PU 65 HR

Compact 1-axis translation stages

Concept:

PU translators consist of a single metallic part which includes the flexure guiding system. This design means that PU translation stages show excellent mechanical stability and, because they are pre-loaded, can work dynamically. The FEA modeled flexures guarantee zero friction and high robustness. These actuators can support high loads and generate single axis motion of 40 to 100 microns. They are easily adaptable because they can be mounted both horizontally and vertically. The rugged design makes the PU series well suited for all kinds of industrial applications where reliable sub-nanometer accuracy is needed.

A special translator, the PU 65 HR, has been optimized for a high resonant frequency which is ideal for scanning applications.

Specials:

The systems may be specially prepared for vacuum and/or cryogenic applications. Other materials, such as nonmagnetic stainless steel, anodized aluminum, or titanium, are also available.

Interfaces:

The elements of the PU series consist of one monolithic element. The direction of motion is shown in the drawings. Please note that there must be a space between the translator and the plate to which it is fixed, otherwise movement may be blocked and not parallel. Precision pin holes provide the means for very accurate mounting of the PU translators.

The PU series can be loaded with tensile forces defined by the specified pull force values for each element.

Image: PU 65 HR

Product highlights:

- high mechanical stability because of high stiffness
- accurate parallel motion by parallelogram design
- motion without mechanical play
- high resolution in nm and sub-nm range
- motion up to 65 µm
- integrated lever transmission
- precision pin holes for accurate adjustment

Applications:

- scanning and vibration control
- mechanical engineering, precision
- automation

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PU 65 HR

Technical data:

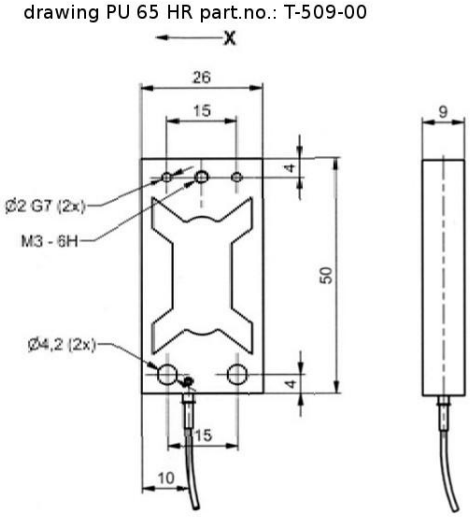
PU series		unit	PU 65 HR
part no.		-	T-509-00
combinable up to 3-axis		-	no
motion in open loop (±10%)*		µm	65
capacitance (±20%)**		µF	1.7
resolution in open loop***		nm	0.13
resonant frequency		Hz	1320
stiffness		N/µm	0.75
max. push force		N	48
max. pull force		N	4
voltage range		V	-20…+130
connector	**voltage**	-	LEMO 0S.302
cable length		m	1
min. bend radius of cable		mm	>15
material		-	aluminum
dimensions (LxWxH)		mm	50 x 26 x 9
weight		g	28

* typical value measured with NV 40/3 controller

** typical value for small electrical field strength

*** the resolution is only limited by the noise of the power amplifier and metrology

drawing PU 65 HR part.no.: T-509-00



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