

# 830x-V and 830x-UHV series

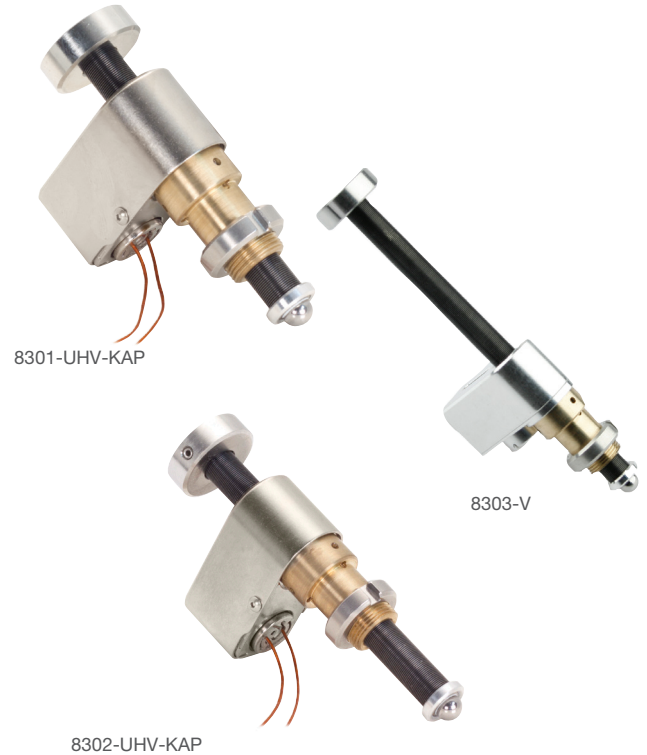
Vacuum compatible Picomotor Actuators, 9.5 mm shank



830x-V / -UHV picomotor actuators are ideal for beam-steering and scientific motion-control applications in vacuum and ultra-high vacuum. These actuators offer better than 30 nm resolution with minimal backlash, along with excellent long-term stability, high stiffness and ability to hold position at power-off state.

## Features

- Vacuum and ultra-high vacuum versions
- Minimum incremental motion <30 nm
- Set-and-forget long-term stability
- Teflon or Kapton wires



## Specifications

	8301-V 8301-UHV 8301-UHV-KAP	8302-V 8302-UHV 8302-UHV-KAP	8303-V
Travel Range (mm)	12.7	25.4	50.8
Minimum Incremental Motion (nm)		<30	
Maximum Speed <sup>1</sup> (mm/min)		>1.46	
Nominal axial load capacity (N)		22	
Max axial holding force (N)		90	
Frequency		<2000	
Rated Life <sup>1</sup>		>10 <sup>9</sup>	
Vacuum Compatibility <sup>2</sup> (hPa)		10 <sup>-6</sup> or 10 <sup>-9</sup>	10 <sup>-6</sup>
Vacuum Wire Material <sup>3</sup>		Teflon, Kapton	Teflon
Teflon Wire Length (mm)		44.5	
Kapton Wire Length (mm)		152.4	NA
Connector Type		Inside Chamber: Flying Leads Outside Chamber: 2.1m RJ22 Cable (supplied)	
Mounting		9.5 mm shank	
Long Term Operating Temperature (°C)		+10 to +40	
Storage Conditions (°C)		-5 to 40 °C, <40% HR	

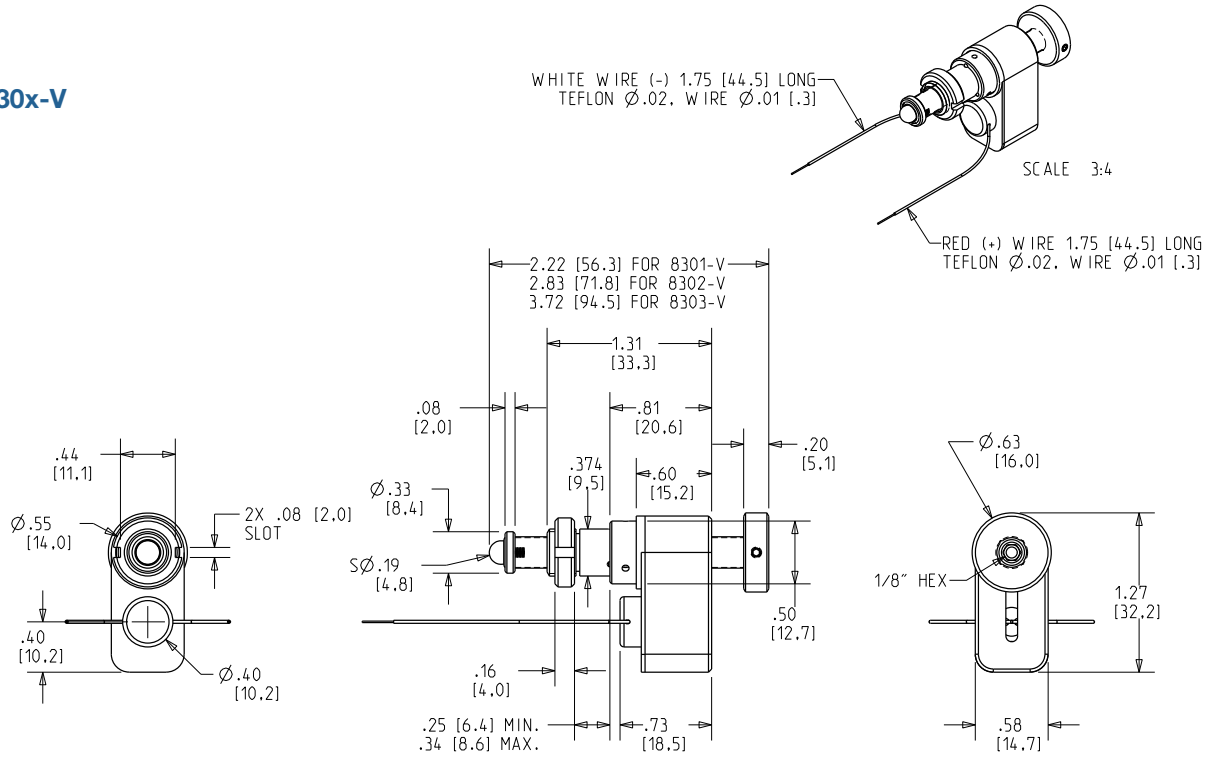
1) @2000Hz & 22N

2) 10<sup>-6</sup> for -V and 10<sup>-9</sup> for -UHV and -UHV-KAP

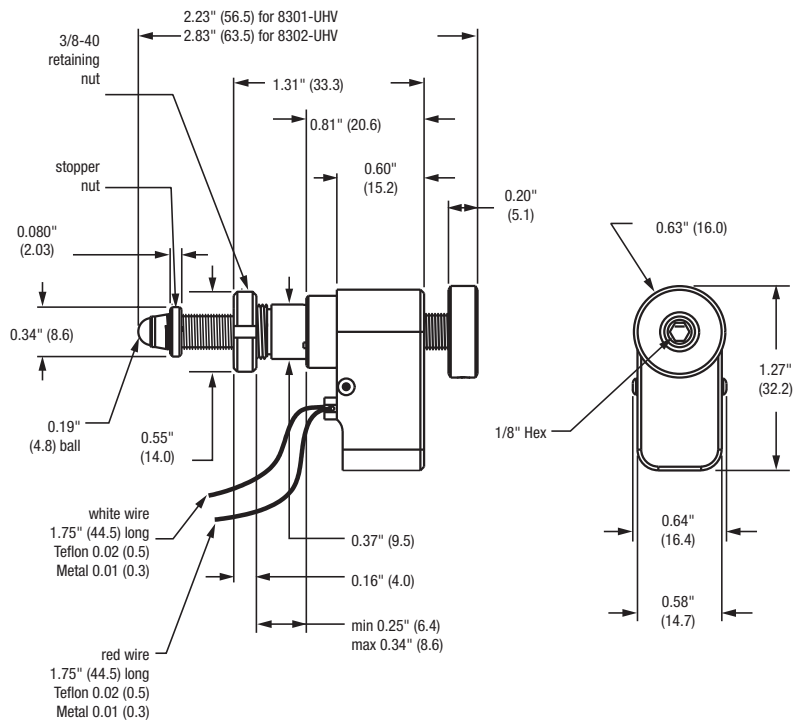
3) Teflon for -V and -UHV, kapton for -KAP

## Dimensional Drawings

### 830x-V

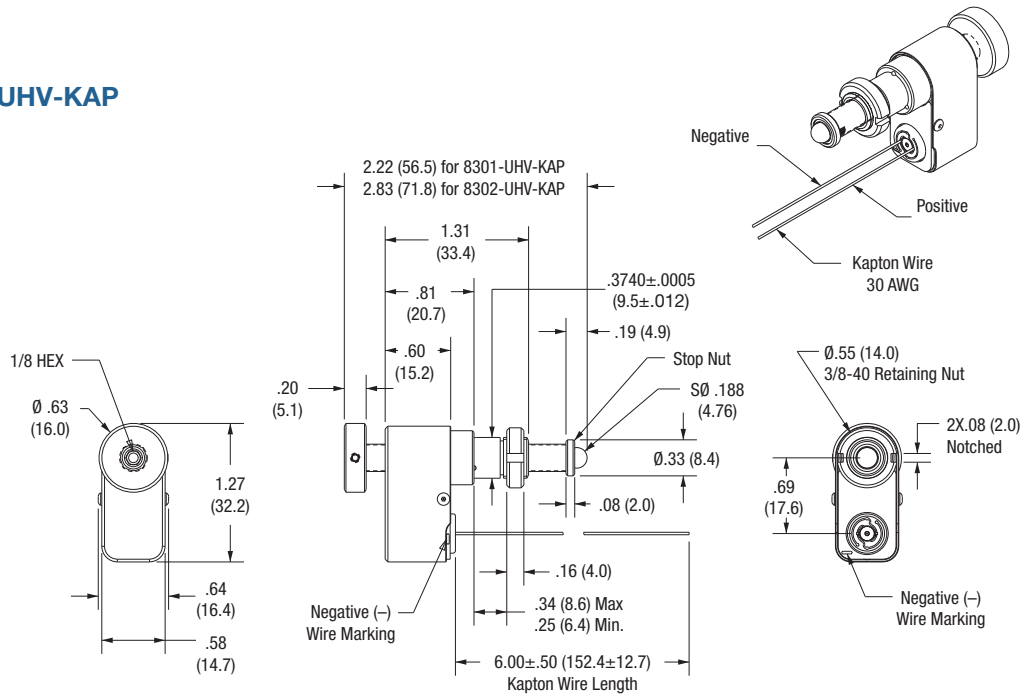


### 830x-UHV



## Dimensional Drawings

### 830x-UHV-KAP



## Ordering Information

Model	Description
8301-V	Picomotor Actuator, 0.5 in. travel, 0.375 in. shank, vacuum compatible, Teflon
8301-UHV	Picomotor Actuator, 0.5 in. travel, 0.375 in. shank, ultra-high vacuum, Teflon
8301-UHV-KAP	Picomotor Actuator, 0.5 in. travel, 0.375 in. shank, ultra-high vacuum, Kapton
8302-V	Picomotor Actuator, 1.0 in. travel, 0.375 in. shank, vacuum compatible, Teflon
8302-UHV	Picomotor Actuator, 1.0 in. travel, 0.375 in. shank, ultra-high vacuum, Teflon
8302-UHV-KAP	Picomotor Actuator, 1.0 in. travel, 0.375 in. shank, ultra-high vacuum, Kapton
8303-V	Picomotor Actuator, 2.0 in. travel, 0.375 in. shank, vacuum compatible, Teflon

## Recommended Controllers/Drivers

Model	Description
8712	Picomotor Driver, Single-Axis, PCB-Mountable
8703	Picomotor Driver, Single-Axis, TTL/Analog
8742	Motion Controller, Picomotor, Open-Loop, 4 Channel
8742-4-KIT	Picomotor Controller Kit, Four-Axis
8742-8-KIT	Picomotor Controller Kit, Eight-Axis
8742-12-KIT	Picomotor Controller Kit, Twelve-Axis
8743-CL	Picomotor Driver Module, Closed-Loop, 2 Channel
8743-CL-2-KIT	Motion Controller Kit, Closed Loop, Two-Axis Picomotor Driver, 8743-CL

