, or errors will result. This is because SpectrAA Zeeman systems do not have deuterium background correction.

Refer to your SpectrAA Help for further information on the development and running of methods and sequences.

This information is subject to change without notice.



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