Accessories

Vacuum Feedthrough Solution - VFT

Connecting Premium Line positioners mounted in a vacuum chamber to the piezo controller requires an additional feedthrough solution. attocube's VFT packages comprise flanges, electrical feedthroughs, and suitable cabling.

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/RES positioners	
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Naming Scheme

In order to better describe the variety of vacuum feedthroughs, attocube uses the following naming scheme, explained here for e.g. the VFT3/NUM/CF63 feedthrough solution:

VFT short for "Vacuum Feed-Through"

3 describes the number of cables on the outside and of connectors inside - in this case one can connect three ANP positioners.

/NUM describes the type of output on the electronics and type of positioner connector inside the chamber - in this case positioners with integrated optoelectronic encoder can be connected (or /RES for resistive encoders)

/CF63 is the type and size of flange used (this determines also the type of connectors and cabling inside).

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Materials & Sizes

For selecting the right choice for the application, the main criterion is certainly the type of output (as described before) as well as the number of positioners to be wired.

Flanges:

Select between KF or CF flanges with 40 mm, or 63 mm diameter, respectively.

Electrical feedthroughs:

Depending on the flange size either one or three SubD15 feedthroughs are integrated into the flange.

Cabling:

Each VFT package includes all cables necessary to connect the positioner with the controller through the flange. An adapter cable at ambient pressure (length: 2m) is used to connect the controller to the flange. Inside the vacuum chamber attocube uses only Kapton-insulated wires together with connectors made from PEEK. Depending on the package the cable will be made from woven flat (NUM) or two (open loop) respectively two and three (RES) twisted pair wires.

Connection:

Open loop positioners require two electrical lines, resistive encoded positioners (/RES) five, and optoelectronic encoded positioners (/NUM+) are equipped with a SubD15 connector per axis. Consequently, the number of required SubD15 flange feedthroughs vary depending on the positioner type, e.g. a standard SubD15 connector can be used to either connect a single /NUM+ encoded positioner or three /RES encoded positioners.