

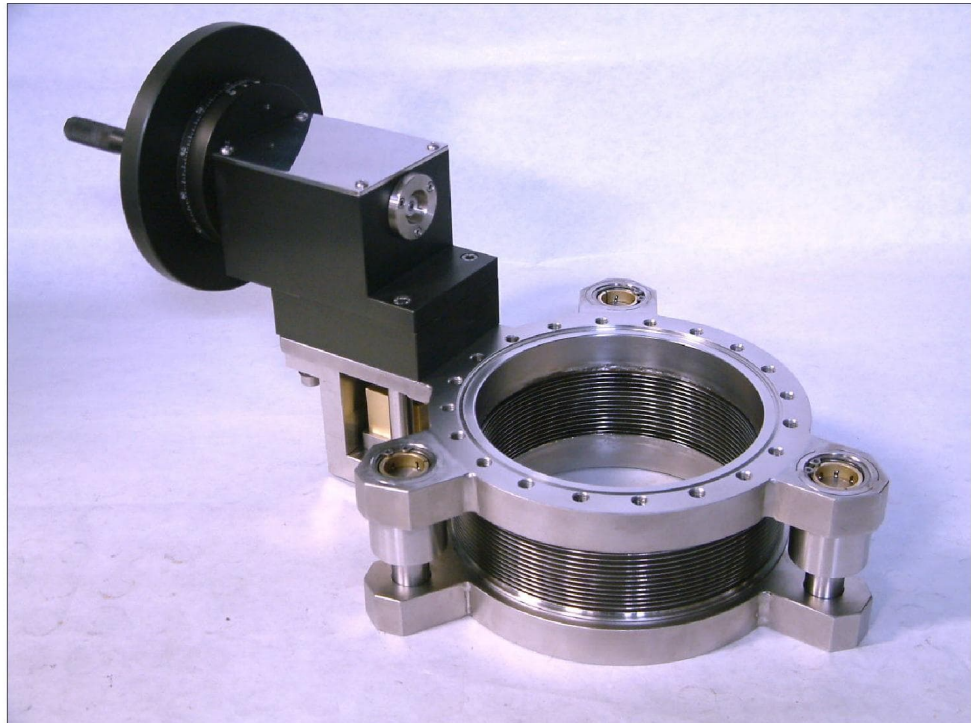


REP NEWSLETTER

Volume 1, No. 01

January 16, 2012

HEAVY-DUTY TRASLATOR



LINEAR TRASLATOR FOR HEAVY LOAD

UHV linear traslator has been designed to carry more than 300KG

All the components are metallic

Stroke 20mm

Bakeable to 230 °C

Precision 1 micron

Flanged CF150 FF

Sponsored by ADCAP-JAPON



REP NEWSLETTER

Volume 1, No. 02

February 6, 2012

SAMPLE BAG



UHV sample bag has been designed to carry a sample in UHV in different laboratories.

An ion pump and an infrared furnace has been inserted to maintain high cleanliness on the surface of the sample.

In this way we have successfully carried an epitaxial graphene sample from growing chamber to surface analysis laboratory .

Sponsored by CNR-Italy

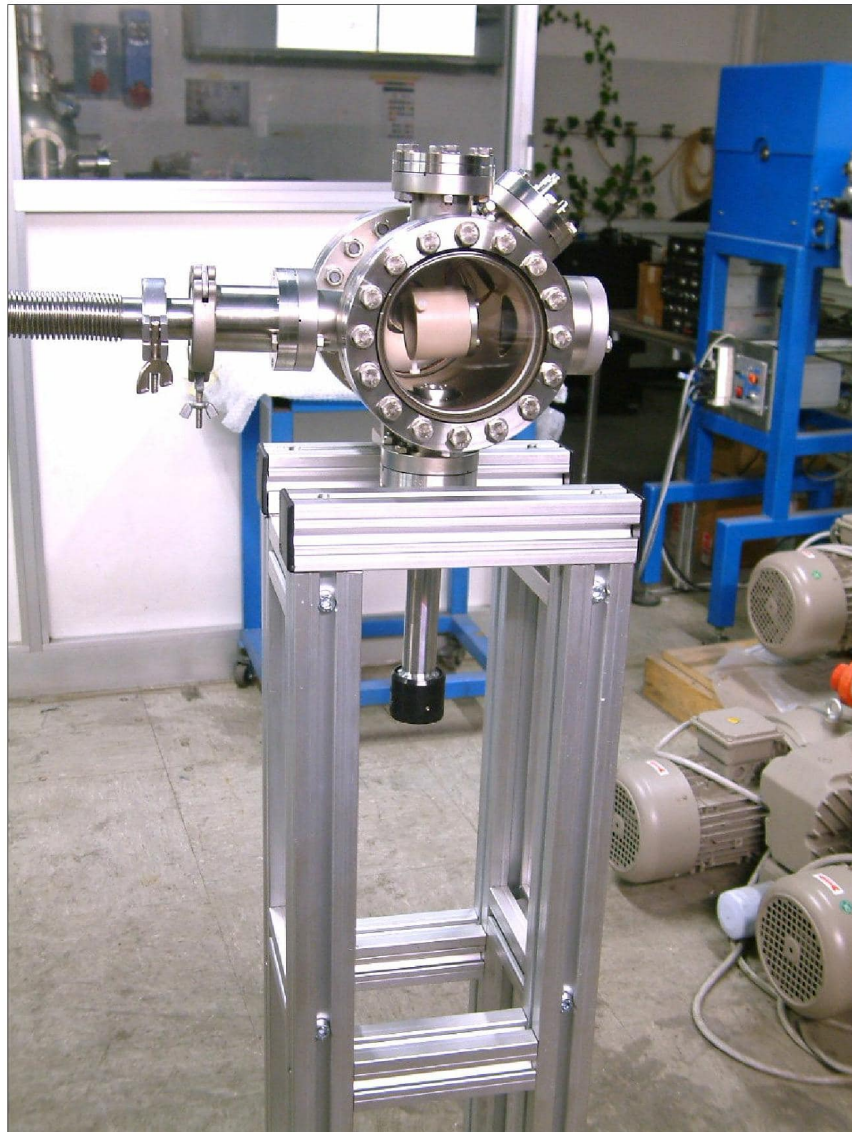


REP NEWSLETTER

Volume 1, No. 03

February 20, 2012

XUV beam position monitor



XUV beam positioner and monitor has been manufactured to detect extreme ultraviolet light beam. In the lower side a micrometric manipulator moves a 45° mirror in the middle of the chamber to deviate the beam in the upper window. Laterally another micrometric manipulator shifts a UV detector into the axis of the beam.

Sponsored by
LUXOR - Laboratory for UV and X-Ray Optical Research - CNR-Istituto di Fotonica e Nanotecnologie- Padova-Italia
Prof Luca Poletto

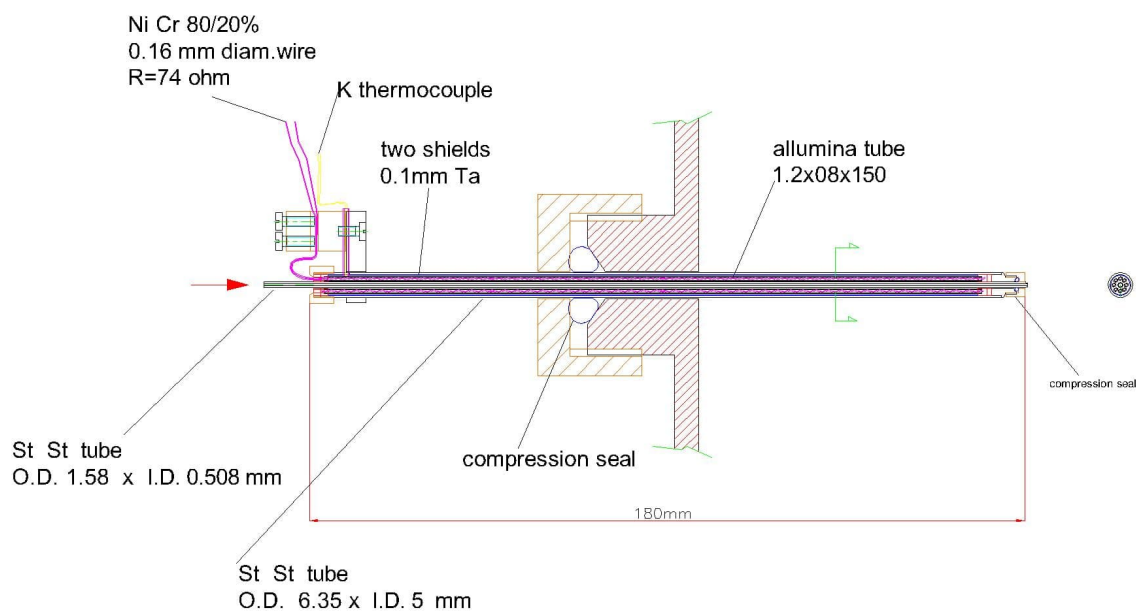


REP NEWSLETTER

Volume 1, No. 04

March 6, 2012

Miniheater for capillary tube



To inject solvents into vacuum reactor often is necessary to warm up the capillary tube to prevent frozen and seal the nozzle. Inside a 1/4" OD StSt tube we have realized a mini heater around a capillary tube to warm over 100°C the effluent. The miniheater is mounted screwing a nut on the viton oring. In the same way the capillary tube is replaceable.

Sponsored by ADCAP- Japon

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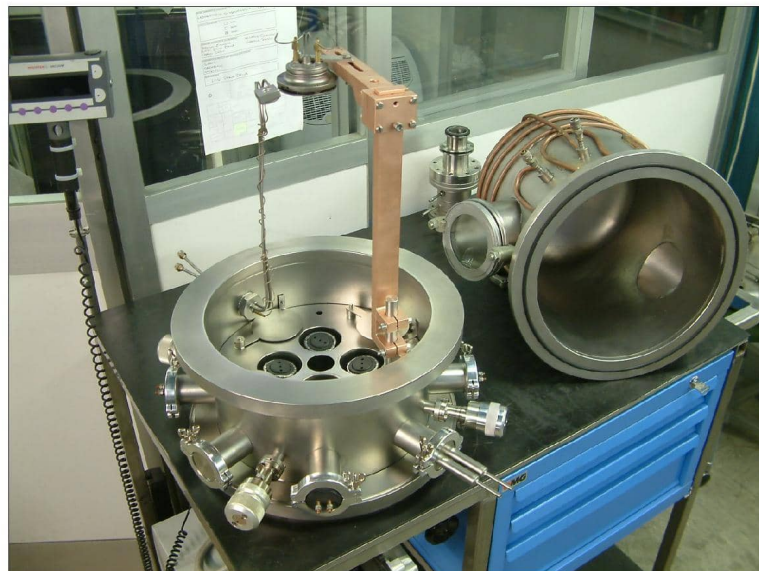


REP NEWSLETTER

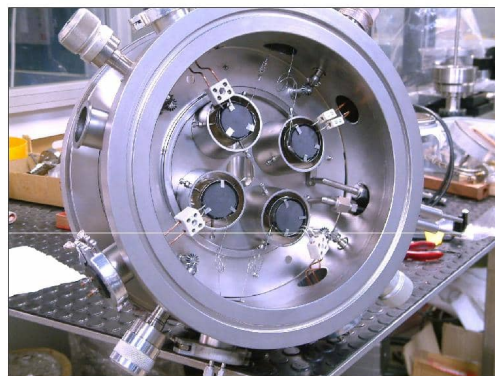
Volume 1, No. 05

March 19, 2012

new evaporator for solar cells



Top chamber with sample holder



Bottom chamber



Graphite effusion cell with screen and termocoax

A new evaporator for research has been designed to grow flexible solar cells. Cheaper graphite effusion cells with variable outlet hole have been manufactured. Around the cell termocoax has been mounted to warm up to 400°C. Chimney and water cooled shroud have been adopted to reduce the reciprocal contamination.

Sponsored by Univ of Verona -Ist di Informatica-Dr.Alessandro Romeo

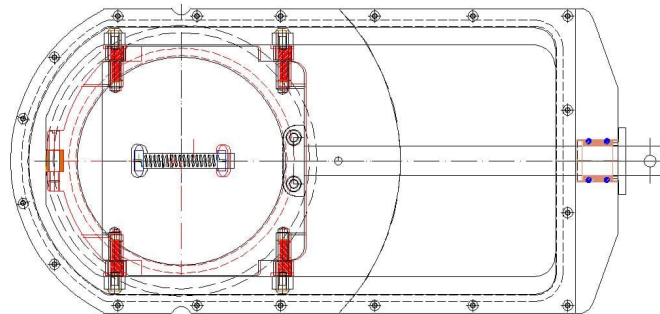
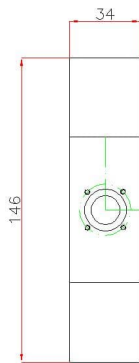
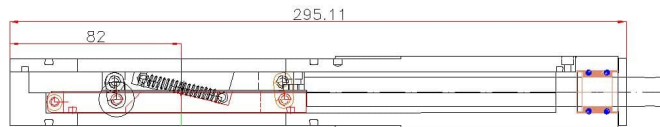


REP NEWSLETTER

Volume 1, No. 06

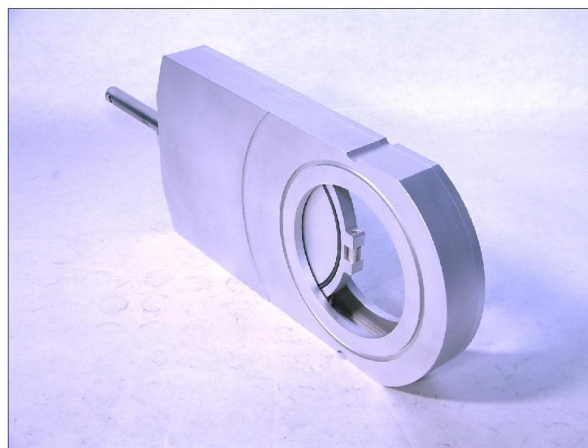
March 29, 2012

Thin slide valve



THIN SLIDE VALVE

DN100 thin slide valve has been designed to install in narrow gap of accelerator.
Materials are chosen to bear high energy particle environment to moderate the activation.
Body is fully opening for maintenance.
He leak $< 1.10^{-9}$ mbar l/s



Sponsored by CERN - Geneva - Svizzera

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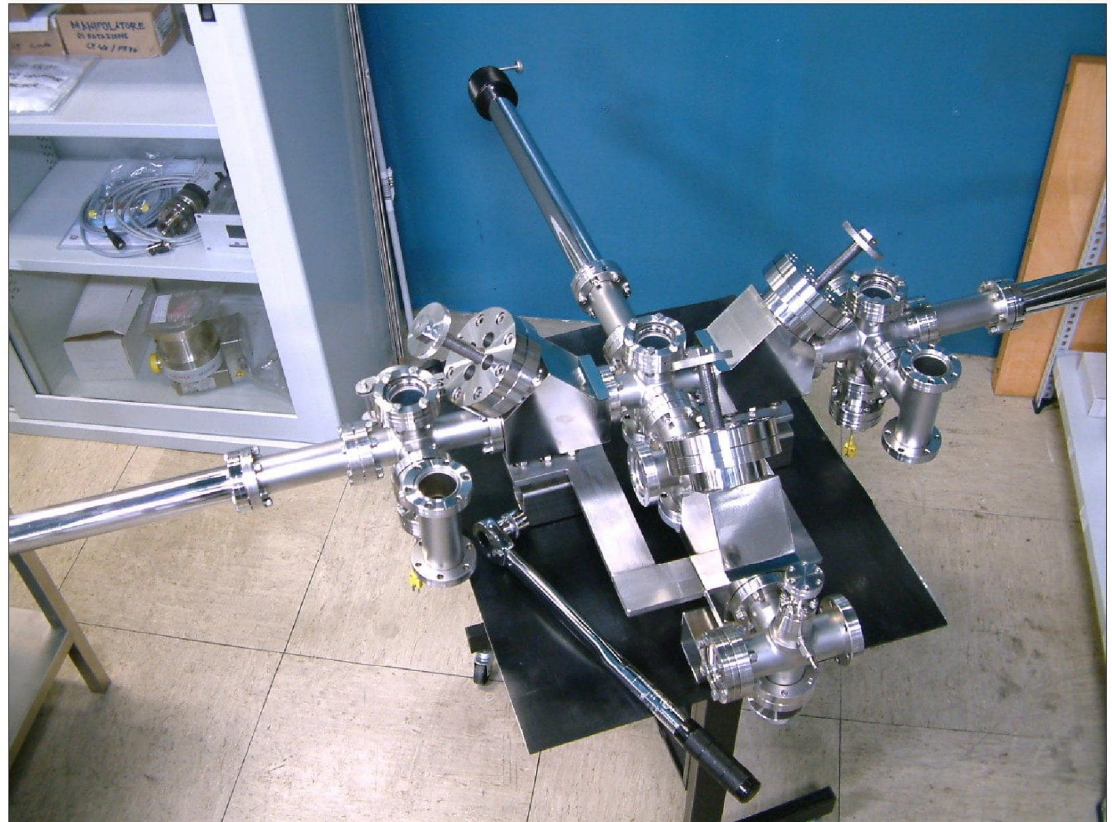


REP NEWSLETTER

Volume 1, No. 07

April 10, 2012

XUHV cleaver



To detect the desorption of the encapsulated electronic device XUHV cleaver has been designed.

After long outgassing on the outer side, encapsulated transistor (ET) is cleaved in a small chamber at 1.10^{-11} mbar, connected to a mass spectrometer to analyse the inside residual atmosphere.

To reach these conditions in both sides of the central chamber (CC), two fast entry lock with IR furnace are connected. The bake out of CC reach 350°C to reach vacuum 1.10^{-11} mbar before the introduction of ET. As final operation, ET is transferred and closed into the cleaver chamber and cut.

The CC is connected with three CF40 all metal in line valves.

Industrial applications

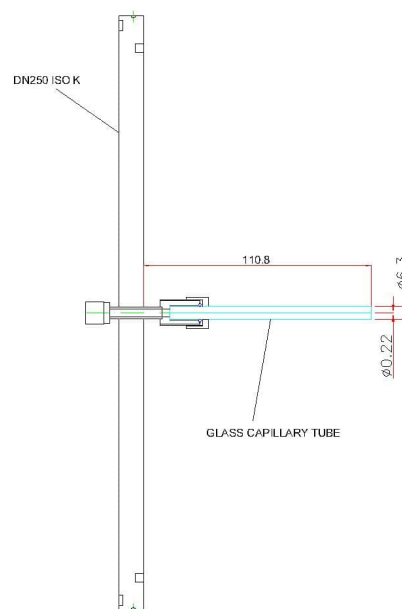
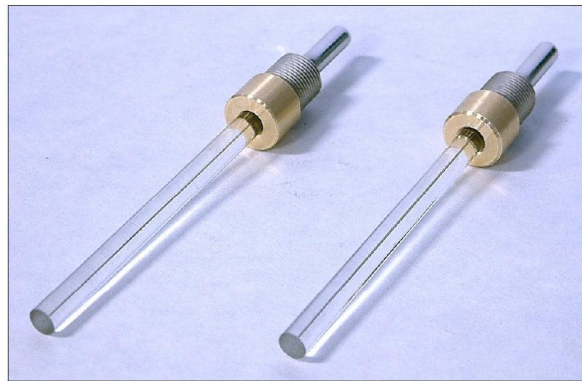


REP NEWSLETTER

Volume 1, No. 08

June 6, 2012

Capillary source



CAPILLARY SOURCE FOR SUPERSONIC EXPANSION

On DN250 ISO-K flange a source for supersonic expansion till 200°C temperature for microwave rotational spectroscopy of molecular beam system has been designed. In this experimental set up the small hole of capillary tube tends to clog. To prevent this fault, dismantling capillary tube is equipped. Dismantling capillary tube has the advantage to change the size of the hole or the manufacturing material.

Sponsored by Chemistry Dpt of University of Bologna-Italy-Prof Walter Caminati



REP NEWSLETTER

Volume 1, No. 09

July 6, 2012

Amagnetic beam line



To go across two magnetic polar expansions with a beam line, an amagnetic transition pyrex-inox connection has been manufactured .
During the stop of the operations, magnet fall down 8mm, so two membrane bellows have been welded at the ends .Two CF40 flanges have acomplised the line.

Sponsored by Dpt. of Physics -Ferrara University-Prof.Zavattini Guido

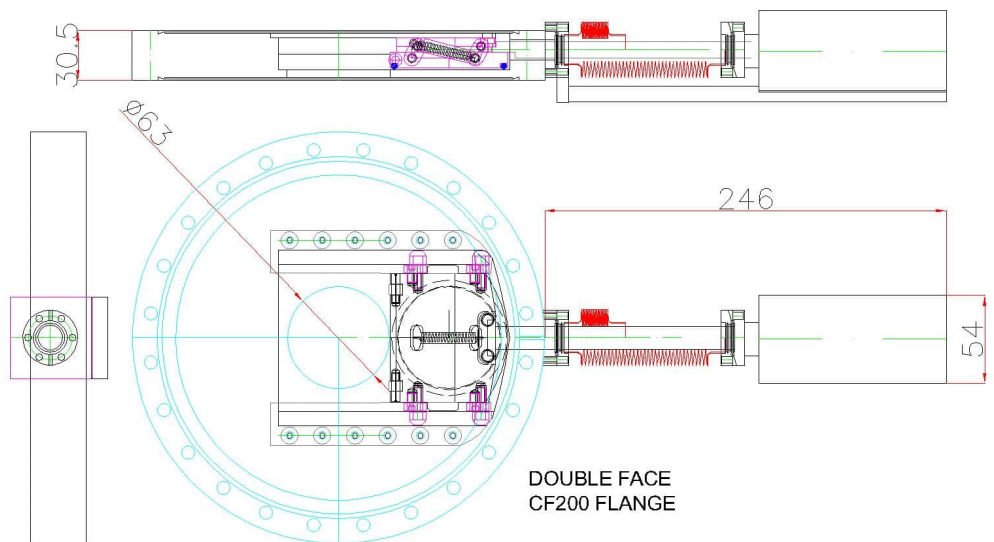


REP NEWSLETTER

Volume 01, No. 10

September 12, 2012

Thin slide valve into CF200



DN63 THIN SLIDE VALVE INTO CF200 FLANGE

DN63 thin slide valve has been designed to install in narrow gap of ion beam line. Materials have been chosen with low residual magnetism .
Body is fully opening for maintenance.
He leak test $< 2 \cdot 10^{-10}$ mbar l/s
Bakeable to 200°C with kalrez o-ring.

Sponsored by :INFN Frascati

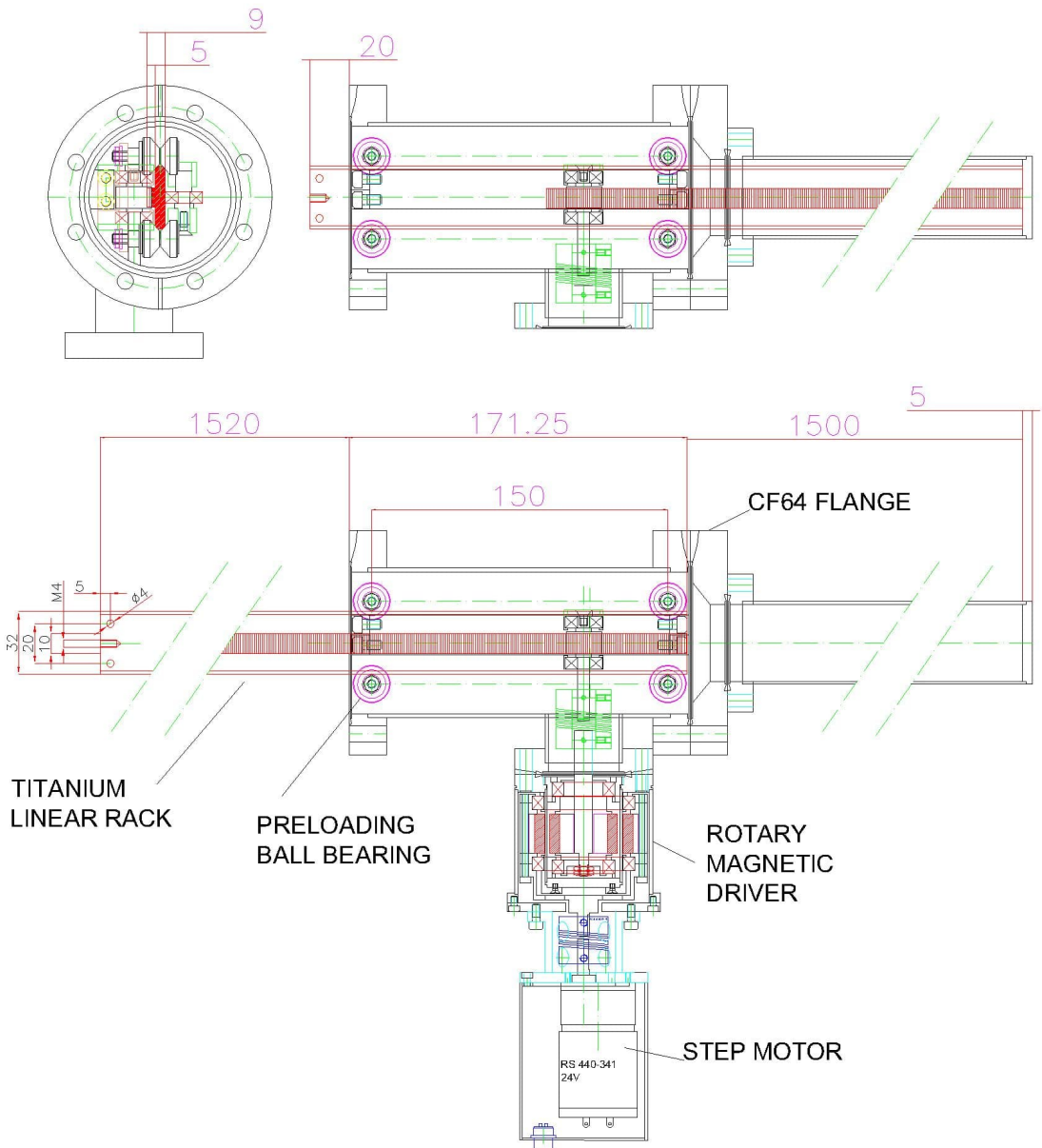
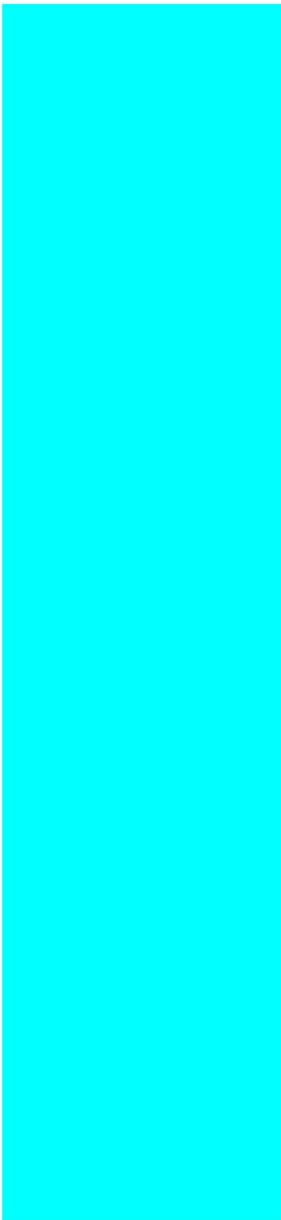


REP NEWSLETTER

Volume 1, No. 11

October 6, 2012

AMAGNETIC TRASLATOR



Linear rack and pinion device to allow fast reliable transfer of sample within UHV systems has been designed to operate in high magnetic field.

After a course of 1500mm the sample is positioned with a precision of 0.01mm with a load of 200g.

Sponsored by : IFP-CNR Milano , Italy