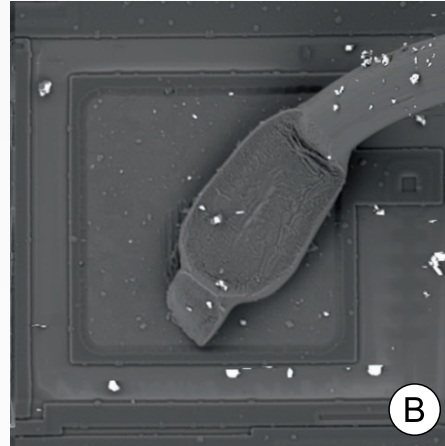
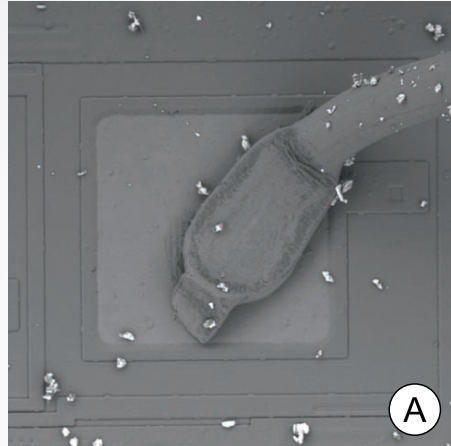


IMAGES ACQUIRED WITH REBEKA

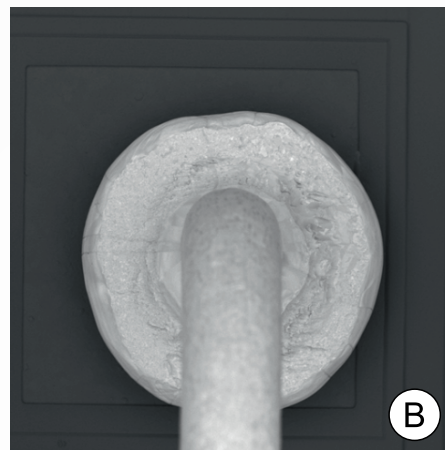
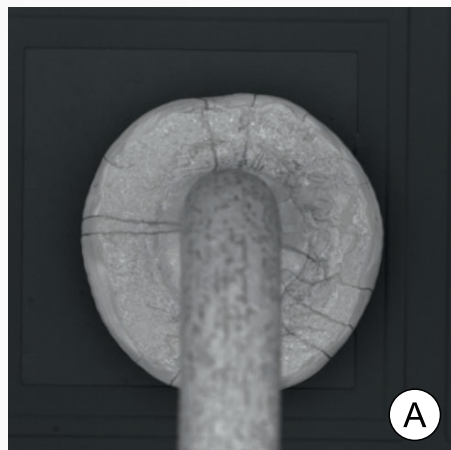


Sample: **IC bonds - Al bond on Si wafer with particle contamination**

Different BSE contrast at various landing energies, the same FOV

(A) BSE 3kV | 80pA | 320 μ s/pxl

(B) BSE 10kV | 350pA | 100 μ s/pxl

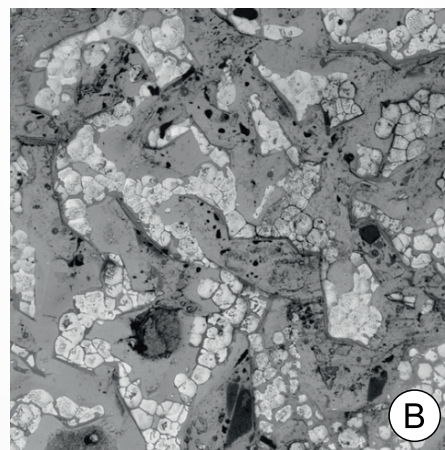
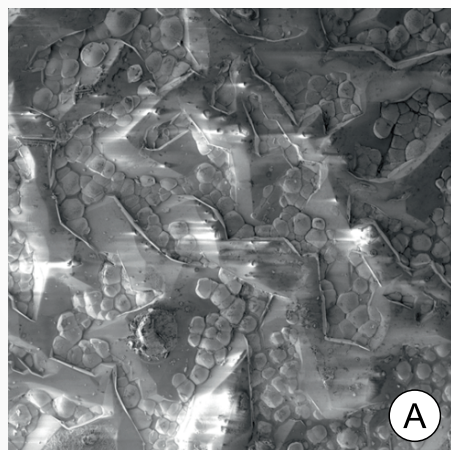


Sample: **IC bonds - Au bond on metallized Si wafer**

BSE imaging at low beam current, the same FOV

(A) BSE 2kV | 20pA | 320 μ s/pxl

(B) BSE 5kV | 20pA | 100 μ s/pxl

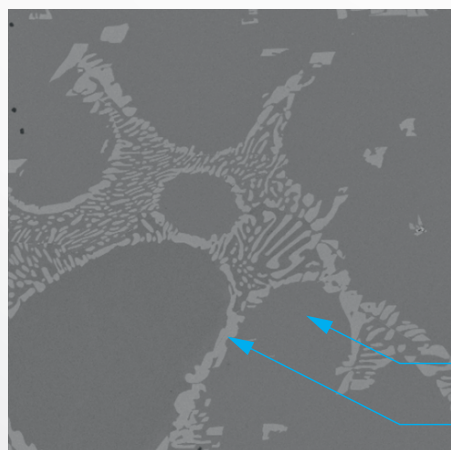


Sample: **phases of Lu_2O_3 , $\text{Lu}_3\text{Al}_5\text{O}_{12}$ and Zr_2O**

BSE imaging at low landing energy on insulating samples, the same FOV

(A) SE 3kV | 80pA | 100 μ s/pxl

(B) BSE 3kV | 80pA | 100 μ s/pxl



Sample: **Fe-Al-Nb alloy**

BSE | 10kV | 100pA | 100 μ s/pxl

Fe-25Al-0.25Nb

Fe-20.8Al-27.1Nb



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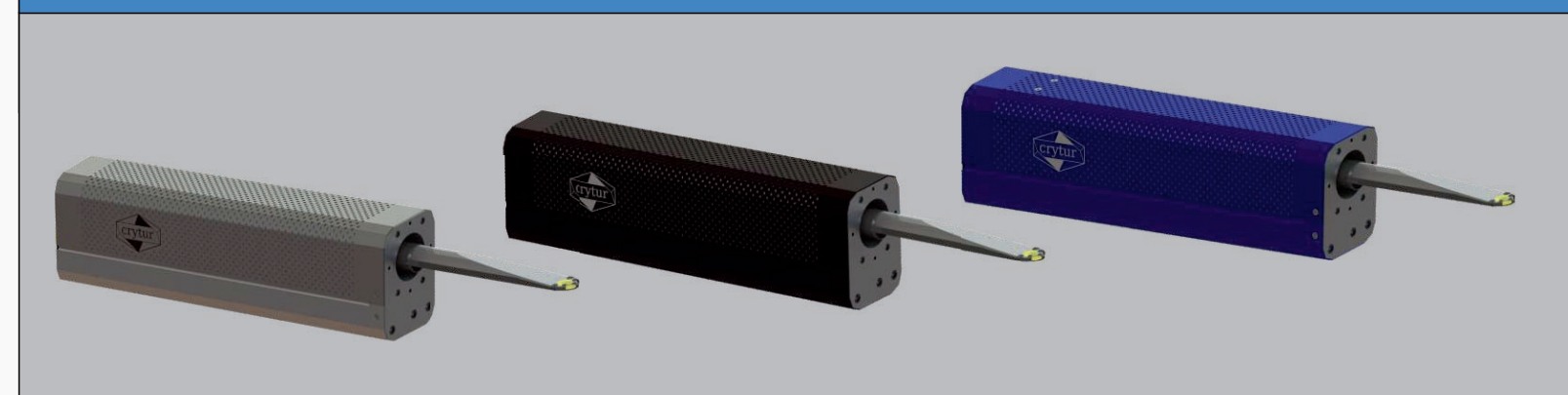
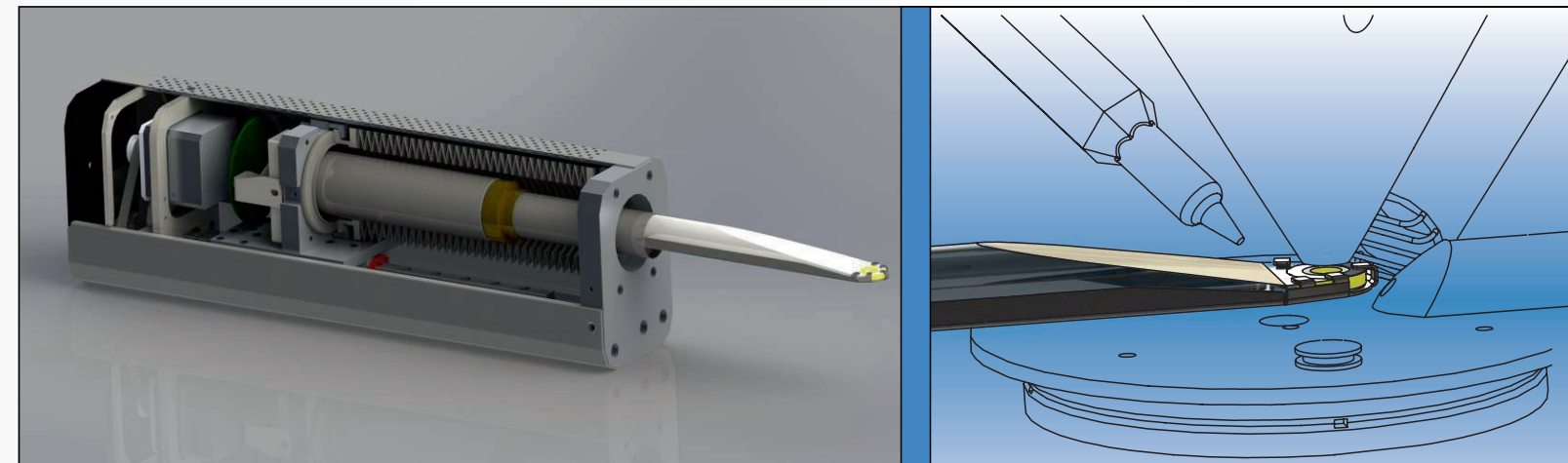
www.koreaits.com

www.crytur.com



REBEKA

Retractable BSE detector for SEM



RELIABLE SENSOR & PRECISE MECHANICS

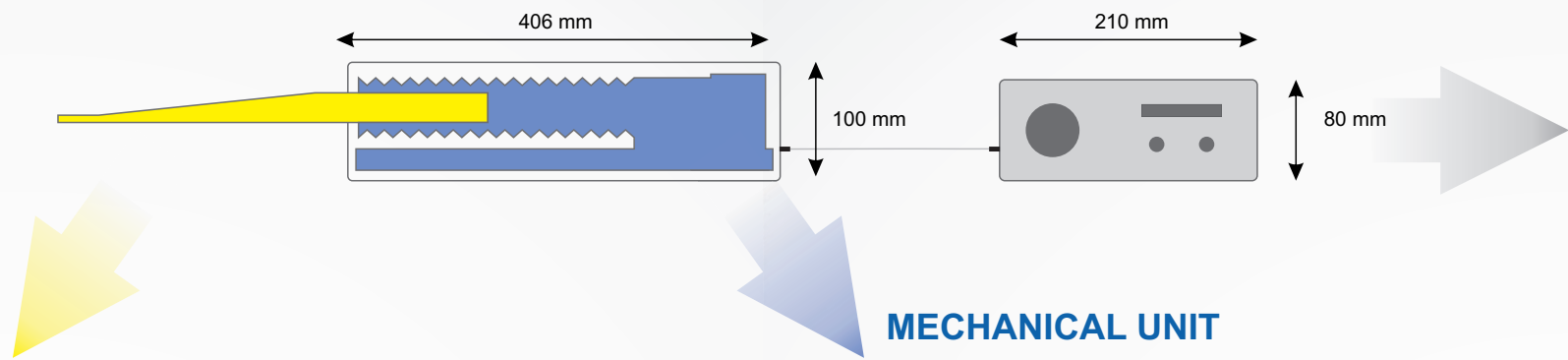
- ✓ Single crystal YAG:Ce sensor
- ✓ Scintillator/PMT principle for ultimate image quality
- ✓ Exclusive CRYTUR LOW-ENERGY COATING™ sensitive down to 0.5 keV
- ✓ Excellent S/N ratio
- ✓ Unlimited sensor lifetime
- ✓ HV + LV + ESEM operation

- ✓ Motorized retraction mechanism
- ✓ Bellows-sealed system
- ✓ Retraction 145 mm
- ✓ Compact design
- ✓ Precise alignment
- ✓ Customized connection to SEM

TECHNICAL PARAMETERS

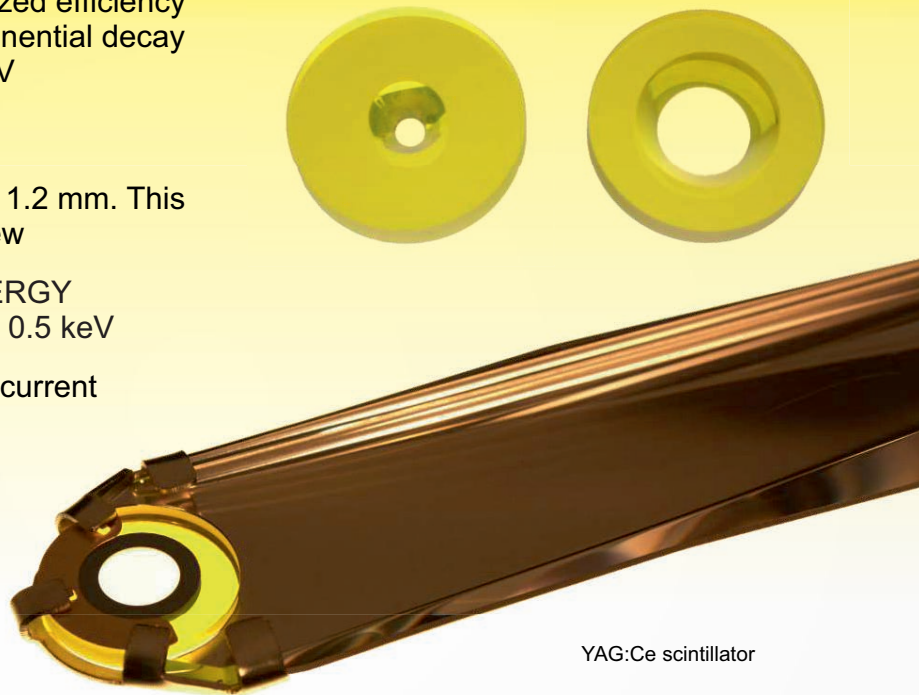
REBEKA represents a state-of-the-art combination of sensorics, mechanics and electronics for BSE detection in SEM environment.

- + SENSOR UNIT
- + MECHANICAL UNIT
- + ELECTRONICS CONTROL UNIT



SENSOR UNIT

- YAG:Ce scintillator with optimized efficiency and minimized afterglow, exponential decay time 75 ns with 30 photons/keV
- Outer diameter 15 mm
- Inner hole diameter 6 / 4 / 2 or 1.2 mm. This dimension limits the field of view
- Exclusive CRYTUR LOW-ENERGY COATING™ sensitive down to 0.5 keV
- Sensitivity down to 1pA beam current

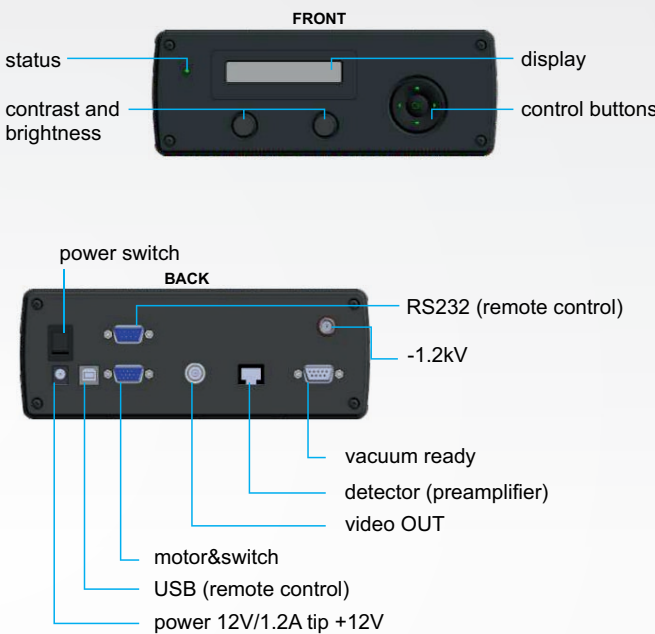


MECHANICAL UNIT

- Dimensions 406 x 100 x 72 mm
- Bellows design for ultimate vacuum
- 145 mm motorized retraction
- +/- 2 mm fine adjustment in x, y, z axis
- 0.01 mm repeatability
- Detector tip covered by metal protecting tube, final thickness 3.5 mm, width 24 mm
- Flange adapted to customer's SEM
- White / black / blue matt surface finish available

ELECTRONICS CONTROL UNIT

- Dimensions 210 x 180 x 80 mm
- Supply 230/110 V
- 3 noise filters optimized for different scanning speeds
- 50 MHz bandwidth
- Internal source 0-1200 V for PMT HV
- Output video signal -1/+1V (-5/+5V)
- Full remote software control



BSE SIGNAL CHARACTERISTICS

Evolution of BSE contrast with increasing landing energy. The same field of view on uncoated charging sample.
Sample: **phases of Lu_2O_3 and $\text{Lu}_3\text{Al}_5\text{O}_{12}$**

