

8310-V

Vacuum -Compatible Closed Loop Picomotor™

mks | Newport

The 8310-V Vacuum-Compatible Closed-Loop Picomotor™ Actuator is ideal for applications where closed-loop control and absolute position calibration is required in a clean environment. Model 8310-V is equipped with integrated rotary encoder and forward and reverse limit switches. Along with Picomotor™ actuator best specifications such as <30nm resolution, 5 lbs

(22 N) force, set-and-forget long-term stability, 8310-V offers additional benefits of exceptional accuracy and $\pm 1 \mu\text{m}$ bi-directional repeatability over the entire half-inch travel range.

Product Features

- Built-in rotary encoder for closed-loop operation
- Vacuum compatible
- Nominal axial load capacity = 22 N
- Minimum Incremental Motion <30 nm
- Easy-to-Use and integrate



Specifications	8310-V
Travel Range (mm)	12.7
MIM (nm)	< 30
Closed Loop Resolution (nm)	63.5
Bi-directional Repeatability* (µm)	±1
Uni-directional Repeatability* (µm)	±0.22
Max speed** (mm/min)	> 1.46
Nominal axial load capacity (N)	22
Max axial holding force (N)	90
Frequency (Hz)	< 2000
Rated Life **(steps)	2500 cycles or > 10 ⁹ steps
Vacuum Compatibility (hPa)	10 ⁻⁶
Vacuum Wire Material***	Kapton (picomotor) & Teflon (position sensor)
Vacuum cable Length (mm)	483
External cable Length (mm)	1800
Connector type	To feedthrough (inside/outside): D-sub 15F / D-sub 15F To controller: D-sub HD 15M (sensor) + RJ22 (picomotor) D-sub 15 M-M adapter: included (for outside chamber use)
Mounting	M12x0.5
Long term Operating Temperature(° C)	+10 to +40
Storage Conditions (° C)	-5 to 40°C, < 40% HR

* @ 22N

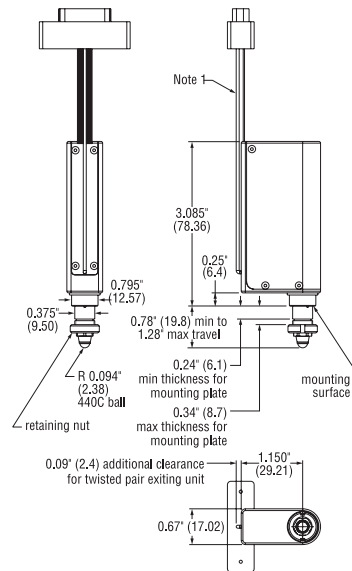
** @2000Hz & 22N

***Integrated cable and connector are vacuum compatible.

Air side D-sub 15F to D-sub HD 15M and RJ22 cable included

Suggested D-sub 15 M-M feedthrough: AccuGlass 100210

Dimensional Drawing



1. Cables shown are 19\"/>

Recommended Controllers/Drivers

Model	Description
8743-CL	Picomotor Driver Module, Closed-Loop, 2 Channel
8743-CL-2-KIT	Motion Controller Kit, Closed Loop, Two-Axis Picomotor Driver, 8743-CL

ORDERING Information

Model	Description
8310-V	Picomotor Actuator, 12.7 mm travel, closed loop, vacuum compatible, Teflon & Kapton

External Cable diagram from manual

Example Wiring Diagram

