

N°1

pro beam

PRO-BEAM GROUP

World-Leading Electron Beam Technology



Electron beam technology

Christian Junghanns, ENC

pro-beam systems GmbH
2025-09-18

www.pro-beam.com

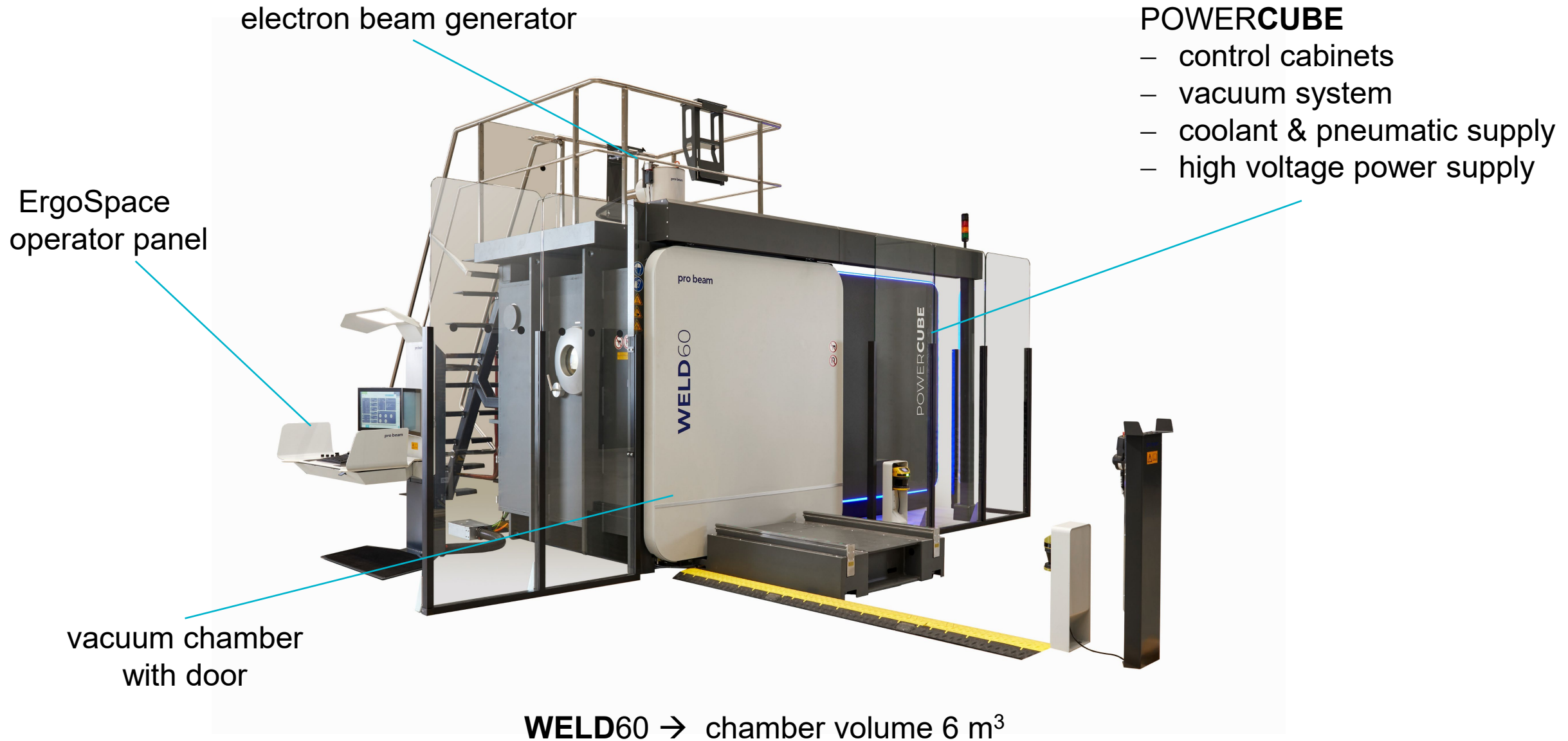
Electron beam welding machines

Beam generator

Electron optical monitoring and observation

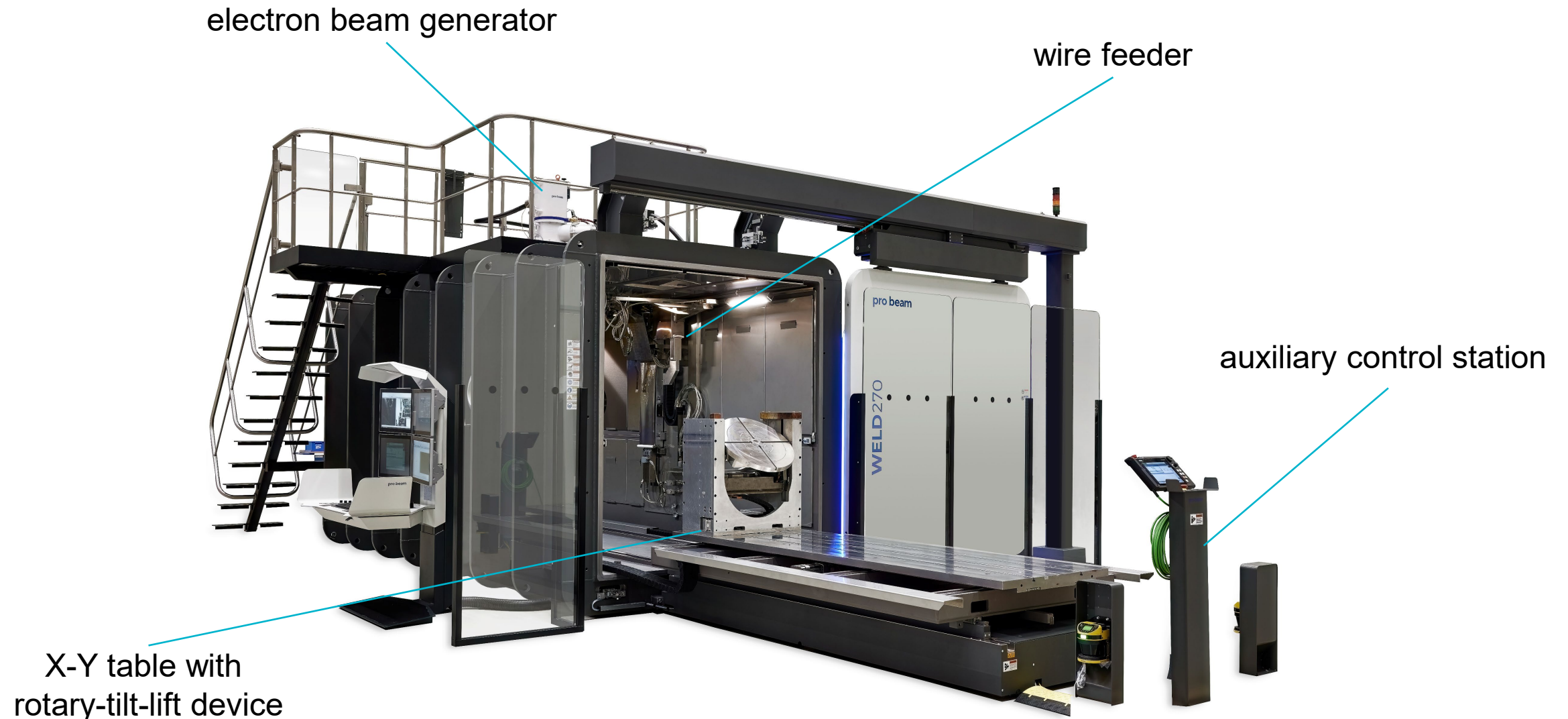
Electron beam welded workpieces

Electron beam welding machines





WELD270 → chamber volume 27 m³



WELD270 → chamber volume 27 m³

electron beam generator



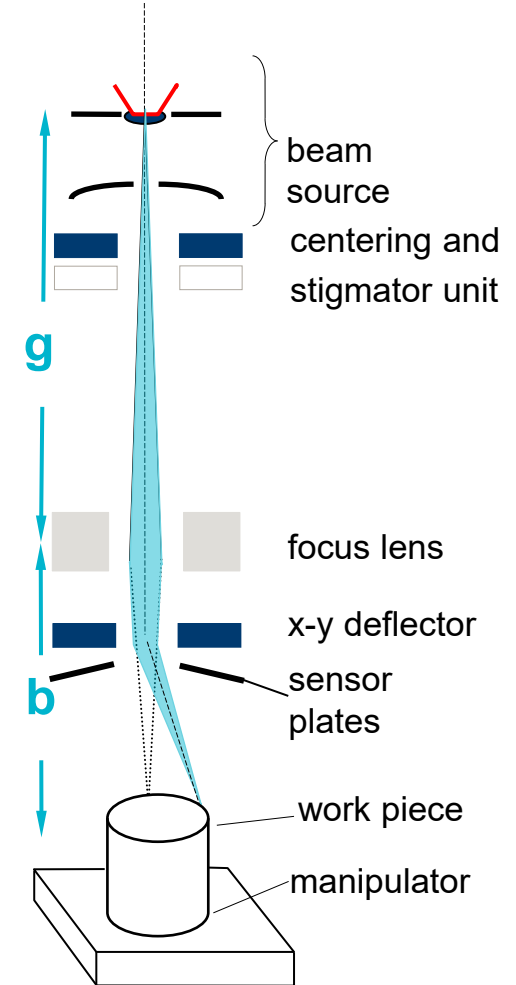
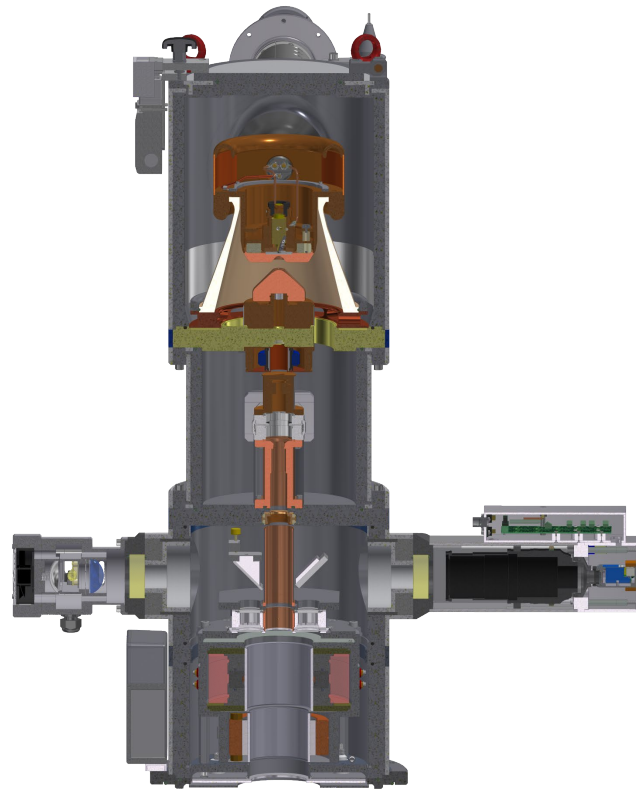
vacuum chamber
with door

XXL - welding machine K6000-2 → chamber volume 700 m³

Beam generator

Basic functionality

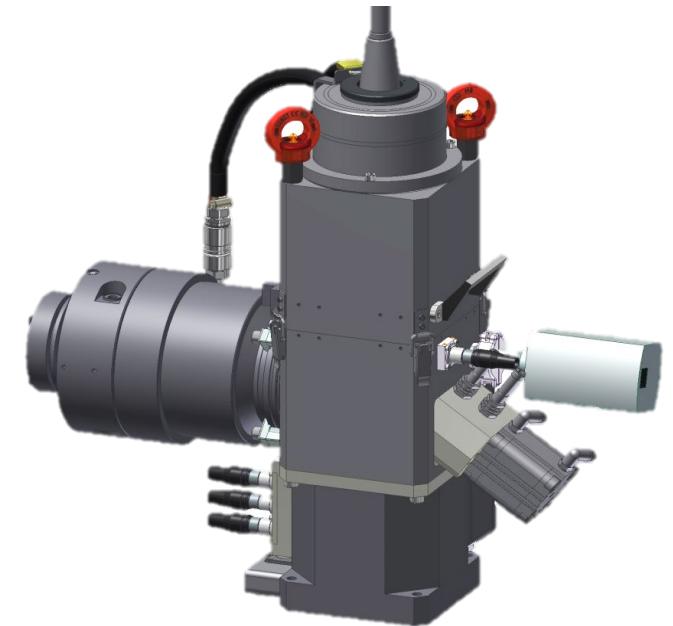
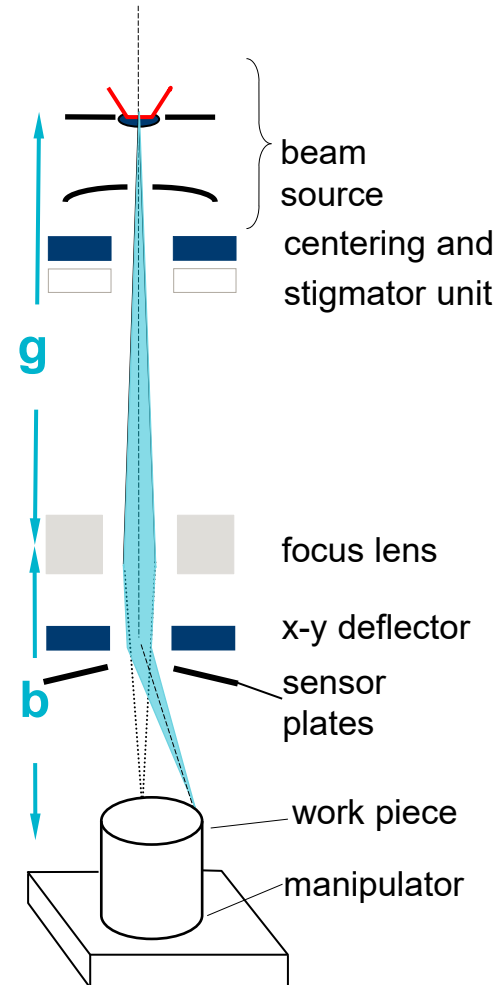
Types by pro-beam





Model: „systems“

- $U = 60-150 \text{ kV}$
- $I_a = 300 \text{ mA}$
- $P = 45 \text{ kW}$



Model: „cells“

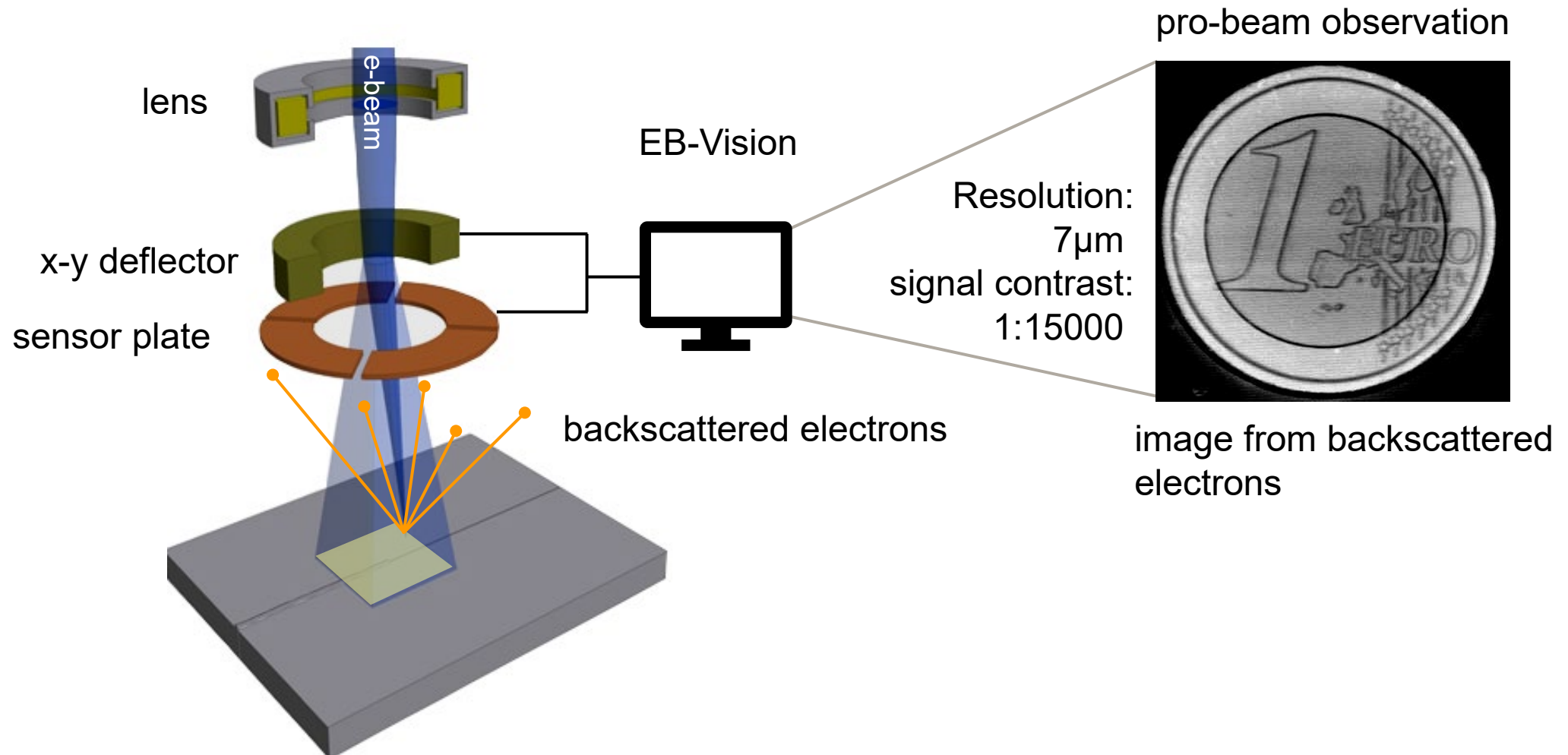
- $U = 60 \text{ kV}$
- $I_a = 100 \text{ mA}$
- $P = 6 \text{ kW}$

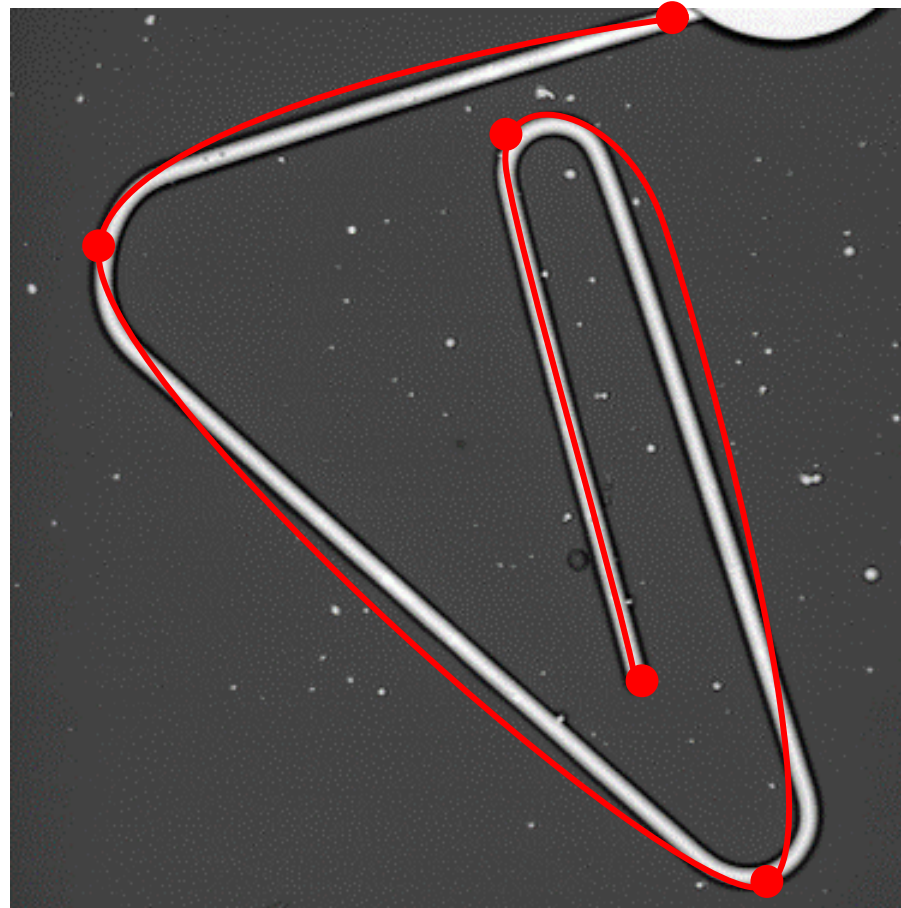
Electron optical monitoring and observation

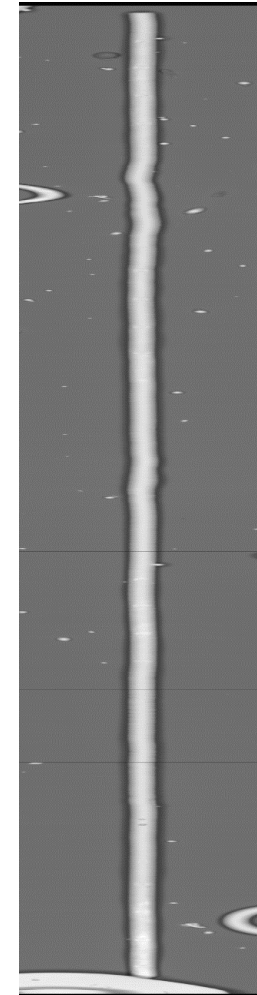
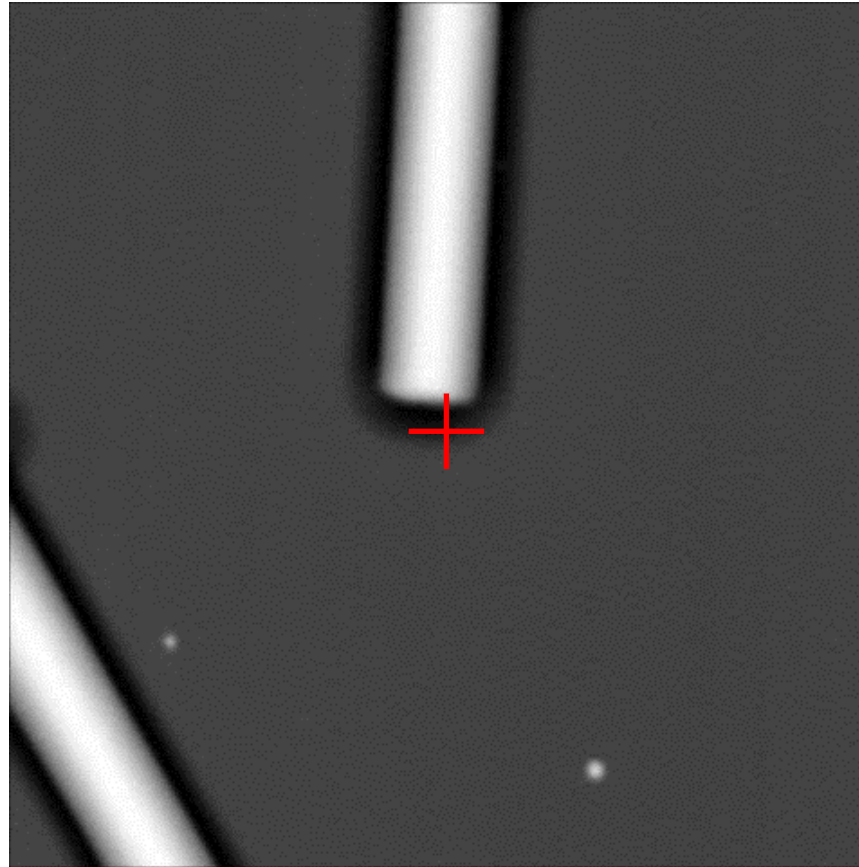
ELO

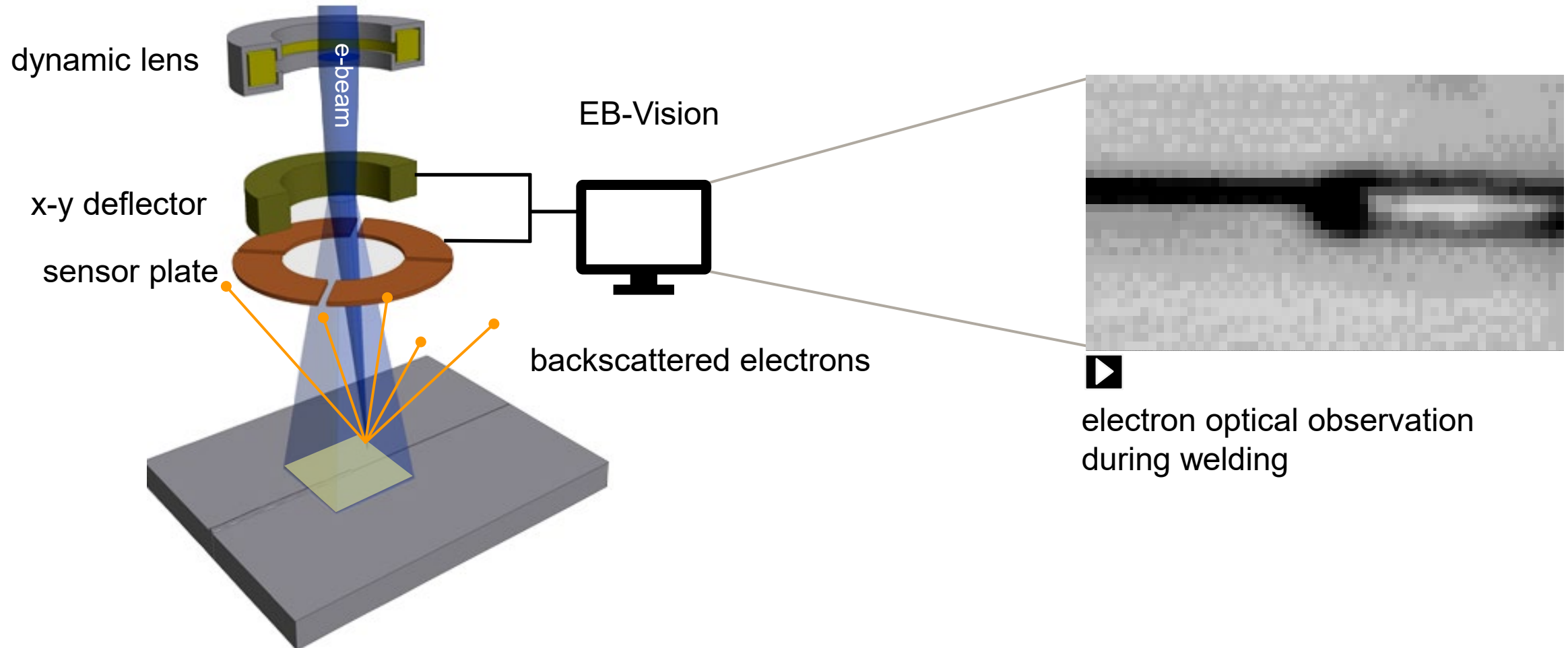
Scanning like welding

ELO-online



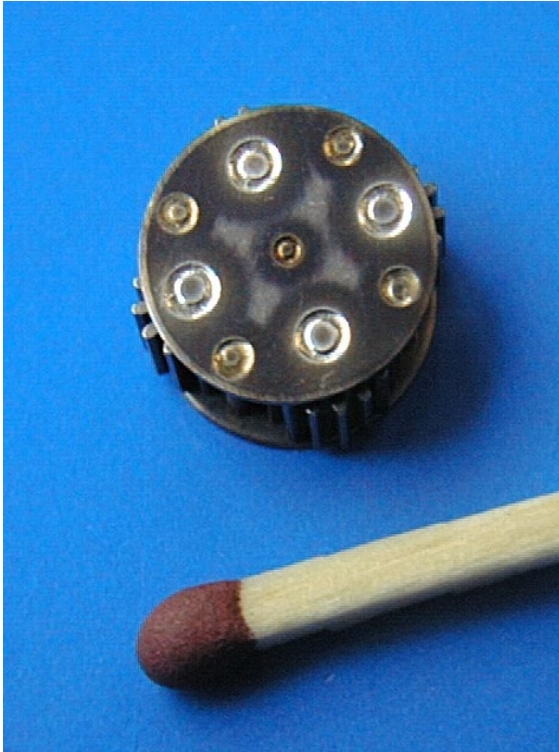






Electron beam welded workpieces

Electron beam technology is suitable to handle both small and large workpieces, for example...



planetary gear of a hand prothesis with 17 welds



section of the ITER reactor vessel (80 t and 120 m weld length)

Thank you very much for your attention.

Christian Junghanns, ENC

pro-beam systems GmbH
2025-09-18

www.pro-beam.com