



- Leak Testing -

# **INTEGRATED SYSTEMS FOR: AIR CONDITION COMPONENTS**

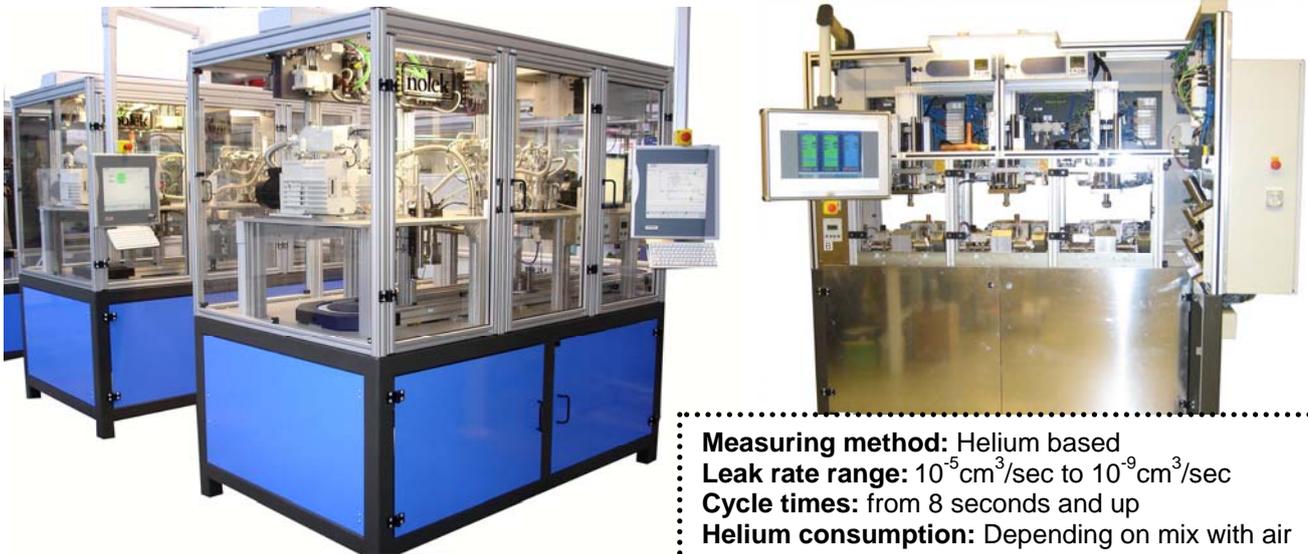
Specialist in leak testing since 1973



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# TESTING AIR CONDITION COMPONENTS

Nolek has extensive experience constructing systems to leak test a wide variety of different parts and products within the air conditioning industry. We are the preferred supplier of leak testing equipment to Danfoss, one of the leading suppliers of air condition components in the world. This has helped us accrue vast knowledge within the industry. The machines we have built test several components, including: different types of valves, including: control valves, adjustment valves, ball valves, vacuum valves, hydraulic valves, temperature regulator valves, and tools, bellows, thermostats, different types of filters, and different types of piping.



**Measuring method:** Helium based  
**Leak rate range:**  $10^{-5} \text{ cm}^3/\text{sec}$  to  $10^{-9} \text{ cm}^3/\text{sec}$   
**Cycle times:** from 8 seconds and up  
**Helium consumption:** Depending on mix with air  
**Automatic calibration**  
**Compact design**  
**Available in single or double chamber**

## Description of procedure:

1. The part to be tested is manually or automatically loaded in the test chamber and is connected with the fixture.
2. The test chamber is then closed and evacuation in the vacuum chamber begins.
3. Then we measure if there is a pressure change inside the product. If in the first moments a pressure change is detected in the product, it is declared as having a "Gross leak".
4. If the test is ok, we evacuate the product and if we do not reach vacuum in the estimated time it will also be declared to have a Gross leak.
5. If the two first tests are ok and we have reached vacuum in the chamber we connect the helium leak detector to the chamber and conduct a background check in the chamber. The background check is carried out to guarantee that we have no helium in the surrounding atmosphere before we fill the product with helium. Helium filling is split up in two steps; first step we add a small amount of helium and check for gross leak with helium, second step we fill up to the specified pressure.
6. If the product has a leak the helium leak detector will detect it. The detector measure continuously from the background check and onwards.
7. After the test the product will be evacuated to atmospheric pressure.
8. If there was a leak with a manual system, the chamber will stay closed until the operator has pressed the reset button. If the system is automatic the machines separates leaking products from not leaking ones.
9. During the test cycle there is off course a lot more sequences e.g. to remove helium, flush chambers etc. to always keep a clean atmosphere in the surrounding area and in the machine.
10. If it is a manual machine helium can remain in the part if there is a leak and the chamber will open and you can conduct a manual leak search.