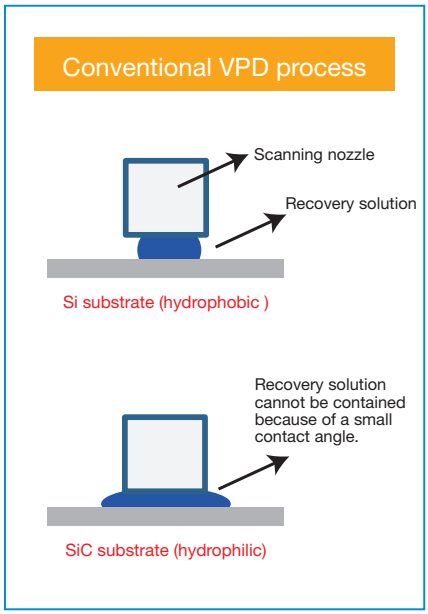
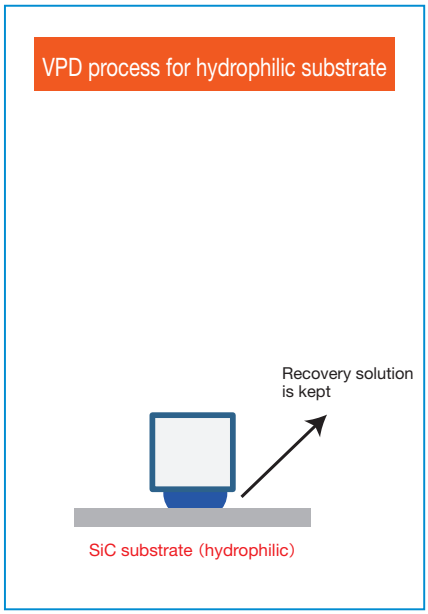
Enhanced VPD Preparation for Various Surface Conditions

VPD-integrated Total Reflection X-ray Fluorescence Spectrometer: TXRF-V310

VPD for hydrophilic substrates

Conventional VPD cannot recover contamination on substrates having a film, high roughness, or SiC because recovery solution has a small contact angle and cannot be kept inside a scanning nozzle.
Rigaku achieves VPD-TXRF measurements for hydrophilic substrates with an integrated VPD unit.



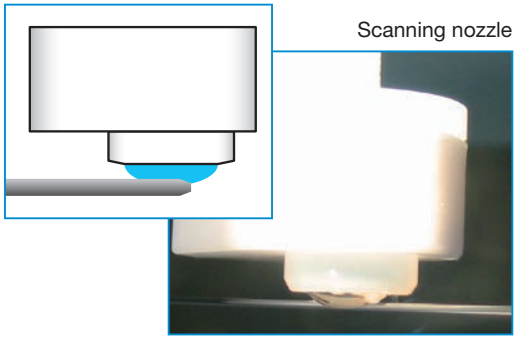


Scanning nozzle for hydrophilic substrate

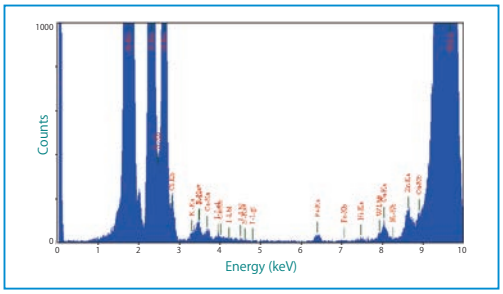
Bevel recovery function

Edge and bevel are contaminated by wraparound and contact with contamination, which affects yield. VPD-TXRF measurement of edge and bevel can be performed by the integrated Bevel recovery function.

Bevel recovery function

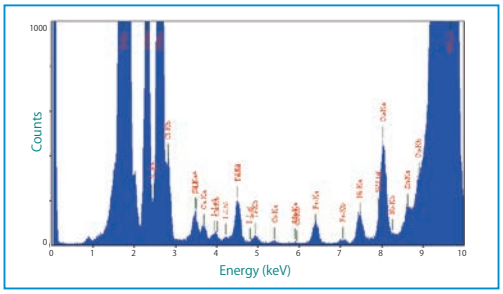


Surface analysis



K	2×10^{9} atoms/cm^2
Ca	2×10^{9} atoms/cm^2
Fe	3×10^{8} atoms/cm^2
Cu	4×10^{8} atoms/cm^2
Zn	5×10^{8} atoms/cm^2

Bevel analysis



Ca	3×10^{11} atoms/cm^2
Ti	4×10^{11} atoms/cm^2
Cr	1×10^{10} atoms/cm^2
Fe	8×10^{10} atoms/cm^2
Ni	8×10^{10} atoms/cm^2
Cu	2×10^{11} atoms/cm^2
Zn	3×10^{10} atoms/cm^2