

Hybrid turbomolecular pump operation in a pumping application



Avoid moving or causing a shock on a pump in operation. There is a risk of seizure if the pump rotates in an axis perpendicular to its axis of rotation.

When the pump is new, you must operate a running-in procedure following instructions in *B 130*.

After a prolonged shut-down of one month or more (under normal storage conditions), it is advised to perform a running-in procedure defined in Program n°2 (see *B 130* page 2/2).

This operation is used to distribute the grease evenly, at a low speed of rotation, in the ball bearings.

When the pump is started without this procedure and a noise occurs, you must operate the **RUNNING-IN 2** procedure (see *B 130* sheet 2/2).

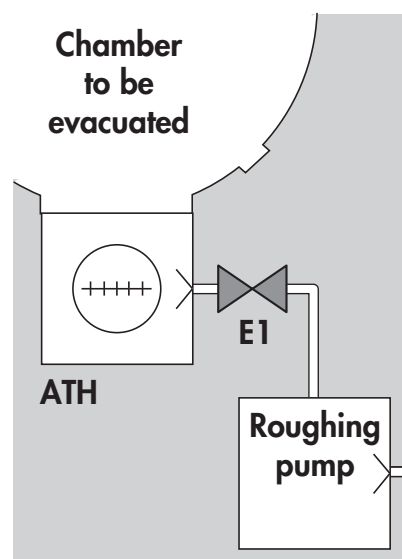
Example of a single valve assembly: The chamber and pipes are at atmospheric pressure, the pumps are switched off, the valves are closed

Start-up:

- start up the ATH cooling system,
- open the E1 valve,
- start up the primary pump,
- start up the ATH.

Stop:

- close E1,
- stop the primary pump,
- stop the ATH.
- stop the cooling system.



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Example of a 3 valve assembly: The chamber and pipes are at atmospheric pressure, the pumps are off, the valves are closed.

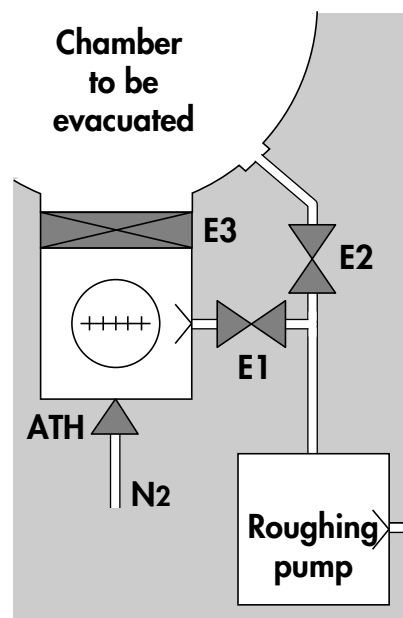
Pumpdown of the chamber:

- start up the primary pump,
- start up the ATH cooling system,
- open the E2 valve.

When the pressure in the chamber is ≤ 1 mbar, the secondary pumping can be started up:

- close E2,
- start up the ATH and start up the nitrogen purge*,
- open E1 and E3.

* N2 purge only for "C" model.



The chamber is at atmospheric pressure, the pumps are operating, the valves E2 and E3 are closed, the purge and cooling circuits are operating.

Pumpdown of the chamber:

- close E1 and open E2.

The pressure in the chamber is ≤ 1 mbar (0.75 torr):

- close E2,
- open E1 and E3.

To refill the chamber with air

Close the E3 valve (E1 remains open) and open an air inlet on the chamber.

To stop pumping

- close the E3 valve,
- with the ATH and primary pump rotating, allow the N2 purge to flow approximately 1 hour after pumping corrosive gases*,
- stop the ATH,
- close the E1 valve,
- stop the primary pump. The ATH will be refilled with air if the accessory is fitted with a valve and the relevant menus are programmed (**see B 120**),
- stop the cooling circuit.

* Only on ATH 31 C.