

LK Tightness Tester

IMPLEMENTATION

ARTICLE NO: 387 50 00

Fits directly on the LK Manifold RF's refill valve
The tightness tester has a G15 connector with a loose nut. The LK Tightness Tester can also be used on an LK Universal System with G15 thread.

Simplified tightness check with air for certain plumbing systems

The LK Tightness Tester is used to perform a simplified tightness check using air when such a test cannot be performed with water. The reason can be a *risk of freezing at low temperatures* or *risk of bacteria growth in a pipe system before use*.

An LK Tightness Tester can be used on pipe systems that have been tested for pressure resistance. It applies to systems for tap water and underfloor heating with plastic pipes to be integrated or embedded.

A pressure and tightness check should be carried out according to "Assembly instructions for LK PE-X, PAL and PE-RT pipes" or according to industry regulations on "Säker vatteninstallation" (Safe water installation). Se www.sakervatten.se



LK Tightness Tester.



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NOTE!

Leakage testing is performed with dry oil-free compressed air only.



NOTE!

Pressure and tightness testing with water must be performed as soon as the conditions permit.



NOTE!

The system must be depressurized immediately when tightness testing is complete.

CRITERIA FOR SIMPLIFIED TIGHTNESS TEST WITH AIR



NOTE!

Pressure and tightness testing with air or another gas **must be performed by a Swedac-accredited company as per the requirements in AFS 2006.**



NOTE!

The following does **not** apply to plumbing systems on which brazing or welding are performed, for example.

- See **Testing Protocol** that can be downloaded from www.sakervatten.se or LK's own protocol "*Egenprovningssprotokoll för förenklad täthetskontroll med luft*" (*testing protocol for simplified tightness testing with air*), see www.lksystems.se/sv/teknisk-dokumentation.

Checklist

1. Pipes and pipe fittings must be certified for pressure resistance. Manufacturer certificates can be obtained from LK Systems AB for LK Underfloor Heating Pipes (6 or 10 bar) and LK Universal System.
2. Risk assessment must be conducted and documented before tightness testing is performed. Use *Säker Vatten's* document "*Riskbedömning vid förenklad täthetskontroll med luft för vissa rörsystem*" (Risk assessment for simplified tightness testing with air for certain piping systems). See www.sakervatten.se.
3. The system must not include any embedded or integrated joints.
4. The pipe must not be exposed to anything that can affect the material.
5. Pipes and pipe fittings must be executed according to LK's assembly instructions. See www.lksystems.se/sv/teknisk-dokumentation or search for the product at www.lksystems.se.

TIGHTNESS TESTING, LOW PRESSURE

A method devised by VVS Företagen (the Swedish Association of Plumbing and HVAC Contractors) and Säker Vatten AB

Read Säker Vatten AB's document "*Förenklad täthetskontroll med luft för vissa rörsystem*" (*simplified tightness testing with air for certain piping systems*), www.sakervatten.se.

MANUFACTURER'S CERTIFICATE

LK Universal system, with type-approved products, is ideal for this procedure. LK's Type approvals can be used as certificates showing that they have been tested in respect of strength. LK Underfloor heating pipes (6 or 10 bar) can be used for this method together with LK Underfloor heating manifolds as they are manufactured for a pressure of 6 bar. Manufacturer certificates can be obtained from LK Systems AB.


CHEMICAL RESISTANCE


LK Universal Pipes are highly resistant to chemicals and are therefore not affected by various water qualities. Neither are these pipes affected by building materials such as concrete, lightweight concrete, gypsum or the like. They are resistant to stress-cracking, which can affect other plastics when in contact with surface-tensioning substances such as detergents and cleaning agents. Avoid installations using the LK Coupling System in aggressive environments that e.g. contain chlorine or ammonia.


If unsure about the ability of the pipe or coupling to resist certain chemicals, consult LK's representative.



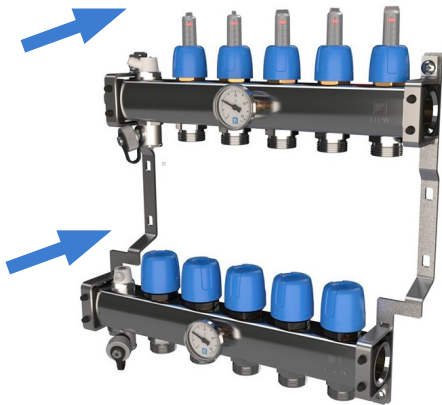
SIMPLIFIED TIGHTNESS TESTING WITH AIR ON LK VKF RF

 **NOTE!**
The tightness test described below is **not** a substitute for the mandatory pressure and tightness test.

 **NOTE!**
Under no circumstances may this method be performed with a test pressure higher than 1.1 bar, and it does **not** replace the mandatory tightness test.

 **NOTE!**
Leakage testing is performed with dry oil-free compressed air only.

Fits directly on the LK Manifold RF's refill valve (G15). Tightness tests apply to VKF RF, 1-12 circuits.




Refill valves on RF Manifold.

Preparation LK VKF RF


1. Close the shut-off valves to the supply and return pipe for the manifold.
2. The adjustment valves on the upper manifold pipe must be closed, i.e. screwed down as far as they will go. Remove the blue cap and close the valve by hand (do not use tools such as a polygrip).
3. The manual actuator on the **lower** manifold pipe must also be closed.
4. Close the **lower** refill and drain valves.
5. Connect the LK Tightness Tester to the refill valve on the upper manifold and open it. Leave the ball valve on the LK Tightness Tester closed. The bottle for compressed air or compressor must be fitted with a pressure regulator and meter (manometer) that measure

primary pressure (pressure in the bottle or compressor tank) and secondary pressure (pressure in the pipe system).


 **NOTE!**
Leakage testing is performed with dry oil-free compressed air only.

Pressure and tightness testing with air.


1. First, pressurize the circuit. Increase the test pressure to 1.1 bar(o).

 **NOTE!**
The pressure should not exceed 1.1 bar(o).


2. Adjust the test pressure until it is stable. Disconnect the pressure source. The pressure should not drop during the test period of at least 30 minutes. In plastic pipe systems, the pressure can drop a little initially. If so, restore the pressure to 1.1 bar and run the test for a further 30 minutes.
3. When the pressure is stable, inspect all pipe fittings using a leak detection substance such as **soapy water**.

 **NOTE!**
The wrong leak detection substance can mean a risk of damage to pipes or pipe fittings!

4. Repeat the procedure circuit by circuit until they have all been tightness-tested.
5. If leaks are detected, depressurize the system. Repeat the tightness test after repairs have been made.
6. Tightness tests must be documented.

 **NOTE!**
The system **must** be depressurized immediately once tightness testing is completed.

7. Reset adjustment valves and the manual actuator for the respective circuits.
8. Reset the refill and drain valves.

 **NOTE!**
Before putting the system into operation, a pressure and tightness test **must** be performed according to the instructions of LK or industry regulations Säker Vatteninstallation (safe water installation). Pressure and leak control reports must be archived for 10 years.

