

## What is 2KS?

The PALUE-answer to the increased safety requirements from the draft **prEN 13155** and the meetings of the **CEN/TC 151/WG 13/SG A1**.

This working group has the following title:

Machines and plants for the manufacture,  
treatment and processing of flat glass  
- Safety requirements -  
Part 1: Storage, handling and transportation  
equipment inside the factory

In order to produce safe vacuum lifting devices in the future which may be used in working with glass, a redundant vacuum system is necessary.

Our vacuum lifting devices with **2KS** have a 2-circuit-vacuum-system. For your safety this means, if one vacuum circuit fails due to a leak in the seal the second vacuum circuit holds the stated, rated load safely, which enables you to put the load down and to have the failure repaired.

For the glass processor this means that:

If a crack in a pane runs over a suction cup, the pane does not fall down immediately but is held by the second vacuum circuit.

Of course the failure of one vacuum circuit will be indicated by means of the existing acoustical/optical warning system.

But **2KS** is more than a 2-circuit-vacuum-system. We have built an energy failure monitor into this production line which warns the operator of a power failure. This is for compressed air-operated devices as well as for electrically-operated vacuum lifting devices.

We have thought also about economy, so all devices of the **2KS** serie switch off the vacuum generation at the achieved working depression. If the depression lowers to the limit of the working area, the vacuum generation is shortly activated in order to increase the partial vacuum.

The device production line **2KS** increases the safety of the devices and is at the same time energy-saving, which are two important points nowadays. Beside this, we have improved the design and have made it easy to maintain.

For the devices of the **2KS** series the vacuum tanks have been removed from the carrying frame. They are now built into the pump unit. Via this system, an easy replacement of a complete vacuum unit is possible. This enables an easy change from mains-operated vacuum units to rechargeable battery-operated or compressed air-operated vacuum units, without modifications to the carrying frame.

**2KS so much safety has to be!**