



# Zoom 6000 Performance Specifications

Zoom 6000 Combinations Lens Attachment + Prime Lens + Adapter	Working Distance (mm)	System Magnification Low-High	NA Objective Low-High	Resolve Limit ( $\mu\text{m}$ ) Low-High	Matching Pixel Size ( $\mu\text{m}$ ) Low-High	Depth of Field (mm) Low-High
0.25x + 6.5X Zoom + 0.5x	300	0.09 - 0.56	0.006 - 0.018	55.56 - 18.52	2.50 - 5.19	13.89 - 1.54
0.25x + 6.5X Zoom + 0.67x	300	0.12 - 0.75	0.006 - 0.018	55.56 - 18.52	3.33 - 6.95	13.89 - 1.54
0.25x + 6.5X Zoom + 1.0x	300	0.18 - 1.13	0.006 - 0.018	55.56 - 18.52	5.00 - 10.46	13.89 - 1.54
0.25x + 6.5X Zoom + 1.33x	300	0.23 - 1.51	0.006 - 0.018	55.56 - 18.52	6.65 - 13.91	13.89 - 1.54
0.25x + 6.5X Zoom + 2.0x	300	0.35 - 2.25	0.006 - 0.018	55.56 - 18.52	9.72 - 20.84	13.89 - 1.54
0.25x + 6.5X Zoom + 3.3x	300	0.58 - 3.71	0.006 - 0.018	55.56 - 18.52	15.29 - 28.93	13.89 - 1.54
0.25x + 6.5X Zoom + 5.0x	300	0.88 - 5.62	0.006 - 0.018	55.56 - 18.52	24.45 - 52.04	13.89 - 1.54
0.5x + 6.5X Zoom + 0.5x	175	0.18 - 1.13	0.011 - 0.035	30.30 - 9.52	2.73 - 5.38	4.13 - 0.41
0.5x + 6.5X Zoom + 0.67x	175	0.23 - 1.50	0.011 - 0.035	30.30 - 9.52	3.48 - 7.14	4.13 - 0.41
0.5x + 6.5X Zoom + 1.0x	175	0.35 - 2.25	0.011 - 0.035	30.30 - 9.52	5.30 - 10.71	4.13 - 0.41
0.5x + 6.5X Zoom + 1.33x	175	0.47 - 3.03	0.011 - 0.035	30.30 - 9.52	7.05 - 14.24	4.13 - 0.41
0.5x + 6.5X Zoom + 2.0x	175	0.70 - 4.50	0.011 - 0.035	30.30 - 9.52	10.61 - 21.42	4.13 - 0.41
0.5x + 6.5X Zoom + 3.3x	175	1.16 - 7.43	0.011 - 0.035	30.30 - 9.52	15.44 - 39.08	4.13 - 0.41
0.5x + 6.5X Zoom + 5.0x	175	1.75 - 11.25	0.011 - 0.035	30.30 - 9.52	26.51 - 53.55	4.13 - 0.41
0.75x + 6.5X Zoom + 0.5x	113	0.26 - 1.69	0.017 - 0.053	19.62 - 6.28	2.55 - 5.32	1.73 - 0.18
0.75x + 6.5X Zoom + 0.67x	113	0.35 - 2.25	0.017 - 0.053	19.62 - 6.28	3.43 - 7.08	1.73 - 0.18
0.75x + 6.5X Zoom + 1.0x	113	0.53 - 3.38	0.017 - 0.053	19.62 - 6.28	5.20 - 10.63	1.73 - 0.18
0.75x + 6.5X Zoom + 1.33x	113	0.70 - 4.54	0.017 - 0.053	19.62 - 6.28	6.92 - 14.13	1.73 - 0.18
0.75x + 6.5X Zoom + 2.0x	113	1.05 - 6.75	0.017 - 0.053	19.62 - 6.28	10.30 - 21.23	1.73 - 0.18
0.75x + 6.5X Zoom + 3.3x	113	1.73 - 11.14	0.017 - 0.053	19.62 - 6.28	15.36 - 33.31	1.73 - 0.18
0.75x + 6.5X Zoom + 5.0x	113	2.63 - 16.88	0.017 - 0.053	19.62 - 6.28	25.74 - 53.09	1.73 - 0.18
None + 6.5X Zoom + 0.5x	92	0.35 - 2.25	0.023 - 0.071	14.50 - 4.70	2.54 - 5.28	0.95 - 0.10
None + 6.5X Zoom + 0.67x	92	0.47 - 3.00	0.023 - 0.071	14.50 - 4.70	3.41 - 7.04	0.95 - 0.10
None + 6.5X Zoom + 1.0x	92	0.70 - 4.50	0.023 - 0.071	14.50 - 4.70	5.08 - 10.55	0.95 - 0.10
None + 6.5X Zoom + 1.33x	92	0.93 - 6.05	0.023 - 0.071	14.50 - 4.70	6.76 - 14.03	0.95 - 0.10
None + 6.5X Zoom + 2.0x	92	1.40 - 9.00	0.023 - 0.071	14.50 - 4.70	10.15 - 21.11	0.95 - 0.10
None + 6.5X Zoom + 3.3x	92	2.31 - 14.85	0.023 - 0.071	14.50 - 4.70	15.29 - 29.11	0.95 - 0.10
None + 6.5X Zoom + 5.0x	92	3.50 - 22.50	0.023 - 0.071	14.50 - 4.70	25.38 - 52.76	0.95 - 0.10
1.5x + 6.5X Zoom + 0.5x	51	0.53 - 3.38	0.034 - 0.106	9.80 - 3.14	2.60 - 5.32	0.43 - 0.04
1.5x + 6.5X Zoom + 0.67x	51	0.70 - 4.50	0.034 - 0.106	9.80 - 3.14	3.43 - 7.09	0.43 - 0.04
1.5x + 6.5X Zoom + 1.0x	51	1.05 - 6.75	0.034 - 0.106	9.80 - 3.14	5.15 - 10.63	0.43 - 0.04
1.5x + 6.5X Zoom + 1.33	51	1.40 - 9.08	0.034 - 0.106	9.80 - 3.14	6.85 - 14.14	0.43 - 0.04
1.5x + 6.5X Zoom + 2.0x	51	2.10 - 13.50	0.034 - 0.106	9.80 - 3.14	10.29 - 21.26	0.43 - 0.04
1.5x + 6.5X Zoom + 3.3x	51	3.47 - 22.28	0.034 - 0.106	9.80 - 3.14	15.29 - 28.92	0.43 - 0.04
1.5x + 6.5X Zoom + 5.0x	51	5.25 - 33.75	0.034 - 0.106	9.80 - 3.14	25.73 - 53.16	0.43 - 0.04
2.0x + 6.5X Zoom + 0.5x	36	0.70 - 4.50	0.046 - 0.142	7.24 - 2.34	2.54 - 5.29	0.24 - 0.02
2.0x + 6.5X Zoom + 0.67x	36	0.94 - 6.00	0.046 - 0.142	7.24 - 2.34	3.41 - 7.05	0.24 - 0.02
2.0x + 6.5X Zoom + 1.0x	36	1.40 - 9.00	0.046 - 0.142	7.24 - 2.34	5.08 - 10.58	0.24 - 0.02
2.0x + 6.5X Zoom + 1.33	36	1.86 - 12.10	0.046 - 0.142	7.24 - 2.34	6.76 - 14.07	0.24 - 0.02
2.0x + 6.5X Zoom + 2.0x	36	2.80 - 18.00	0.046 - 0.142	7.24 - 2.34	10.15 - 21.15	0.24 - 0.02
2.0x + 6.5X Zoom + 3.3x	36	4.62 - 29.70	0.046 - 0.142	7.24 - 2.34	15.30 - 28.70	0.24 - 0.02
2.0x + 6.5X Zoom + 5.0x	36	7.00 - 45.00	0.046 - 0.142	7.24 - 2.34	25.38 - 52.88	0.24 - 0.02

## Assumptions:

1. Minimum resolvable feature size is half of the threshold line pair limit. Calculation =  $1/(3000 \times \text{Lens NA})$
2. Matching pixel size is that which will permit the minimum feature size to overlap two pixels. Calculation =  $1/2(\text{Feature Size} \times \text{System Magnification})$
3. If the matching pixel size is greater than the camera pixel size, the system is "lens limited."
4. If the matching pixel size is less than the camera pixel size, the system is "camera limited."