

Questions and Answers related to the Call for Tenders – Photon transport of the CUBES beamline at Elettra 2.0

Questions received on the 10.02.2026

Question n.1

The PGM, ES, and RFM vacuum chamber requires a camera to view a phosphor screen. Can you tell us what kind of camera is required? Do you have specifications for this camera?

Reply n. 1

We request cameras with a CMOS sensor, at least 5 MPix resolution, and ethernet connection.

Question n. 2

For all optics, when the translation range is specified, does the value mean +/-? For example: PFM Z translation: 10 mm; does it mean +/- 5 mm?

Reply n. 2

The range of movement of e.g. 10 mm means +/-5, or a total movement of 10 mm with respect to any other point.

Questions n. 3 - 5

For some optics movements, the resolution is so high that it can be safely achieved with stepper motors. Can we propose the use of piezo motors?

In sub-annex 3E, we note that the TANGO control is already available for piezo motors. Therefore, we assume the answer to question 3 is yes. Do you confirm? Do you also confirm that you supply the controllers listed in this attachment?

If stepper motors are used, we don't see any controllers listed in sub-annex 3E; does this mean we have to supply the driver, controller, and software ourselves?

Reply n. 3 - 5

In order to unify the solution with other beamlines at Elettra, we prefer 2-phase stepper motors, for which we will supply the YAMS controllers: <https://proceedings.iacow.org/icalpecs2011/papers/wepmn034.pdf>

For these YAMSs the TANGO device for simple operations (like reading encoders, moving the motor with specified speed...) is available, although not listed explicitly in sub-annex 3E. (We recall that for the specific functions of the monochromator the supplier is still asked to provide a dedicated TANGO device, as specified in Annex 3, section 3.4.) For tests we can provide one YAMS and training, as described in chapter 7 of sub-annex 3D. Nevertheless, the tenderer can propose a solution with piezo motors, provided the delivery includes all hardware and software, and the specification "Energy change from the lowest to the highest energy or back for one grating should not last more than 120 s" is met.

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