# Zero function

## Purpose

Zero function is provided:

■ to help the operator identify a very small fluctuation of the helium signal out of the ambiant background,

■ to enlarge visualy small fluctuations of the helium signal on the analog display.

The zero function could be activated:

- by the operator,
- in automatic.

**It's advised to use this function when helium background signal is low.**

## Activate the zero function

**Reminder Operating principle of the control panel C 20**

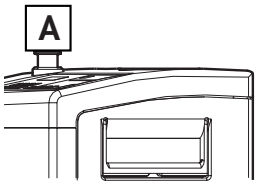
Press the key — activated

The process of the zero function is the same whatever the activation mode (operator or automatic). The only difference is when the background suppression activation is automatic: the operator does not need to press ZERO.

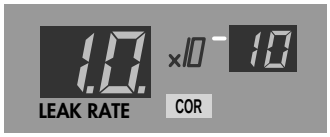
In order to illustrate the zero function process, the following example with an ASM 182 TD+ has been given:

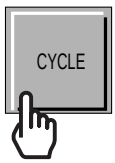
1. test of a part or installation **A**
2. test at once of **A** and an additional second part **B** which is a $5x10^{-8}$ mbar.l/s calibrated leak.
3. background suppression activation: operator.

■ Connect **A** to be tested to the inlet of the leak detector.




■ Leak detector helium back-ground is displayed on the digital display.

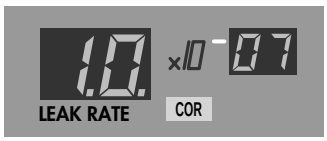


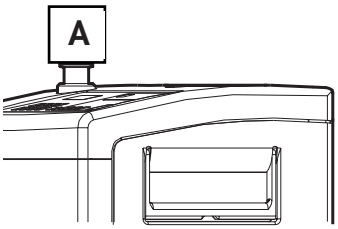




GB 01266 - Edition 02 - December 01

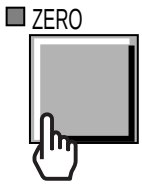
# Zero function

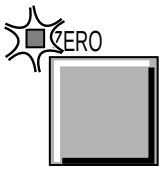
■ The **A** leak value is displayed on the digital display.



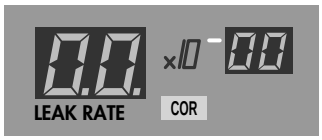




Ex: ASM 182 TD+

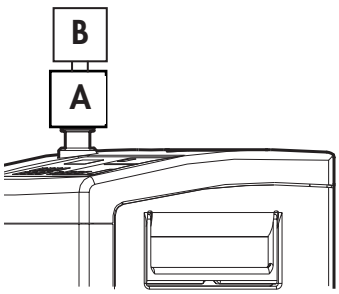


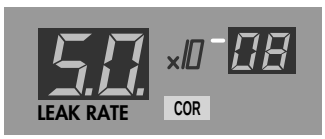

The digital display becomes 0.0E-00, as if there is zero background (1.0E-07 is considered as helium background of **A**).



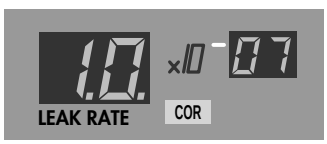

**Note:** If the background of **A** decreases after the Zero function has been activated, the substration is automaticaly recalculated so that the displayed corrected helium signal is never below zero.



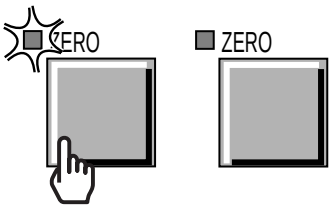

At this point, if **B** is connected to **A** already tested, the helium signal displayed on the digital display will be **B** leak value.



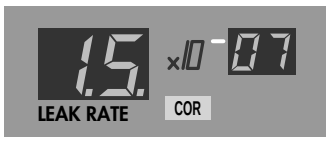

**Note:** If instead of connecting **B** to **A**, user sprays **A** with Helium, the helium signal displayed on the digital display will correspond to the helium entering the part **A** through any leak present.




## Deactivate the zero function




The digital display becomes 1.5E0-7 which is the leak value of the assembly **A** + **B**.




GB 01266 - Edition 02 - December 01

# Zero function

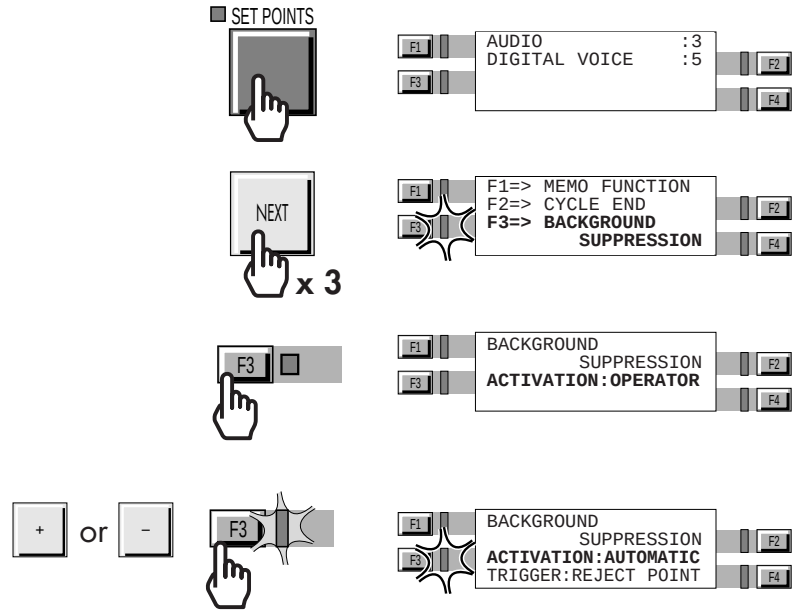
## Access authorization

*Do you have access to this operation/function?* C 30

## Background suppression activation

**Reminder** **Operating principle of the control panel** C 20

Press the key — activated




GB 01266 - Edition 02 - December 01

# Zero function

## Trigger

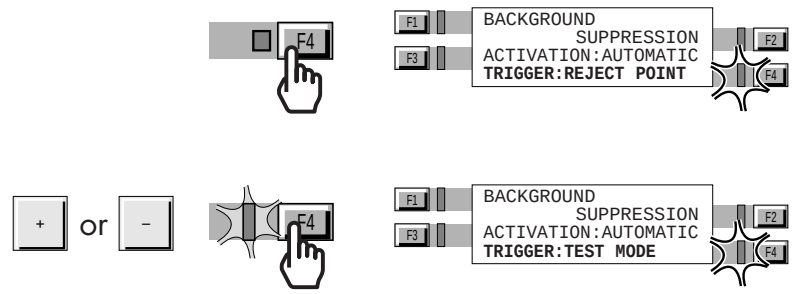
If Activation is activated (automatic), user should adjust the trigger parameter.
The trigger parameter corresponds to the value at which the zero function is selected.

( = press ZERO if activation = operator)

2 values are possible:

- reject point value
  The zero starts at an helium signal value equal to 5 times of the reject point.
- test mode:

| | Gross leak test mode | Normal test mode | High sensitivity test mode |
|---|---|---|---|
| ASM 182 TD+ | Inlet pressure < 6 mbar | — | Inlet pressure < $2x10^{-2}$ mbar |
| ASM 192 T2D+ | Inlet pressure < 30 mbar | Inlet pressure < 3 mbar | Inlet pressure < $2x10^{-2}$ mbar |

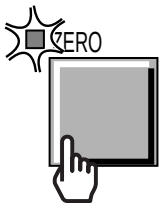


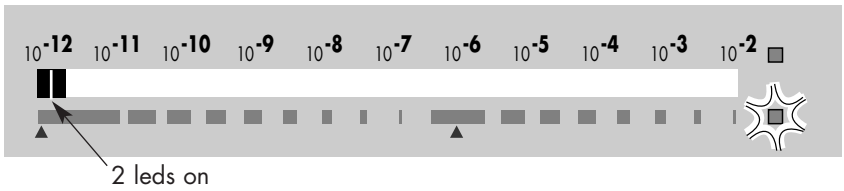

GB 01266 - Edition 02 - December 01

# Zero function

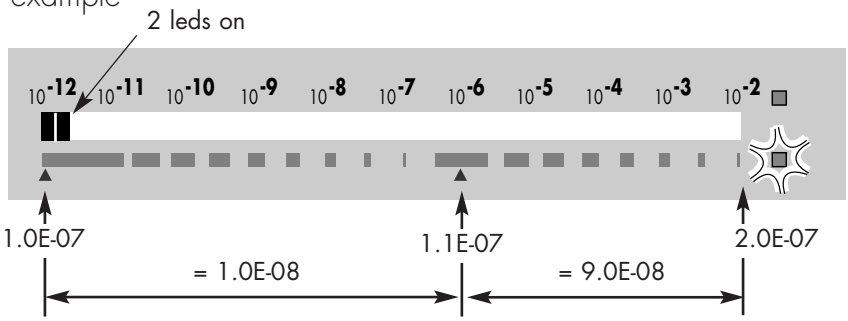
## Analog display on control panel

When the zero function is activated, use the helium signal zero scale: 2 leds are ON at the left on the scale.



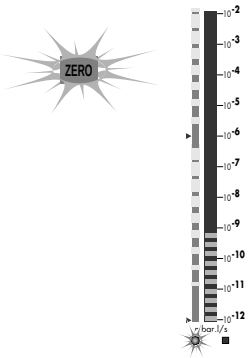

**Example:** Helium signal zero scale displayed with the previous example




## Analog display on remote control

When the zero function is activated, the zero scale indication is ON (left scale active).

The zero indication is ON also.




## Zero function & Bargraph zoom

When bargraph zoom on the reject point and zero functions are ON at the same time, the operator must read measured leak values as follow:

■ digital display:
The leak value displayed is the value corrected with zero function.

■ analog display:
Use the helium signal zero scale. The analog display is the actual bargraph zoom (see above).

*Bargraph zoom* C 90

GB 01266 - Edition 02 - December 01