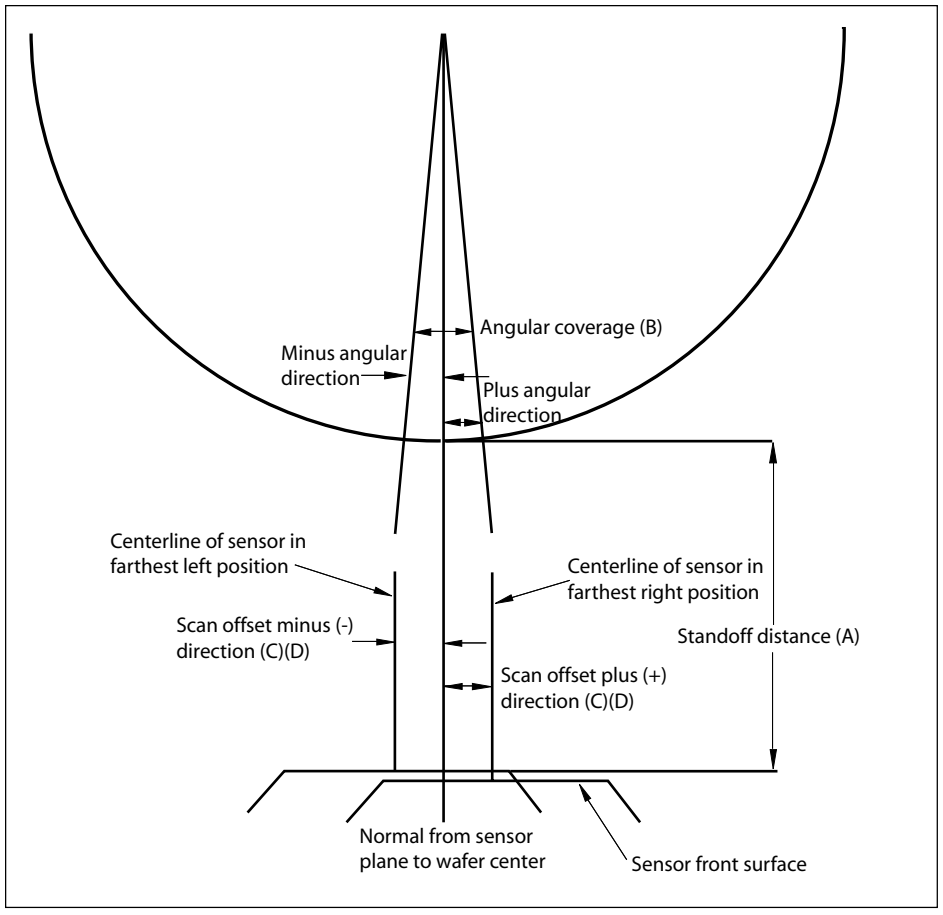
Angular Sensing, Standoff Distances and Scan Offsets

for CyberOptics Semiconductor Wafer Mapping Sensors

SENSOR	STANDOFF DISTANCE (A)	STANDOFF RANGE SPECIFICATION	ANGULAR COVERAGE (B)	OPTIMUM ANGLE	COMMENTS	SCAN OFFSET FOR 200 MM (C)	SCAN OFFSET FOR 300 MM (D)
WX-43	1.5 in. (38.1 mm)	1.3 - 1.7 in	+/- 28 degrees	+/- 7 deg pk (+/- 3 to 11 deg)	Offset 7 degrees for best result	12 mm (5.2-19mm)(+/-)	18 mm (7.8-28.6mm)(+/-)
WX-73	2.2 in (55.9 mm)	1.6 - 2.8 in	+/- 23 degrees	+/- 5 deg pk (+/- 2 to 9 deg)	Offset 5 degrees for best result	9mm (3.5-15.6mm)(+/-)	13 mm (5.2-23.5mm)(+/-)
EX-43	1.5 in. (38.1 mm)	1.3 - 1.7 in	+/- 23 degrees	+15 to -15 deg	Scan anywhere +15 to -15 degrees	0 to 25 mm (+/-)	0 to 39 mm (+/-)
EX-73	2.2 in (55.9 mm)	1.9 - 2.5 in	+/- 13 degrees	+8 to -8 deg	Scan anywhere +8 to -8 degrees	0 to 14 mm (+/-)	0 to 21 mm (+/-)
EX-83	3.0 in (76.2 mm)	2.25 - 3.4 in	-2 to +6 degrees	-1 to +4 deg	Scan anywhere +4 to -1 degrees	+7 to -1.7 mm	+10.5 to -2.6 mm
EX-93	4.5 in (114.3 mm)	3.2 -5.5 in	-2 to +6 degrees	-1 to +4 deg	Scan anywhere +4 to -1 degrees	+7 to -1.7 mm	+10.5 to -2.6 mm

Note: These offsets and angles assume notched wafers. Flatted wafers may require additional calculations and scans to ensure optimal detection.



Angular sensing range and standoff distance (plan view from top of sensor, green and red LEDs are visible on top of sensor).

Angles and offsets assume sensor translation only. If sensor rotates, calculate offset from angle that sensor centerline makes with line from wafer center to intersection point on circumference.

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