

CAUTION - Rough handling and overtightening can result in damage to the valve - light finger pressure only required to ensure optimum sealing - do not use force.

Recommended spares

- SC5 screwed body (for 3 mm tubing)
SC5 O-ring carrier and O-ring
SC5 coupling nut
SC5 O-ring

Ordering number (pack)

- 08-C110-01-412 (pack of 5)
08-C110-01-105 (pack of 10)
08-C110-01-431 (pack of 10)
08-H021-21-027 (pack of 10)

Accessories

- Compression sleeve -
(for muff coupling with
6 mm external ϕ tube)
SC5 screwed body
(+Accepts 6 mm external ϕ tube as standard)

Ordering number

- 08-C110-01-421 (pack of 10)
+08-C110-01-401 (pack of 10)

Communication with Edwards

Any communication relating to the subject of this instruction should be addressed to Edwards High Vacuum or to the supplier from whom it was purchased.

Please specify:

- 1) the model, serial number and code.
- 2) the date of purchase.
- 3) your order number and the suppliers sales reference.

Equipment should not be returned to the supplier without prior arrangement.

IMPORTANT Health and Safety

Under Section 3 of the Health and Safety at Work Act 1974 every employer has a duty to conduct his business so as not to expose persons not in his employment to risks to their health and safety. When goods are returned to the supplier, therefore, warning must be given if their usage is likely to render the equipment hazardous in any way.

Edwards High Vacuum and its distributors reserve the right to refuse acceptance of any equipment returned which they have reason to believe may be hazardous.

Damage in transit

If any damage has occurred in transit, it is important to inform both the carrier and the supplier within three days of delivery.



MODEL LV5 LEAK VALVE

- Code number 08-C370-01-000

Description

The model LV5 needle valve provides fine control of gas bleed into a vacuum chamber or a regulated leak to control pressure in a vacuum system and is suitable for accurate gas admission down to 10^{-5} torr.

The stainless steel needle is non-rotatable and is allowed to seat in a replaceable brass seat under spring force. The spring, by applying a constant pressure, reduces the risk of needle damage and also eliminates backlash in the thread mechanism. A Viton O-ring is utilised to seal the needle in the aluminium alloy body. Both needle and seat are protected from dirt by a sintered bronze filter fitted in each port.

Movement of the needle is controlled, via the spring, by a plastic knob on which is mounted an adjustable pointer - rotating the knob clockwise closes the valve. A 360°, 100 division scale attached to the plastic mounting flange can be orientated to suit the attitude in which the valve is mounted. The valve can be panel mounted or pipeline supported using the Edwards SC couplings supplied.

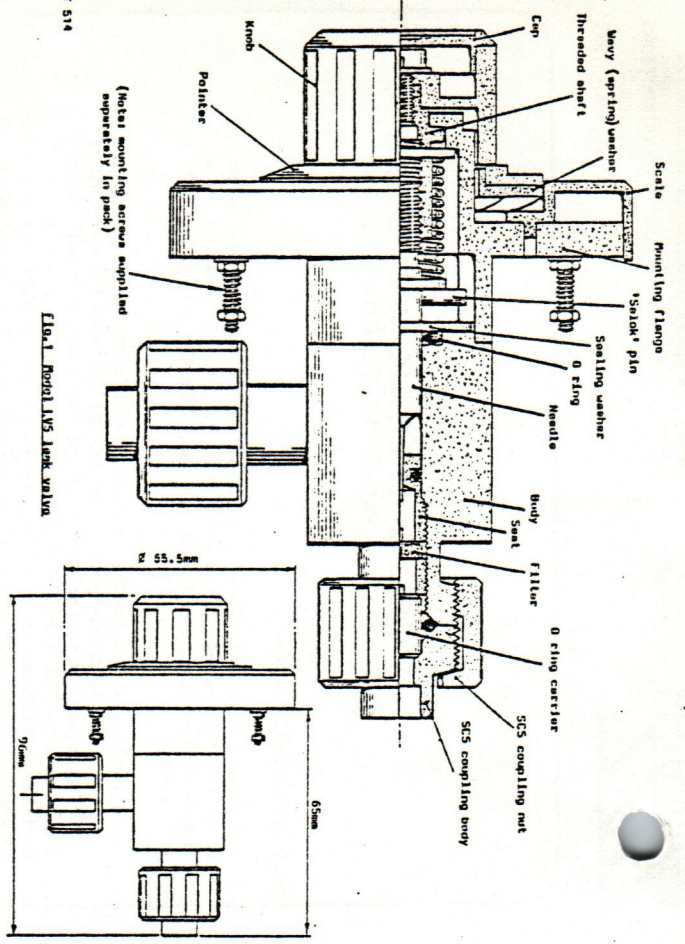
Technical data

- * Maximum flow rate : 0.1 l s^{-1} (approximately)
- Maximum leak rate - across seat } 10^{-7} torr l s^{-1}
- Maximum leak rate - across body }
- Maximum pressure across valve must not exceed : 2.1 bar (30 lbf/in^2)
- Weight : 138g
- * Flow rates relate to a pressure differential across valve of one atmosphere.

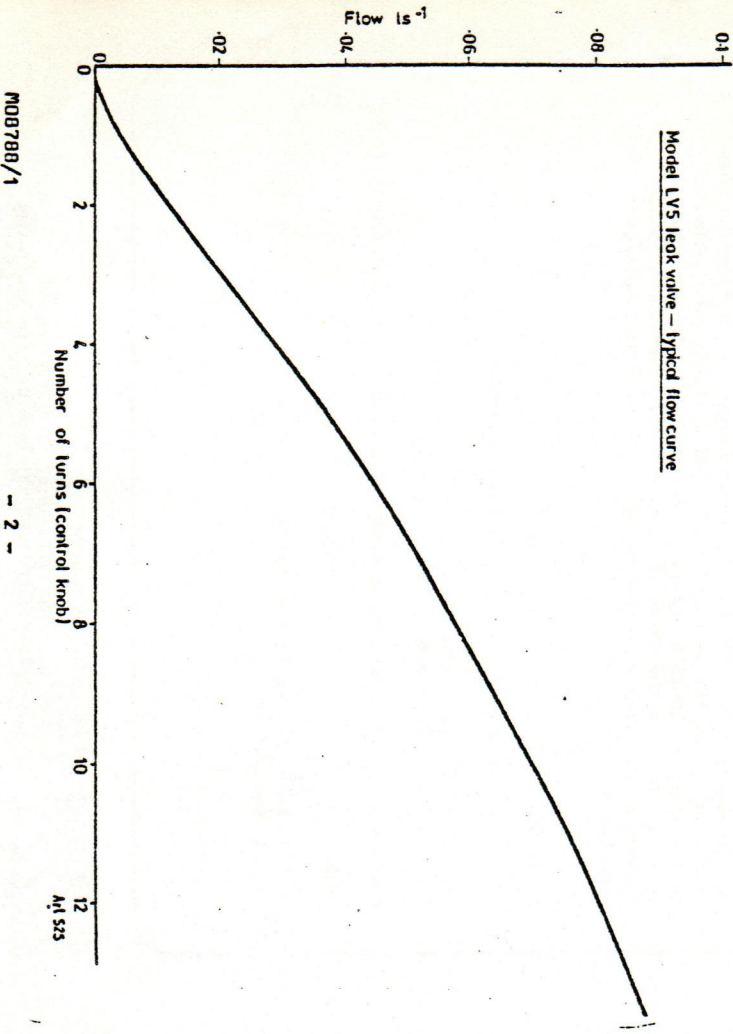


Edwards High Vacuum

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Model LVS leak valve - typical flow curve



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Mounting

The valve can be panel mounted by means of the M3 screws and nuts supplied separately. To fit the screws in the mounting flange, proceed as follows:

- (1) Detach the cap from the knob then remove the retaining screw and detach the knob complete with pointer and 'wavy' washer.
- (2) Detach the scale and position the screws in the mounting flange, then secure the screws with the nuts.

To attach the mounting flange to the panel:

- (1) Drill four 3.5 mm ϕ holes in the panel on a 54 mm PC ϕ to locate the four M3 screws in the valve mounting flange.
- (2) Drill a 47 mm ϕ hole on the same centre for insertion of the valve body.

- (3) Detach the SC coupling nut, coupling body and O-ring carrier from the side port of the valve. Insert the valve body, rotating as necessary to ease the valve through the hole in the panel. Position the four locating screws and secure with the M3 nuts supplied.

Note: The scale can be orientated to any one of four positions by re-positioning the locating pins in the mounting flange.

Re-assemble the scale and the knob (complete with pointer and wavy washer) - ensure that tabs on wavy washer are located - then fit the cap in the knob.

Vacuum connexions

The valve can be coupled to a vacuum system using the Edwards SCS coupling components supplied:

- | | | |
|-------------------------------|---|-----------------------------|
| SCS screwed body | - | *08-C110-01-412 (pack of 5) |
| SCS O-ring carrier and O-ring | - | 08-C110-01-105 (pack of 10) |
| SCS coupling nut | - | 08-C110-01-431 (pack of 10) |

Refer to Fig. 1 for assembly details. *Note: SCS screwed body 08-C110-01-412 accepts 3 mm external ϕ tubing but can be drilled out to accommodate tube sizes between 3 mm and 6.5 mm external ϕ . A compression sleeve is available for making nut/coupled joints with 6 mm external ϕ tube as standard.

Installation and operating notes

The valve is closed by rotating the knob clockwise and is maintained closed by spring pressure; thus, the closed position will be indicated by free movement of the knob. Further clockwise rotation of the valve will not be necessary.

However, should a very small leak develop, further clockwise rotation of the knob will reset the needle to the seat. This must be done extremely carefully as overtightening will damage the needle. Should a large leak develop across the needle/seat, the needle end/or the seat may be damaged and should be inspected or the valve should be returned to Edwards High Vacuum for examination.

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