

INSTRUCTION MANUAL

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LIQUID NITROGEN FEEDTHROUGH

INSTRUCTION SHEET

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PERKIN-ELMER ULTEK INC

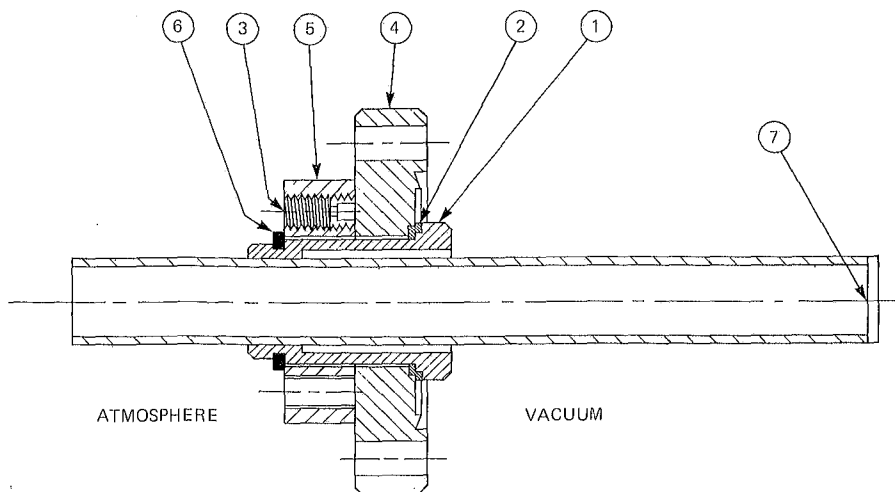
LIQUID NITROGEN FEEDTHROUGH INSTRUCTION SHEET

OPERATION AND INSTALLATION

In order to utilize sublimation and/or cryopumping, many vacuum systems include a panel, inside the vacuum system, through which a coolant can pass. The Ultek Model 281-7310 LN₂ Feedthrough facilitates the installation of such panels and permits their easy removal for cleaning.

This is a dual sealing feedthrough with one seal being a conventional type in which a CFF Flange provides a metal-to-metal seal when bolted to a system flange. The second seal is an inside-out seal made by using the feedthrough flange as the sealing plate; the seal is made inside the vacuum system. In this way the flange is left attached to the vacuum system and the tubulation attached to the cryo or sublimation panel can be removed or inserted with the panel.

The figure at right shows a cross-section of the feedthrough. Assembly (1) is the tubulation assembly attached to the cryo/sublimation panel. The feedthrough is supplied with the inner end of the tubulation (7) capped off. This can be bored to any diameter up to the 0.625" I.D. of the tubulation and welded or brazed to the cryo/sublimation panel leads. A gasket (2) is placed around the tubulation assembly and (1) is then inserted from the vacuum side through flange (4). Flange (4) attaches to the vacuum system port. With (1) inserted through



(4) from the vacuum side, the thrust collar (5) is placed around the tubulation assembly and retaining ring (6) is clipped into place. The seal is then made by turning the screws in the thrust collar with an Allen wrench to pull up the seal against the gasket (2). The shear action of the seal is self-limiting but excessive torque should not be used on the thrust screws. The thrust screws should be rotated in turn by 1/8 turns until all are hand tight. This is sufficient to make the seal. No extension bar should be used to increase the screw torque. The water or LN₂ source line can then be attached to the external end of the tubulation assembly. The feedthrough can be removed by repeating the foregoing in reverse order.

REPLACEMENT PARTS

Item	Part No.
Feedthrough Weldment	80039550
Gasket	22093130
CFF Flange, 2-3/4" O.D.	80039540
Thrust Collar	80039570
Retaining Ring, 1"	12127900
Swivel Foot Screw, 1/4-20 X 1/2" long	12142950