LCV1
Lift Check Valve
Installation and Maintenance Instructions

1. General safety information

Safe operation of the unit can only be guaranteed if it is properly installed, commissioned and maintained by a qualified person (see Section 11 of the attached Supplementary Safety Information) in compliance with the operating instructions. General installation and safety instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment must also be complied with.

Isolation

Consider whether closing isolating valves will put any other part of the system or personnel at risk. Dangers might include; isolation of vents and protective devices or alarms. Ensure isolation valves are turned off in a gradual way to avoid system shocks.

Pressure

Before attempting any maintenance consider what is or may have been in the pipeline. Ensure that any pressure is isolated and safely vented to atmospheric pressure before attempting to maintain the product, this is easily achieved by fitting Spirax Sarco depressurisation valves type DV (see separate literature for details). Do not assume that the system is depressurised even when a pressure gauge indicates zero.

Temperature

Allow time for temperature to normalise after isolation to avoid the danger of burns and consider whether protective clothing (including safety glasses) is required.

Disposal

The product is recyclable. No ecological hazard is anticipated with the disposal of this product providing due care is taken.

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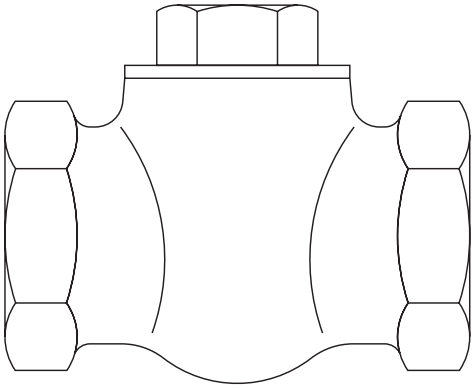
2. General product information



General description

The LCV1 is a bronze lift check valve, which is designed for installation in horizontal lines to prevent reverse flow.

Note: For additional information see the following Technical Information Sheet, TI-P029-01.

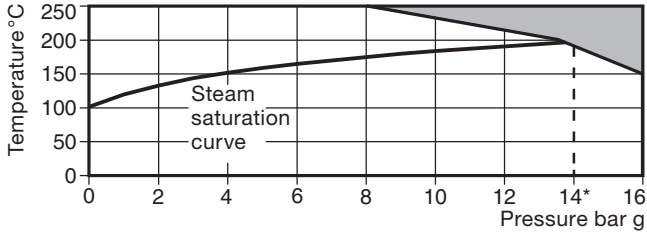
Sizes and pipe connections

LCV1 - ½" to 3" screwed BSP or NPT.

Limiting conditions (ISO 6552)

Maximum body design conditions	PN16	
PMA- Maximum allowable pressure	16 bar g	(232 psi g)
TMA - Maximum allowable temperature	250°C	(482°F)
PMO - Maximum operating pressure	14 bar g	(203 psi g)
TMO - Maximum operating temperature	250°C	(482°F)
Designed for a maximum cold hydraulic test pressure of:	28 bar g	(406 psi g)

Operating range



The product must not be used in this region.

*PMO Maximum operating pressure for saturated steam is 14 bar g (203 psi g).

Materials

Part	Material
Body	Bronze
Cone	Brass
Cap	Brass
Spring (3" only)	Stainless steel

Kv values

Size	½"	¾"	1"	1¼"	1½"	2"	3"
Kv	1.9	4.3	8.5	11.9	18.8	30.8	68.4

For conversion C_V (UK) = K_V x 0.97 C_V (US) = K_v x 1.17

Opening pressures without springs (in mbar)

→Flow pressures

Size	½"	¾"	1"	1¼"	1½	2"	3"
→	6.2	7.4	6.5	7.1	7.1	6.9	-

Note: With springs fitted the opening pressure is the same as the spring strength.

3. Installation

Note: Before actioning any installation observe the 'Safety information' in Section 1. Referring to the Installation and Maintenance Instructions, body marking and Technical Information Sheet, check that the product is suitable for the intended installation.

- Check materials, pressure and temperature and their maximum values. If the maximum operating limit of the product is lower than that of the system in which it is being fitted, ensure that a safety device is included in the system to prevent overpressurisation.
- Determine the correct installation situation and the direction of fluid flow.
- Remove protective covers from all connections.
- The LCV1 must be installed in horizontal pipework only with the cap at the top.
- When fitted after blast action steam traps (thermodynamic and inverted bucket), the LCV1 should be installed at least 1 m (3 ft) downstream of the trap outlet.
- Always fit a check valve downstream of any steam trap which discharges into a condensate return line where back pressure is present.

4. Commissioning

After installation or maintenance ensure that the system is fully functioning. Carry out tests on any alarms or protective devices.

5. Operation

The LCV1 is a lift type check valves which allow fluid control in the direction of the flow arrow (shown on the body) but prevents reverse flow.

6. Maintenance

This product is non-maintainable. If it fails, the complete valve must be replaced.

7. Spare parts

There are no spare parts available.

How to order a new product

Example: 1 off Spirax Sarco 1" BSP LCV1 lift check valve.