

The different versions

Variation of the pump rotational speed

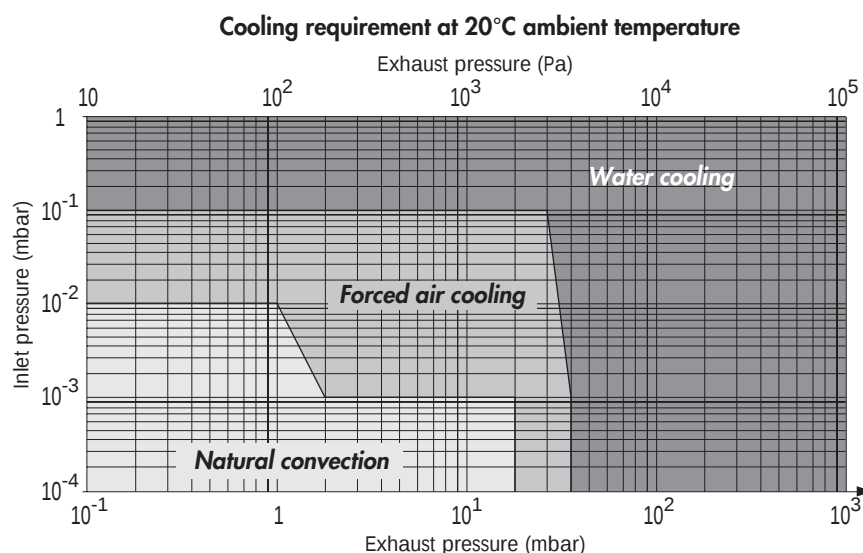
The ATH 31 pump rotation speed can be programmed between 38000 and 42000 rpm. This makes it possible to optimise pumping characteristics according to each customer application (for example, high pressure pumping).

A distinction is made between the following speeds:

- **reduced speed** or **STANDBY speed** which can be set between 38000 and 42000 rpm.
- **maximum speed** which corresponds to the maximum pumping speed of the pump, in fact 42000 rpm.

The cooling

Based on the pump environment and the way it is operated, the ATH 31 may need forced air cooling or water cooling. The factors to be taken into account are: natural convection temperature, inlet flow rate (or inlet pressure), and exhaust pressure (see the following graph).



If a doubt occurs, rather choose a forced air cooling than a natural convection cooling.



As regards their small dimensions, check to install the pump in a non-enclosed location when it is air cooling free.

Beside, check to adapt the cooling mode versus to the application (high pressure pumping and frequent cycle pumping increase pump temperature).

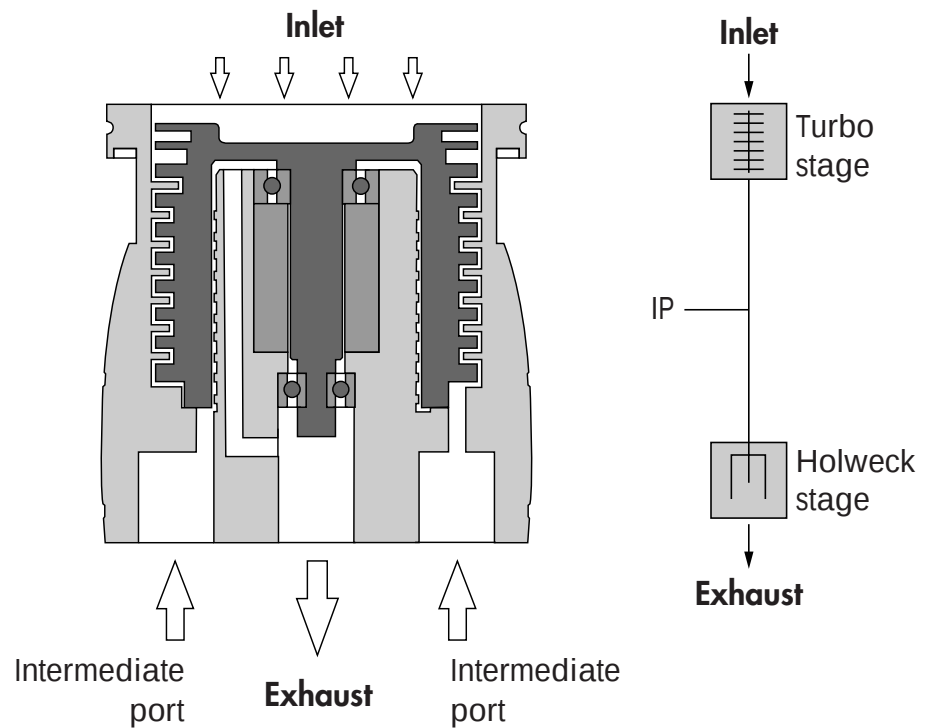
The different versions

ATH 31 standard version

Due to its pumping cell design, the ATH 31 offers excellent performance in its compact size. In addition, its compact rotor is very resistant to repetitive cycles.

One intermediate pumping port

May be used to connect an intermediate roughing line.



The different versions

ATH 31+ high performance version

A new rotor technology

This rotor is designed for an optimization of pumping speed and compression ratio for light gases.

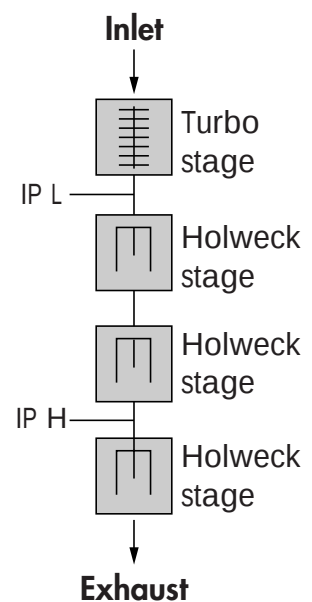
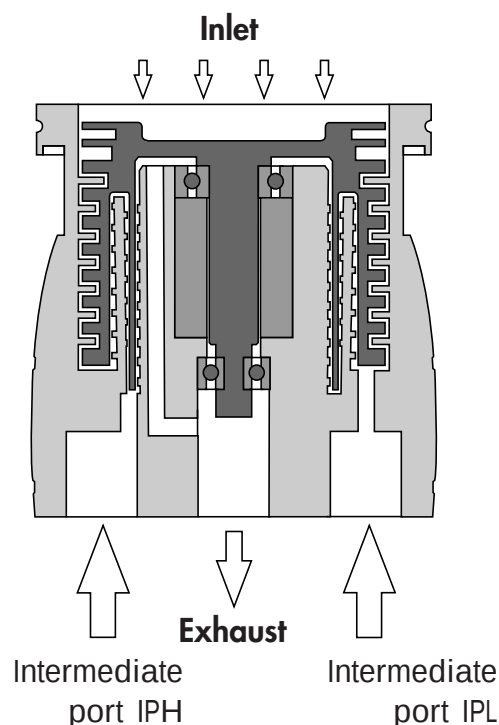
Two intermediate pumping ports for higher flexibility

May be used to connect:

- an air inlet valve;
- a vacuum gauge; or,
- an intermediate roughing line.

The cooling

All models are air cooling free or water cooling.
For forced air cooling, see the cooling kit on **A 60**.

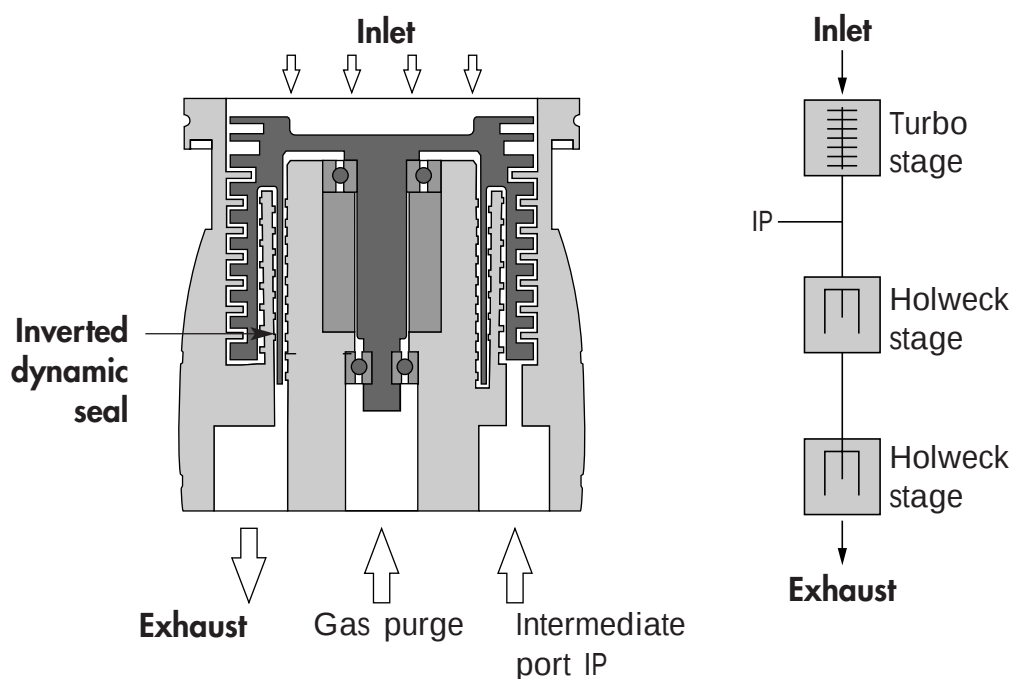


The different versions

ATH 31 C version for Corrosive applications

The **inverted dynamic seal** creates a pressure differential between the bearings and the pump exhaust and thus minimizes the quantity of corrosive gases in contact with the bearings.

When used with **a gas purge** for high flow rate applications, the dynamic seal can, on its own, provide excellent protection for high vacuum applications.



The cooling instructions for "C" version are the same as the standard (page 1/5).

Note: for the same inlet pressure, the "C" version is higher in temperature due to its design.

As a result, water or forced air cooling is recommended.

The different versions

The integrable model

This model, without a housing, is available for the 3 pump versions ATH 31, ATH 31+ and ATH 31 C. This model allows the pump to be installed in the vacuum chamber to be pumped.

As a result, the pumping speed is maximized. There is no conductance loss between the inlet flange and the vacuum chamber.



The extreme compactness of the inserted version reduces the size of the entire system.

The two piece stator facilitate integration into the vacuum chamber.

Three types of cooling are available: natural cooling, water cooling or forced air cooling.

In the case of natural cooling, the pump housing is cooled by conduction to the chamber and by convection. It is necessary to check that the chamber temperature of the pump inlet flange does not exceed 35°C.

Ensure pump is installed in a non-enclosed location.