

Handling devices for the insulating glass production



The Energy Glas GmbH Company, which was established in April 2008, specialises in the production of three-fold energy-saving insulation glass panes up to a size of 6.0 x 3.2 m. Investments in appropriate machinery with numerous special requirements were necessary for this modern production site in Wolfshagen.

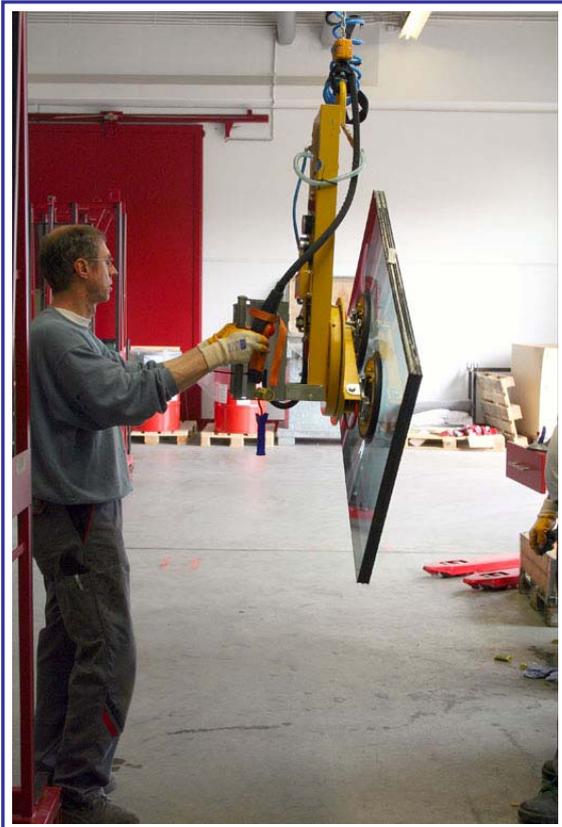
The Energy Glas GmbH Company has an ISOLAR product licence and therefore a product range of the most modern insulation and functional insulating glass panes at its disposal. The main focus of the enterprise is the production of three-fold energy saving insulation glass. Up to 2500 m² insulation glass is manufactured daily on two insulation glass lines. The glass panes are delivered throughout Germany and to the neighbouring countries with its own vehicle fleet or forwarding businesses.

The maximum glass pane size of 6.0 x 3.2 m is a special challenge, because the individual insulation glass panes can already weigh more than 2000 kg. This weight places special requirements not only on the supply of the insulation glass line but also on removal and further transport of these large glass panes. The maximum construction depth of such a three-fold insulation glass pane can even achieve 100 mm.

It was at the Pannkoke Flachglastechnik GmbH (www.pannkoke.de) from Lübeck that the Energy Glas GmbH Company found the required vacuum lifting device.

The new model series of manipulation devices of the Lübeck specialists does not offer anything particularly new at first sight. Only when using the devices does the operator recognize the many small improvements in comparison to the earlier solutions. The safety standard EN 13155 is complied with due to the closed vacuum circuit and the associated monitoring systems.

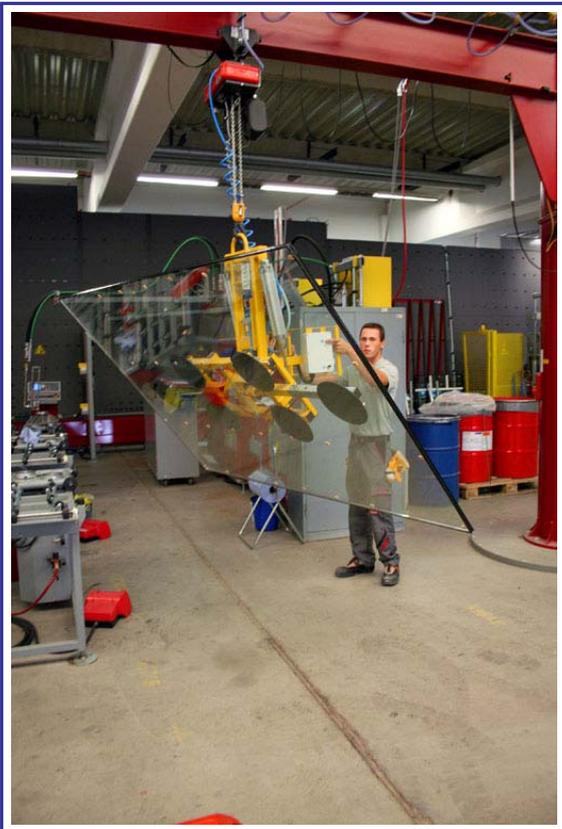




A control vacuum meter displays the work and danger area of the vacuum in various colours. A vacuum sensor with an acoustic warning signal is additionally integrated, which warns of a too low vacuum. A compressed air monitoring system is installed with another acoustic signal, in order to monitor failure of the power supply. Operation is carried out by means of the guide handle of the device. The two-function release device can be operated with one hand. It is possible to transport the panes nearly vertically due to the special selection of the point of suspension.

The manipulation device 7025-MD4-2/E is used for supply of and removal from the smaller insulation glass unit. This device is equipped with two suction cups and can turn glass pane weights up to 200 kg by 90 degrees.

The manipulation device 7025-MD4/E , which can turn glass panes up to 500 kg, is used for supply to and removal from the larger insulation glass line. The device can be equipped with extensions for large glass pane areas, which provides for larger area stability and increased safety.



The manipulation device 7025-MS4/E is available at the integrated manual sealing stretch for special insulation glass panes, in order to move the insulation glass panes from the sealing table to the racks. Glass pane weights up to 500 kg can be swivelled with this device. This manipulation device can also be equipped with additional extensions.



The Venturi device 7005-AB is used to supply the insulation glass unit with large glass panes; the device is used otherwise in the manual cutting unit for feeding the cutting table with glass. Depending upon design, this type of device up can transport up to 1200 kg and sized up to 6.0 x 3.2 m. The extendable side tubes help when adapting to the glass dimensions. If required, these support tubes can also manufactured in such a way that they can be removed.

A mobile trestle system developed by the Energy Glas Company is used to remove these large glass panes. Unfortunately, application of the Iso yoke is not possible directly on the insulation glass line for constructional reasons. The new version of the well-known Iso yoke is used to move the large glass panes. Such a 2000 kg heavy insulation glass pane on the special glass trestle can be lifted by means of the additional suction caps and adjustable crane eye from the front and set down from the rear side. This enables positioning the insulation glass panes on the required glass side, so that the insulation glass pane can be delivered on the rack.



Mr. Dohmann of Energy Glas is extremely enthusiastic about the co-operation, the supplied vacuum lifting devices as well as the realisation of his ideas concerning the ISO yoke.

Author:
Dipl.-Ing. Bernd Pannkoke
Pannkoke Flachglastechnik GmbH



