

Alfa Laval LKUV-2 Air-relief Valve

Control/Check valves

Introduction

The Alfa Laval LKUV-2 is a reliable, self-acting air relief valve that releases excess air from process pipelines, or pumps to prevent cavitation and product loss, thereby preventing the negative effects of air entrainment.

Vertically installed, it is ideal for use where the removal of air is required to maintain design pressure conditions, such as at the top of a pipeline, or pump inlet pipe on the suction side to remove excess air before starting the pump.

Application

This self-acting relief valve is designed for air-venting duties in hygienic applications across the dairy, food, beverage and many other industries. It is typically used in Cleaning-in-Place return line (CIP-R) applications.

Benefits

- Improved processing efficiency and product integrity
- Enhanced energy efficiency
- Protects pumps against the risk of cavitation
- Low total cost of ownership

Standard design

The LKUV-2 Air-relief Valve consists of a stainless-steel valve body in two parts, seal ring and polypropylene ball. The lower valve body has a welding stub. The valve body is assembled by means of a clamp.

Working principle

The Alfa Laval LKUV-2 Air-relief Valve is an air-relief valve with a free moving polypropylene ball, which is lighter than water. The polypropylene ball alternates between two seats depending on pressure conditions on the inlet.

When the pressure on the inlet increases, the ball is forced off the lower valve seat and moves to the upper seat, thereby closing the valve against the atmosphere. If air enters the system, the pressure is reduced, thereby moving the ball away from upper seat and venting excess air to the atmosphere. If there is no pressure or vacuum in the system, the ball alternates to lower position thereby closing the valve.



TECHNICAL DATA

Pressure

Max. product pressure:	1000 kPa (10 bar)
Density of ball:	0.906 kg/dm ³

Temperature

Max. temperature:	90°C (because of the plastic ball)
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ATEX

Classification:	II 2 G D ¹
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¹ This equipment is outside the scope of the directive 2014/34/EU and must not carry a separate CE marking according to the directive as the equipment has no own ignition source

PHYSICAL DATA

Materials

Product wetted steel parts:	1.4301 (304)
Ball: Material:	Polypropylene
Product wetted seals:	EPDM
Surface finish:	Internal 0.8 µm

Options

Alternative elastomers:

- NBR (Buna N)
- FPM (SFY)



Note! Important for correct function:

- Product density higher than the ball density.
- Vertical installation.
- Pure products.

Dimensions (mm)

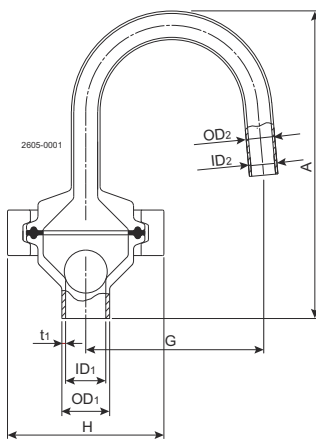


Figure 1. Dimensions

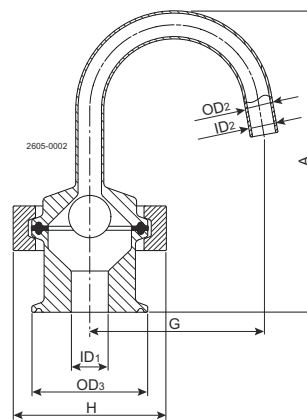
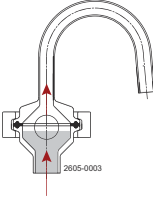
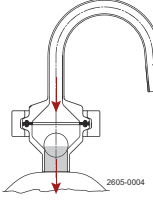


Figure 2. Dimensions

Dimensions

Dimension	(mm)	(inch)
A	129.4	5.09
G	75.2	2.96
H	58.5	2.57
ID1	15.8	0.66
ID2	9.5	0.37
OD1	20	0.79
OD2	12.7	0.50
OD3	49.5	1.95
	64.0	2.52
t1	1.6	0.06
Weight	(kg)	(lb)
	0.6	1.32

Situation 1	Pressure conditions	Effect
	<p>Pressure, air or product, or air/product.</p>	<p>The ball is lifted from the lower seat. The air can escape until the product lifts the ball against the upper seat, closing the valve.</p>
Situation 2	Pressure conditions	Effect
	<p>Vacuum, air or product, or air/ product.</p>	<p>The ball moves against the lower seat, closing the valve, whether it contains air or product, or air/product.</p>

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