

# Wyko NT Series Optical 3D Profiling Systems

## MAGNIFICATION OBJECTIVES FOR WYKO® NT1100

Magnification <sup>1</sup>	1.5X	2.0X	2.5X	2.5X LWD <sup>2</sup>	5.0X	5.0X LWD	10X	10X LWD	20X	50X
<b>Interferometer Type</b>	Michelson	Michelson	Michelson	Michelson	Michelson	Michelson	Mirau	Michelson	Mirau	Mirau
<b>Numerical Aperture</b>	0.041	0.075	0.07	0.055	0.12	0.13	0.3	0.17	0.4	0.55
<b>Working Distance (mm)</b>	9.5	9.9	3.5	24	6.7	9.4	7.4	24	4.7	3.4 <sup>3</sup>
<b>Optical Resolution (µm)<sup>4</sup></b>	7.32	4	4.29	5.46	2.5	2.31	1	1.76	0.75	0.55
<b>Practical Maximum Slope (deg)<sup>5</sup></b>	1.8	3.2	3	2.4	5.2	5.6	13.1	7.3	17.7	25
<b>Turret Mountable?</b>	with adapter	Yes	Yes	with adapter	Yes	Yes	Yes	with adapter	Yes	Yes
<b>Parfocal to 45 mm?</b>	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
<b>Field-of-view [with magnification selector ] (mm x mm)<sup>6</sup></b>										
<b>.50X Lens</b>	8.24 x 6.27	6.18 x 4.70	4.95 x 3.76	4.95 x 3.76	2.47 x 1.88	2.47 x 1.88	1.24 x 0.94	1.24 x 0.94	0.62 x 0.47	0.25 x 0.19
<b>.75X Lens</b>	5.50 x 4.18	4.12 x 3.14	3.30 x 2.51	3.30 x 2.51	1.65 x 1.25	1.65 x 1.25	0.82 x 0.63	0.82 x 0.63	0.41 x 0.31	0.17 x 0.13
<b>1.0X Lens</b>	4.12 x 3.14	3.09 x 2.35	2.47 x 1.88	2.47 x 1.88	1.24 x 0.94	1.24 x 0.94	0.62 x 0.47	0.62 x 0.47	0.31 x 0.24	0.12 x 0.09
<b>1.5X Lens</b>	2.75 x 2.09	2.06 x 1.57	1.65 x 1.25	1.65 x 1.25	0.82 x 0.63	0.82 x 0.63	0.41 x 0.31	0.41 x 0.31	0.21 x 0.16	0.08 x 0.06
<b>2.0X Lens</b>	2.06 x 1.57	1.55 x 1.18	1.24 x 0.94	1.24 x 0.94	0.62 x 0.47	0.62 x 0.47	0.31 x 0.24	0.31 x 0.24	0.15 x 0.12	0.06 x 0.05
<b>High Resolution Spatial Sampling Interval (µm x µm)</b>										
<b>.50X Lens</b>	11.20 x 13.07	8.40 x 9.80	6.72 x 7.84	6.72 x 7.84	3.36 x 3.92	3.36 x 3.92	1.68 x 1.96	1.68 x 1.96	0.84 x 0.98	0.34 x 0.39
<b>.75X Lens</b>	7.47 x 8.71	5.60 x 6.53	4.48 x 5.23	4.48 x 5.23	2.24 x 2.61	2.24 x 2.61	1.12 x 1.31	1.12 x 1.31	0.56 x 0.65	0.22 x 0.13
<b>1.0X Lens</b>	5.60 x 6.53	4.20 x 4.90	3.36 x 3.92	3.36 x 3.92	1.68 x 1.96	1.68 x 1.96	0.84 x 0.98	0.84 x 0.98	0.42 x 0.49	0.17 x 0.20
<b>1.5X Lens</b>	3.73 x 4.36	2.80 x 3.27	2.24 x 2.61	2.24 x 2.61	1.12 x 1.31	1.12 x 1.31	0.56 x 0.65	0.56 x 0.65	0.28 x 0.33	0.11 x 0.06
<b>2.0X Lens</b>	2.80 x 3.27	2.10 x 2.45	1.68 x 1.96	1.68 x 1.96	0.84 x 0.98	0.84 x 0.98	0.42 x 0.49	0.42 x 0.49	0.21 x 0.25	0.08 x 0.05

<sup>1</sup> Above specifications are based on nominal magnifications. Actual magnification is calibrated to National Institute of Standards Technology (NIST) traceable calibration standards.

<sup>2</sup> Long working distance

<sup>3</sup> Using the optional objective shield will reduce the working distance by 0.4 mm.

<sup>4</sup> Optical resolution based on the Sparrow Criteria at 600 nm.

<sup>5</sup> As measured on an optically smooth surface. Practical slope limit for non-specular surfaces may be higher.

<sup>6</sup> Field of view based on full resolution 736 x 480 pixels measurement array.

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# Wyko NT Series Optical 3D Profiling Systems

## MAGNIFICATION OBJECTIVES FOR WYKO® NT8000

Magnification <sup>1</sup>	1.5X	2.0X	2.5X	2.5X LWD <sup>2</sup>	5.0X	5.0X LWD	10X	10X LWD	20X	50X
Interferometer Type	Michelson	Michelson	Michelson	Michelson	Michelson	Michelson	Mirau	Michelson	Mirau	Mirau
Numerical Aperture	0.041	0.075	0.07	0.055	0.12	0.13	0.3	0.17	0.4	0.55
Working Distance (mm)	9.5	9.9	3.5	24	6.7	9.4	7.4	24	4.7	3.4 <sup>3</sup>
Optical Resolution (µm) <sup>4</sup>	7.32	4	4.29	5.46	2.5	2.31	1	1.76	0.75	0.55
Practical Maximum Slope (deg) <sup>5</sup>	1.8	3.2	3	2.4	5.2	5.6	13.1	7.3	17.7	25
Turret Mountable?	with adapter	Yes	Yes	with adapter	Yes	Yes	Yes	with adapter	Yes	Yes
Parfocal to 45 mm?	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
<b>Field-of-view [with magnification selector ] (mm x mm)<sup>6</sup></b>										
.50X Lens	8.45 x 6.34	6.34 x 4.75	5.07 x 3.80	5.07 x 3.80	2.53 x 1.90	2.53 x 1.90	1.27 x 0.95	1.27 x 0.95	0.63 x 0.48	0.25 x 0.19
.75X Lens	5.63 x 4.22	4.22 x 3.17	3.38 x 2.53	3.38 x 2.53	1.69 x 1.27	1.69 x 1.27	0.85 x 0.63	0.85 x 0.63	0.42 x 0.32	0.17 x 0.13
1.0X Lens	4.22 x 3.17	3.17 x 2.38	2.53 x 1.90	2.53 x 1.90	1.27 x 0.95	1.27 x 0.95	0.63 x 0.48	0.63 x 0.48	0.32 x 0.24	0.13 x 0.10
1.5X Lens	2.82 x 2.11	2.11 x 1.58	1.69 x 1.27	1.69 x 1.27	0.84 x 0.63	0.84 x 0.63	0.42 x 0.32	0.42 x 0.32	0.21 x 0.16	0.08 x 0.06
2.0X Lens	2.11 x 1.58	1.58 x 1.19	1.27 x 0.95	1.27 x 0.95	0.63 x 0.48	0.63 x 0.48	0.32 x 0.24	0.32 x 0.24	0.16 x 0.12	0.06 x 0.05
<b>High Resolution Spatial Sampling Interval (µm x µm)</b>										
.50X Lens	13.20 x 13.20	9.90 x 9.90	7.92 x 7.92	7.92 x 7.92	3.96 x 3.96	3.96 x 3.96	1.98 x 1.98	1.98 x 1.98	0.99 x 0.99	0.40 x 0.40
.75X Lens	8.80 x 8.80	6.60 x 6.60	5.28 x 5.28	5.28 x 5.28	2.64 x 2.64	2.64 x 2.64	1.32 x 1.32	1.32 x 1.32	0.66 x 0.66	0.26 x 0.26
1.0X Lens	6.60 x 6.60	4.95 x 4.95	3.96 x 3.96	3.96 x 3.96	1.98 x 1.98	1.98 x 1.98	0.99 x 0.99	0.99 x 0.99	0.50 x 0.50	0.20 x 0.20
1.5X Lens	4.40 x 4.40	3.30 x 3.30	2.64 x 2.64	2.64 x 2.64	1.32 x 1.32	1.32 x 1.32	0.66 x 0.66	0.66 x 0.66	0.33 x 0.33	0.13 x 0.13
2.0X Lens	3.30 x 3.30	2.48 x 2.48	1.98 x 1.98	1.98 x 1.98	0.99 x 0.99	0.99 x 0.99	0.50 x 0.50	0.50 x 0.50	0.25 x 0.25	0.10 x 0.10

<sup>1</sup> Above specifications are based on nominal magnifications. Actual magnification is calibrated to National Institute of Standards Technology (NIST) traceable calibration standards.

<sup>2</sup> Long working distance

<sup>3</sup> Using the optional objective shield will reduce the working distance by 0.4 mm.

<sup>4</sup> Optical resolution based on the Sparrow Criteria at 600 nm.

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