

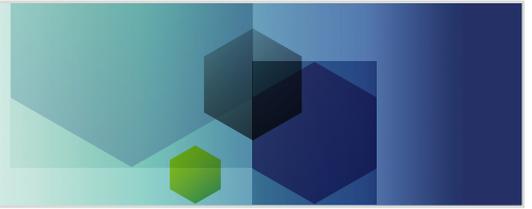
queensgate

a brand of Elektron Technology

Closed loop positioner

DPT-D

Installation and Handling Instructions



Closed-loop preloaded digital piezo translators with very high linearity and repeatability

DPT-D-010
DPT-D-020
DPT-D-040
DPT-D-060

DPT-D-080
DPT-D-100
DPT-D-120



1. Installation

DPT-D series actuators are high precision instruments with sub-nanometre resolution and stability. They require careful handling and must not be dropped or subjected to unnecessary torque on installation (see section 3).

1.1 Mounting into a system

The DPT-D series of actuators can be mounted by means of an M3 screw requiring 3mm maximum of thread engagement. A pair of $\varnothing 1.6\text{mm}$ dowels requiring 2mm maximum of engagement as shown in Figure 1 can be used for accurate location if required. Mounting surface for the actuator base should be flat to better than $5\mu\text{m}$. Full dimensional details are available on the Installation drawing PA0099-IN-001.



Figure 1.

Mounting the DPT-D on the housing is not recommended and may be detrimental to hysteresis and thermal drift. For optimum performance mount the DPT-D vertically. Apply only axial forces to the actuator head referring to the DPT-D datasheet, bending or torsion forces should be avoided.

1.2 Actuator Connector

Keep the EMC cap fitted to the actuator connector until ready to connect to the controller. Ensure the controller is switched off before installing or removing cables.

Static discharge to the connector may cause damage, ensure that all personnel handling the unit are adequately grounded.

2. Operation

Connect the actuator to the corresponding controller socket, ensure the screw lock posts are secured to a torque of 25-30cNm.

Avoid prolonged use in a high humidity environment and extended use at high voltage as this may lead to an increase in leakage current which in turn will dramatically reduce actuator lifespan.

Use the DPT-D actuators only in conjunction with original calibrated

Queensgate controllers and accessories. For further information on system installation and use refer to the controller user manual.

3. Attaching or changing external load to the head

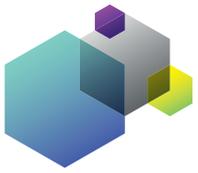
When attaching an external load or accessory to the actuator head always use the spanner supplied. Failure to comply may result in damage. The maximum tightening torque applied must not exceed 50cNm. There is no anti-rotation feature on the actuator head: If head rotates damage will occur.

4. Maintenance

Do not contaminate the surface of the assembly by exposing it to conductive or corrosive substances. It is recommended that isopropanol is used when cleaning the assembly. Do not use acetone.

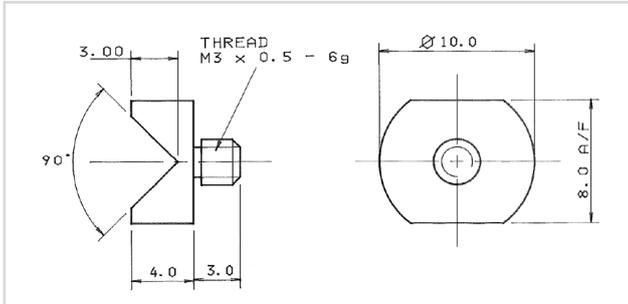
5. Accessories

- VEP3: V-Groove End Piece
- FS25-1": 25mm diameter Mirror Holder
- FS12-1/2": 12.5mm diameter Mirror Holder
- BEP5: Spherical End Piece
- PEP: Plain End Piece
- MEP: Magnetic End Piece
- MBI-D: Mounting Block

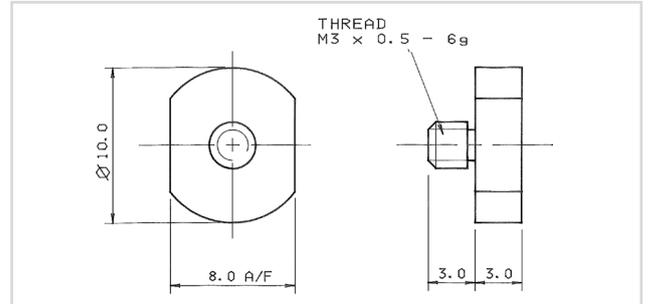


Closed loop positioner DPT-D

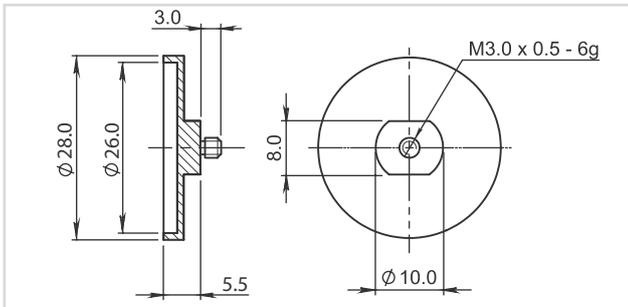
● VEP3: V-Groove End Piece



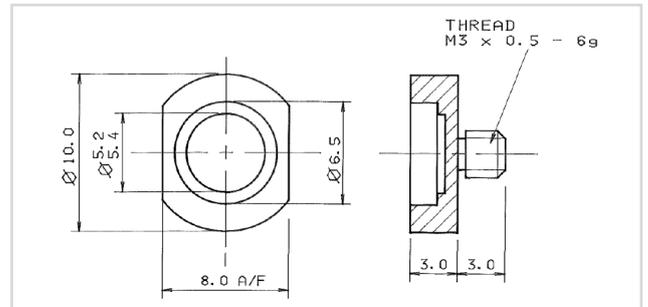
● PEP: Plain End Piece



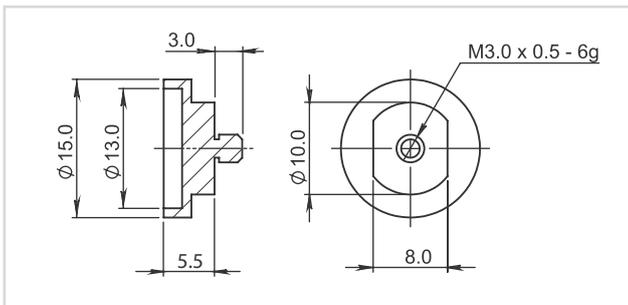
● FS25-1": 25mm diameter Mirror Holder



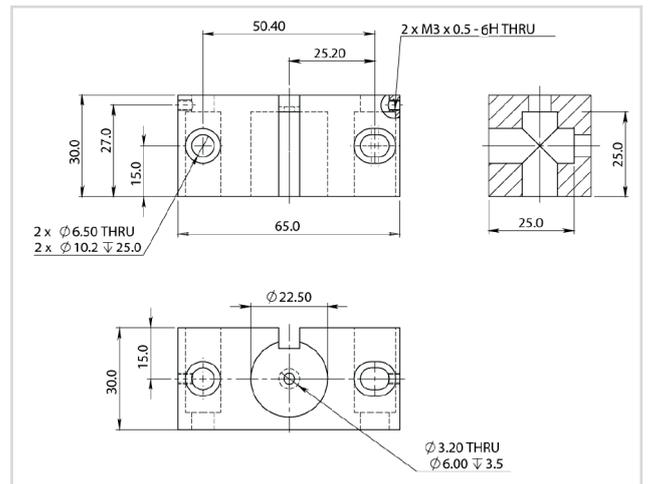
● MEP: Magnetic End Piece



● FS12-1/2": 12.5mm diameter Mirror Holder



● MBI-D: Mounting Block



● BEP5: Spherical End Piece

