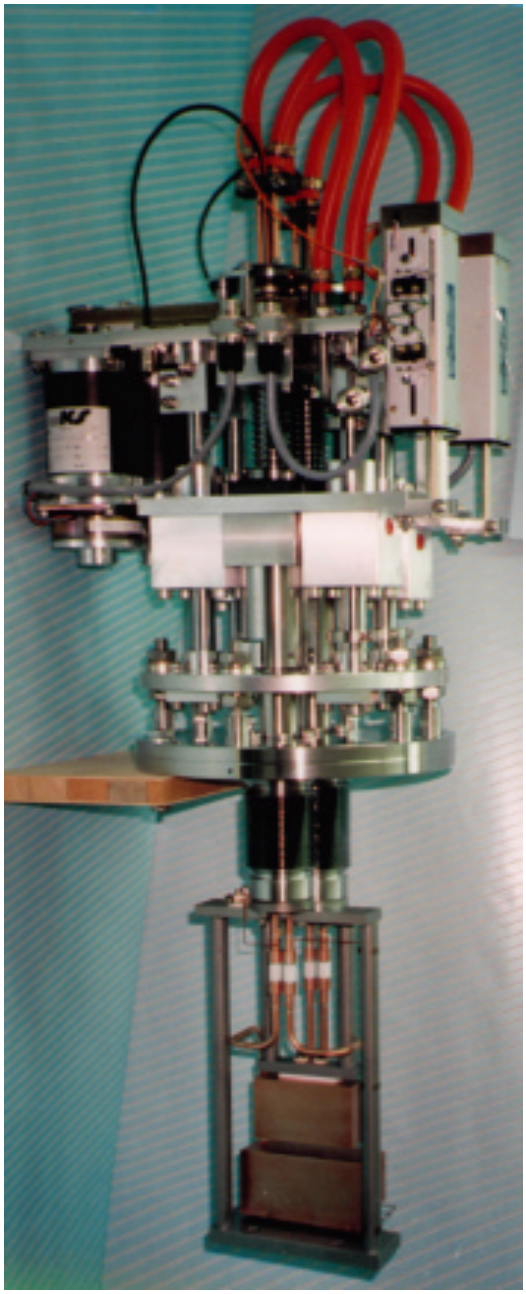
Universal Precision
High Vacuum Feedthrough

SINGLE & DOUBLE VERSION
Type LM17 & LM 16



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The picture on the front of our data sheet shows a Universal Precision High-Vacuum Feedthrough (double version) mounted on a 8" dia. (CF-150) flange. Note a 1.8° stepping motor with magnetic brake, ballscrew, linear potentiometer and mini conflat flange at the bottom of spindle for support of elements.

Application:

The subject feedthrough is provided for the linear translation of elements inside a high-vacuum system. The universal feedthrough allows for mounting of arbitrary elements at the bottom of the spindle (inside the vacuum). Cooling of the attached elements is possible through the bore of the spindle. In the field of accelerator technology, our universal feedthrough is useful for assembly of slit systems, emittance measurement devices, scanners and frequency tuners.

Principle:

The feedthrough is mounted on a CF-flange. A 1.8° stepping motor drives a ballscrew. The conversion of the motor rotation into a linear displacement is achieved without backlash by means of a preloaded nut unit. A membrane bellow is used for vacuum sealing. For measurement of position, a high precision linear potentiometer is provided (encoder optional); the alignment of the spindle-axis is possible by using of a ball joint support.

Technical Specifications:

Material	:	Stainless steel
Stroke	:	4.0 inches*
Drive	:	1.8° stepping motor
Conversion of rotation into translation	:	Ball-screw
Pitch of the spindle	:	5mm
Gear ratio	:	1:2
Displacement per 1.80 step	:	0.0125 mm*
Maximum speed	:	10mm/sec.
Maximum acceleration (5kp inertia load)	:	30mm/sec.^{2}
Locking without motor power	:	Magnetic brake. 24V/05A
Position measurement	:	Linear potentiometer or angular encoder.
Resolution of position measurement	:	Potentiometer, approx. 0.1mm; Encoder, less than 0.0025mm.
Cooling of attached probe	:	Through hollow spindle
Dimensions of supporting flange		CF-150 flange (8 inches O.D.) - standard
Vacuum sealing	:	Membrane bellow
Maximum leak rate	:	10^{-9} Torr liters/second.

* Different versions possible.

OPTIONS

Type	Stroke of Spindle	Pitch of Spindle	Gear Ratio	Step angle Steps/Revolv.	Displacement per Step
LM 15 TwinVersion	50 mm	5 mm	1:2	1.8° 200	0.0125 mm
LM 15 Twin Version	50 mm	5 mm	1:2	0.72° 500	0.0005 mm
LM l6 TwinVersion	100 mm	5 mm	1:2	1.8° 200	0.0125 mm
LM 16 Twin Version	100 mm	5 mm	1:2	0.72° 500	0.005 mm
LM 17 Single	100 mm	5 mm	1:2	1.8° 200	0.0125 mm
LM 17 Single	100 mm	5 mm	1:2	0.72° 500	0.005 mm
LM 18 Single	150 mm	5 mm	1:2	1.8° 200	0.0125 mm
LM 18 Single	150 mm	5 mm	1:2	0.72° 500	0.005 mm
LM 19 Single	150 mm	5 mm	1:2	1.8° 200	0.0125 mm
LM 19 Single	150 mm	5 mm	1:2	0.72° 500	0.005 mm

Different strokes and flanges on request.