

Wyko NT Series Optical 3D Profiling Systems

MAGNIFICATION OBJECTIVES FOR WYKO® NT1100

Magnification ¹	1.5X LWD ²	2.0X LWD	2.5X	5.0X	5.0X LWD	10X	10X LWD	20X	50X
Interferometer Type	Michelson	Michelson	Michelson	Michelson	Michelson	Mirau	Michelson	Mirau	Michelson
Numerical Aperture	0.041	0.055	0.07	0.12	0.13	0.3	0.17	0.4	0.55
Working Distance (mm)	9.6	21.1	3.4	6.7	9.3	7.4	22.5	4.7	3.4
Optical Resolution (µm)³	7.32	5.45	4.29	2.5	2.31	1	1.76	0.75	0.55
Practical Maximum Slope (deg)⁴	1.8	1.72	3	5.2	5.6	13.1	7.3	17.7	25
Turret Mountable?	with adapter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parfocal to 45 mm?	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes
Field of view [with magnification selector] (mm x mm)⁵									
.5X Lens	8.24 x 6.27	6.18 x 4.70	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
.75X Lens	5.50 x 4.18	4.12 x 3.14	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
1.0X Lens	4.12 x 3.14	3.09 x 2.35	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
1.5X Lens	2.75 x 2.09	2.06 x 1.57	1.65 x 1.25	0.81 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
2.0X Lens	2.06 x 1.57	1.55 x 1.18	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
High Resolution Spatial Sampling Interval (µm x µm)									
.5X Lens	11.20 x 13.07	8.40 x 9.80	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
.75X Lens	7.47 x 8.71	5.60 x 6.53	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
1.0X Lens	5.60 x 6.53	4.20 x 4.90	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
1.5X Lens	3.73 x 4.36	2.80 x 3.27	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
2.0X Lens	2.80 x 3.27	2.10 x 2.45	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

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

² Long working distance

³ Optical resolution based on the Sparrow Criteria at 600 nm.

⁴ As measured on an optically smooth surface. Practical slope limit for non-specular surfaces may be higher.

⁵ 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 ¹	1.5X LWD ²	2.0X LWD	2.5X	5.0X	5.0X LWD	10X	10X LWD	20X	50X	
Interferometer Type	Michelson	Michelson	Michelson	Michelson	Michelson	Mirau	Michelson	Mirau	Michelson	
Numerical Aperture	0.041	0.055	0.07	0.12	0.13	0.3	0.17	0.4	0.55	
Working Distance (mm)	9.6	21.1	3.4	6.7	9.3	7.4	22.5	4.7	3.4	
Optical Resolution (µm)³	7.32	5.45	4.29	2.5	2.31	1	1.76	0.75	0.55	
Practical Maximum Slope (deg)⁴	1.8	1.72	3	5.2	5.6	13.1	7.3	17.7	25	
Turret Mountable?	with adapter									
Parfocal to 45 mm?	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Field of view [with magnification selector] (mm x mm)⁵										
.5X Lens	8.45 x 6.34	6.34 x 4.75	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	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	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	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	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	
High Resolution Spatial Sampling Interval (µm x µm)										
.5X Lens	13.20 x 13.20	9.90 x 9.90	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	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	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	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	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	

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

² Long working distance

³ Optical resolution based on the Sparrow Criteria at 600 nm.

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⁵ Field of view based on full resolution 736 x 480 pixels measurement array.

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