

Company profile

The company was founded in 1980 by Karl Besocke as a spin off enterprise of his patents. It started with a simple version of a Kelvin Probe.

During the following years more and more products came on the market establishing the reputation of the company as a cradle for new reliable instruments based on simple and unconventional principles. For example the unique Scanning Tunneling Microscope, known as the Besocke BEETLE-STM.

The spectrum of products includes mainly instruments used in the field of modern research and development in physics, chemistry, engineering and biology.

The principle of operation applies mostly piezoelectric elements.

Main products are: Kelvin Probes S, STM, AFM, Choppers and Gas sensors.

Furthermore the Besocke Delta Phi GmbH serves as a consulting company for the solution of unconventional technical and scientific problems.

Chopper System

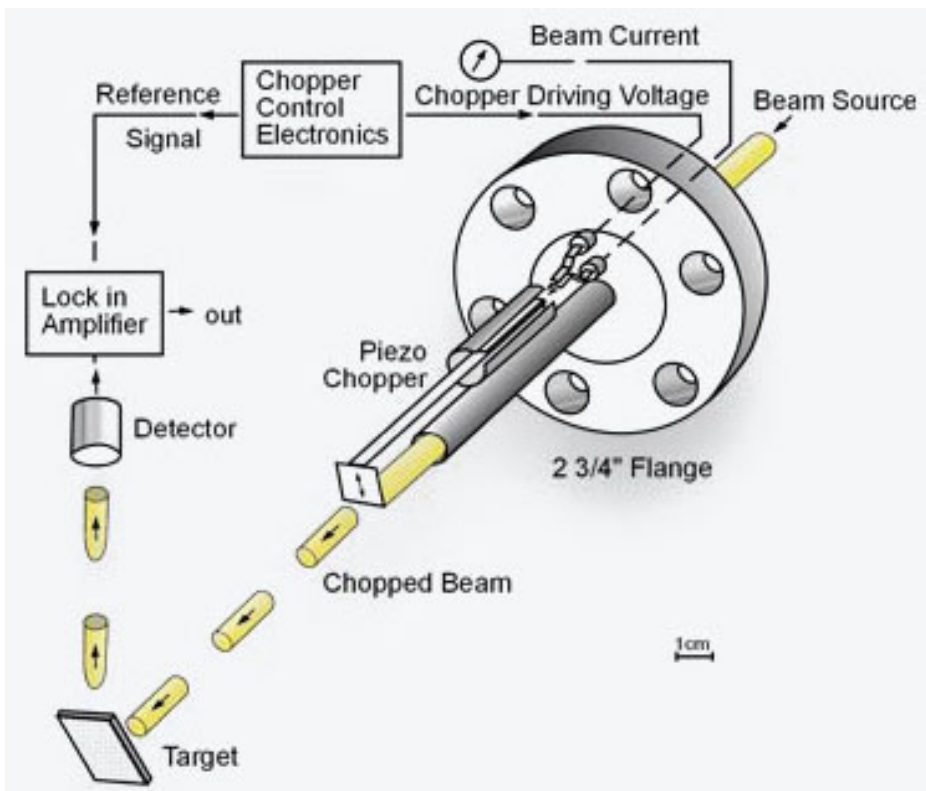
Introduction

The piezo chopper has been developed for application in beam experiments. It requires a minimum of space and installation effort. It consists of a piezoelectric driven vibrating reed chopper operated by an electronic control unit.

Typical application

- Beam on–beam off–experiments
- Beam current measurements
- Surface reaction kinetics
- Adsorption–desorption processes
- Synergetic effects
- Elimination of background effects

Function diagram



Chopper

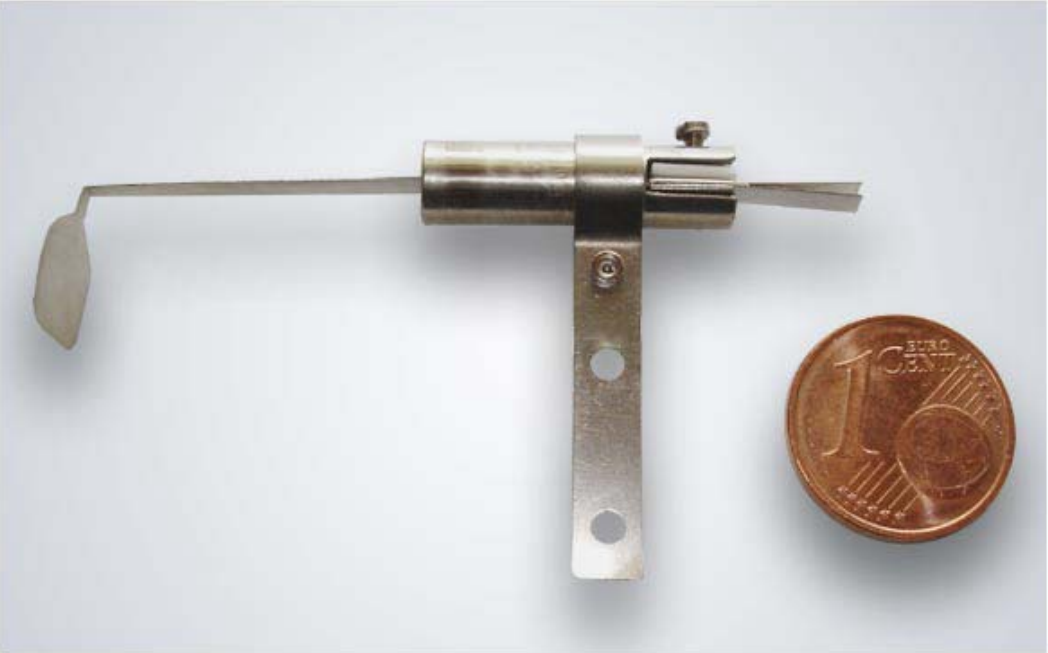
Features and specifications

- Piezoelectric drive
- Operation in any position
- Operation with Chopper Control
- Typical resonance frequency 70 Hz
- Chopper amplitude 10 mm
- Piezoelectric zero position adjustment ± 0.5 mm
- Operation voltage 15 V ac
- Simple and extremely flexible installation in any experimental chamber
- Mountable on any flange or manipulator of your choice (NW 16, NW 25 ...)
- Compact construction: diameter 6mm, length 50mm
- Chopper blade: 5 x 5 mm, variation on request
- easy installation, only one feedthrough required
- Low- High pressure experiments ranging from UHV up to 10 bar
- Operation in air
- UHV compatible, bakeable up to 220 C
- Temperature operation range from liquid Helium to 220 C
- Automatic operation with Chopper Control
- No interference with equipment connected to the sample (heater, thermocouple)
- Easy combination with other analysis tools
- Simple operation
- Self tuned oscillator phase reference signal for lock-in application
- Low power consumption
- Variation of dimension, frequency, amplitude and material on request

Chopper H



Chopper V



Chopper Control

The Chopper Control electronics is developed to operate the piezoelectric driven Chopper under optimal conditions.

Features and specifications

- Self maintaining oscillator locks automatically at resonance frequency of Chopper
- Stable oscillation
- Variable Chopper amplitude
- No frequency tuning required
- Phase stable reference signal for Lock-in application
- Operation voltage 15 V

Dimension, weight: 22 x 15 x 9 cm, 1 kg

Power supply: 110 – 240 V, 50 – 60 Hz

Please ask if you have any questions.

Best regards,
Carola Besocke