



Convectron® ATM Gauge Removal and Replacement Procedure

GRANVILLE-PHILLIPS
HELIX TECHNOLOGY CORPORATION

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Convectron® gauge removal and replacement procedure



WARNING

Removing or replacing the Convectron gauge in a high-voltage environment can cause an electrical discharge through a gas or plasma, resulting in serious property damage or personal injury due to electrical shock or fire.

Vent the vacuum chamber to atmospheric pressure and shut off power to the module before you remove or replace the Convectron gauge.

Removing the Convectron gauge

To avoid contaminating the Convectron gauge, wear sterile gloves during the removal procedure. Refer to Figure 1 and follow these instructions:

1. Vent the vacuum chamber to atmospheric pressure and *shut off power to the module*.
2. Use the fitting to detach the module from the vacuum chamber.
3. Remove the four Phillips-head screws from both module end plates, but do not remove the hex nuts that hold the 15-pin connector in place.
4. Remove the end plate that does *not* have a connector, then remove both sides of the blue housing.
5. *Carefully* unplug the Convectron gauge from the vertical PC board by pulling the gauge housing away from the board.
6. Allow the differential pressure sensor tube to slide out of the port on the Convectron gauge housing.

Figure 1 Removing the Convectron gauge

1. Vent vacuum chamber to atmosphere and *shut off power to the module*.
2. Detach module from vacuum chamber.
3. Remove this end plate, then remove blue module housing.
4. Remove four Phillips-head screws from both module end plates, but do not remove hex nuts that hold 15-pin connector in place.
5. *Carefully* unplug gauge housing from vertical PC board.
6. Allow sensor tube to slide out of port on gauge housing.




Replacing the Convectron gauge

To avoid contaminating the Convectron gauge, wear sterile gloves during the replacement procedure. Refer to Figure 2 and follow these instructions:

1. *Shut off power to the module.*
2. Remove the differential pressure sensor port cover from the top of the Convectron gauge.
3. *Carefully* reconnect the replacement Convectron gauge to the differential pressure sensor by inserting the differential pressure tube into the port on the top of the gauge.
4. Align the gauge pins so they mate with connections on the vertical PC board. *Carefully* insert the Convectron gauge pins into the mating connections on the vertical PC board.
5. Position the end plates and put both blue parts of the housing into place, making sure the gauge grounding springs and cradles are in line with the gauge envelope.
6. Re-install the Phillips-head screws into the end plates.
7. Use the fitting to re-attach the module to the vacuum chamber.

Figure 2 Installing the replacement Convectron gauge

1. *Shut off power to the module.*
 2. Remove differential pressure sensor port cover from Convectron gauge.
 3. *Carefully* insert tube from sensor into port on gauge.
 4. *Carefully* insert gauge pins into the mating connectors on vertical PC board.
 5. Put both parts of blue housing into place around end plates.
 6. Re-install Phillips-head screws into end plates.
 7. Re-attach module to vacuum chamber.
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