

固定倍率レンズ&顕微鏡ユニット FMOS 光学仕様チャート

下部モジュール	標準 ミニ	FT #60 N/A	FT #100 N/A	N/A FTM #120	FT #140 FTM #140	FT #160 FTM #160	FT #180 FTM #180	FT #200 FTM #200	N/A FTM #250	N/A FTM #300	N/A FTM #350	N/A FTM #400	N/A FTM #450	N/A FTM #500
B 30 /F 30	NA	0.050	0.081	0.099	0.115	0.131	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16
C 30 /FC 30	MAG	1.5X	2.5X	3.0X	3.5X	4.0X	4.5X	5.0X	6.3X	7.5X	8.8X	10.0X	11.3X	12.5X
W .D. = 32m m	DOF	0.21	0.08	0.05	0.04	0.03	0.024	0.020	0.020	0.020	0.020	0.020	0.020	0.020
	F. 1/4"	1.7 x 2.3	1.0 x 1.4	0.91 x 1.2	0.78 x 1.0	0.68 x 0.91	0.60 x 0.81	0.54 x 0.73	0.43 x 0.58	0.36 x 0.48	0.31 x 0.41	0.27 x 0.36	0.24 x 0.32	.21 x .29
	O. 1/3"	2.3 x 3.1	1.4 x 1.9	1.2 x 1.6	1.0 x 1.3	0.90 x 1.2	0.80 x 1.0	0.71 x 0.95	0.57 x 0.76	0.48 x 0.64	0.41 x 0.54	0.36 x 0.48	0.32 x 0.42	.28 x .38
	V. 1/2"	3.1 x 4.1	1.9 x 2.5	1.6 x 2.1	1.3 x 1.8	1.2 x 1.6	1.0 x 1.4	0.95 x 1.2	0.76 x 1.0	0.64 x 0.85	0.54 x 0.73	0.48 x 0.64	0.42 x 0.56	.38 x .51
	m m 2/3"	4.3 x 5.7	2.6 x 3.5	2.2 x 2.9	1.8 x 2.5	1.6 x 2.2	1.4 x 1.9	1.3 x 1.7	1.0 x 1.4	0.88 x 1.1	0.75 x 1.0	0.66 x 0.88	0.58 x 0.78	.52 x .70
B 50 /F50	NA	0.032	0.053	0.065	0.075	0.08	0.098	0.11	0.11	0.11	0.11	0.11	0.11	0.11
C 50 /FC 50	MAG	1.0X	1.6X	2.0X	2.3X	2.6X	3.0X	3.3X	4.1X	4.9X	5.7X	6.6X	7.4X	8.2X
W .D. = 54m m	DOF	0.51	0.19	0.127	0.09	0.07	0.056	0.048	0.048	0.048	0.048	0.048	0.048	0.048
	F. 1/4"	2.7 x 3.6	1.6 x 2.2	1.3 x 1.8	1.1 x 1.5	1.0 x 1.3	0.92 x 1.2	0.83 x 1.1	0.66 x 0.89	0.55 x 0.74	0.47 x 0.63	0.41 x 0.55	0.37 x 0.49	0.33 x 0.44
	O. 1/3"	3.6 x 4.8	2.2 x 2.9	1.8 x 2.4	1.5 x 2.0	1.3 x 1.8	1.2 x 1.6	1.0 x 1.4	0.87 x 1.1	0.73 x 0.97	0.62 x 0.83	0.54 x 0.73	0.48 x 0.65	0.43 x 0.58
	V. 1/2"	4.8 x 6.4	2.9 x 3.9	2.4 x 3.2	2.0 x 2.7	1.8 x 2.4	1.6 x 2.1	1.4 x 1.9	1.1 x 1.5	0.97 x 1.3	0.83 x 1.1	0.73 x 0.97	0.65 x 0.86	0.58 x 0.78
	m m 2/3"	6.6 x 8.8	4.0 x 5.4	3.3 x 4.4	2.8 x 3.8	2.5 x 3.3	2.2 x 3.0	1.9 x 2.6	1.6 x 2.1	1.3 x 1.7	1.1 x 1.5	1.0 x 1.3	0.89 x 1.1	0.80 x 1.0
B 90 /F90	NA	0.020	0.033	0.040	0.046	0.053	0.062	0.067	0.067	0.067	0.067	0.067	0.067	0.067
C 90 /FC 90	MAG	0.63X	1.0X	1.2X	1.5X	1.7X	1.9X	2.1X	2.6X	3.1X	3.6X	4.1X	4.7X	5.2X
W .D. = 89m m	DOF	1.3	0.50	0.33	0.25	0.19	0.14	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	F. 1/4"	4.3 x 5.7	2.6 x 3.5	2.1 x 2.9	1.8 x 2.5	1.6 x 2.2	1.4 x 1.9	1.3 x 1.7	1.0 x 1.4	0.87 x 1.1	0.75 x 1.0	0.65 x 0.88	0.58 x 0.78	0.52 x 0.70
	O. 1/3"	5.8 x 7.7	3.6 x 4.8	2.9 x 3.9	2.4 x 3.3	2.1 x 2.8	1.9 x 2.5	1.7 x 2.3	1.3 x 1.8	1.1 x 1.5	0.99 x 1.3	0.86 x 1.1	0.77 x 1.0	0.69 x 0.92
	V. 1/2"	7.7 x 10.1	4.8 x 6.4	3.9 x 5.2	3.3 x 4.4	2.8 x 3.8	2.5 x 3.4	2.3 x 3.0	1.8 x 2.4	1.5 x 2.0	1.3 x 1.7	1.1 x 1.5	1.0 x 1.3	0.92 x 1.2
	m m 2/3"	10.4 x 13.9	6.6 x 8.8	5.4 x 7.2	4.5 x 6.0	3.9 x 5.3	3.5 x 4.7	3.1 x 4.2	2.5 x 3.3	2.1 x 2.8	1.8 x 2.4	1.5 x 2.1	1.4 x 1.8	1.2 x 1.6
B 130 /F130	NA	0.014	0.023	0.028	0.032	0.037	0.043	0.046	0.046	0.046	0.046	0.046	0.046	0.046
C 130 /FC 130	MAG	0.44X	0.71X	0.86X	1.0X	1.1X	1.3X	1.4X	1.8X	2.1X	2.5X	2.9X	3.2X	3.6X
W .D. = 132m m	DOF	2.6	1.0	0.67	0.50	0.39	0.29	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	F. 1/4"	6.2 x 8.3	3.8 x 5.1	3.1 x 4.2	2.7 x 3.6	2.3 x 3.1	2.1 x 2.8	1.9 x 2.5	1.5 x 2.0	1.2 x 1.7	1.0 x 1.4	0.95 x 1.2	0.84 x 1.1	0.76 x 1.0
	O. 1/3"	8.2 x 11.0	5.0 x 6.7	4.8 x 5.6	3.6 x 4.8	3.1 x 4.2	2.8 x 3.7	2.5 x 3.3	2.0 x 2.6	1.6 x 2.2	1.4 x 1.9	1.2 x 1.6	1.1 x 1.4	1.0 x 1.3
	V. 1/2"	11.0 x 14.6	6.7 x 9.0	5.6 x 7.4	4.8 x 6.4	4.2 x 5.6	3.7 x 5.0	3.3 x 4.4	2.6 x 3.5	2.2 x 2.9	1.9 x 2.5	1.6 x 2.2	1.4 x 1.9	1.3 x 1.7
	m m 2/3"	15.1 x 20.1	9.3 x 12.3	7.7 x 10.2	6.6 x 8.8	5.7 x 7.6	5.1 x 6.9	4.5 x 6.1	3.6 x 4.9	3.0 x 4.1	2.6 x 3.5	2.3 x 3.0	2.0 x 2.7	1.8 x 2.4
B 150 /F150	NA	0.012	0.020	0.024	0.028	0.032	0.038	0.041	0.041	0.041	0.041	0.041	0.041	0.041
C 150 /FC 150	MAG	0.38X	0.63X	0.75X	0.88X	1.0X	1.1X	1.3X	1.6X	1.9X	2.2X	2.5X	2.8X	3.1X
W .D. = 152m m	DOF	3.5	1.3	0.88	0.66	0.51	0.38	0.32	0.32	0.32	0.32	0.32	0.32	0.32
	F. 1/4"	7.1 x 9.5	4.3 x 5.8	3.2 x 4.8	3.1 x 4.1	2.7 x 3.6	2.4 x 3.2	2.1 x 2.9	1.7 x 2.3	1.4 x 1.9	1.2 x 1.6	1.0 x 1.4	1.0 x 1.2	0.86 x 1.1
	O. 1/3"	9.4 x 12.5	5.8 x 7.7	4.8 x 6.4	4.1 x 5.4	3.6 x 4.8	3.2 x 4.3	2.8 x 3.8	2.3 x 3.0	1.9 x 2.5	1.6 x 2.1	1.4 x 1.9	1.2 x 1.7	1.1 x 1.5
	V. 1/2"	12.5 x 16.6	7.7 x 10.1	6.4 x 8.5	5.4 x 7.3	4.8 x 6.4	4.3 x 5.7	3.8 x 5.0	3.0 x 4.0	2.5 x 3.4	2.1 x 2.9	1.9 x 2.5	1.7 x 2.2	1.5 x 2.0
	m m 2/3"	17.2 x 22.9	10.4 x 13.9	8.8 x 11.6	7.5 x 9.9	6.6 x 8.8	5.9 x 7.9	5.2 x 6.9	4.2 x 5.6	3.5 x 4.6	3.0 x 4.0	2.6 x 3.5	2.3 x 3.1	2.1 x 2.8
B 170 /F170	NA	0.011	0.018	0.022	0.025	0.029	0.034	0.036	0.036	0.036	0.036	0.036	0.036	0.036
C 170 /FC 170	MAG	0.34X	0.56X	0.67X	0.79X	0.90X	1.0X	1.1X	1.4X	1.7X	2.0X	2.2X	2.5X	2.8X
W .D. = 170m m	DOF	4.3	1.6	1.09	0.82	0.63	0.48	0.41	0.41	0.41	0.41	0.41	0.41	0.41
	F. 1/4"	7.9 x 10.6	4.8 x 6.5	4.0 x 5.4	3.4 x 4.6	3.0 x 4.0	2.7 x 3.6	2.4 x 3.2	1.9 x 2.6	1.6 x 2.1	1.3 x 1.8	1.2 x 1.6	1.0 x 1.4	1.0 x 1.3
	O. 1/3"	10x 14.0	6.4 x 8.6	5.3 x 7.1	4.5 x 6.1	4.0 x 5.3	3.6 x 4.8	3.1 x 4.2	2.5 x 3.4	2.1 x 2.8	1.8 x 2.4	1.6 x 2.1	1.4 x 1.8	1.2 x 1.7
	V. 1/2"	14.0 x 18.6	8.6 x 11.4	7.1 x 9.4	6.1 x 8.1	5.3 x 7.1	4.8 x 6.4	4.2 x 5.6	3.4 x 4.5	2.8 x 3.7	2.4 x 3.2	2.1 x 2.8	1.8 x 2.5	1.7 x 2.2
	m m 2/3"	19.2 x 25.7	11.7 x 15.6	9.7 x 13.0	8.3 x 11.2	7.3 x 9.7	6.6 x 8.8	5.8 x 7.7	4.6 x 6.2	3.9 x 5.2	3.3 x 4.4	2.9 x 3.9	2.6 x 3.4	2.3 x 3.1
B 190 /F190	NA	0.009	0.016	0.019	0.022	0.026	0.030	0.032	0.032	0.032	0.032	0.032	0.032	0.032
C 190 /FC 190	MAG	0.30X	0.50X	0.59X	0.69X	0.79X	0.89X	0.99X	1.2X	1.5X	1.7X	2.0X	2.2X	2.5X
W .D. = 190m m	DOF	5.5	2.1	1.4	2.1	0.81	0.62	0.53	0.53	0.53	0.53	0.53	0.53	0.53
	F. 1/4"	9.0 x 12.0	5.5 x 7.3	4.6 x 6.1	3.9 x 5.2	3.4 x 4.6	3.0 x 4.0	2.7 x 3.6	2.2 x 2.9	1.8 x 2.4	1.5 x 2.1	1.3 x 1.8	1.2 x 1.6	1.1 x 1.4
	O. 1/3"	11.9 x 15.8	7.3 x 9.7	6.0 x 8.0	5.1 x 6.9	4.5 x 6.0	4.0 x 5.4	3.6 x 4.8	2.9 x 3.8	2.4 x 3.2	2.0 x 2.7	1.8 x 2.4	1.6 x 2.1	1.4 x 1.9
	V. 1/2"	15.8 x 21.1	9.7 x 12.9	8.0 x 10.7	6.9 x 9.2	6.0 x 8.0	5.4 x 7.2	4.8 x 6.4	3.8 x 5.1	3.2 x 4.3	2.7 x 3.6	2.4 x 3.2	2.1 x 2.8	1.9 x 2.5
	m m 2/3"	21.8 x 29.1	13.3 x 17.7	11.1 x 14.8	9.5 x 12.6	8.3 x 11.1	7.4 x 9.9	6.6 x 8.8	5.3 x 7.1	4.4 x 5.9	3.8 x 5.0	3.3 x 4.4	2.9 x 3.9	2.6 x 3.5

02/13/2004

=同軸照明では広範囲同軸照明用の下部モジュールWAVIが必要です。

=同軸照明ではF. O. Vをカバーできません。



固定倍率レンズ&顕微鏡ユニット 対物レンズ用光学仕様チャート

Infinity Objective	Stand Mini	N/A FTM #120	FT #140 FTM #140	FT #160 FTM #160	FT #180 FTM #180	FT #200 FTM #200	N/A FTM #250	N/A FTM #300	N/A FTM #350	N/A FTM #400	N/A FTM #450	N/A FTM #500
Optem Super 10X W.D.=19	NA	0.20	0.23	0.26	0.30	0.325	0.325	0.325	0.325	0.325	0.325	0.325
	MAG	6.0X	7.0X	8.0X	9.0X	10.0X	12.5X	15.0X	17.5X	20.0X	22.5X	25.0X
	DOF	0.014	0.01	0.008	0.006	0.0052	0.0052	0.0052	0.0052	0.0052	0.0052	0.0052
	F. 1/4"	.455 X .608	.390 X .521	.341 X .456	.303 X .405	.273 X .365	.218 X .292	.182 X .243	.156 X .208	.136 X .182	.121 X .162	.109 X .146
	O. 1/3"	.600 X .800	.514 X .685	.450 X .600	.400 X .533	.360 X .480	.288 X .384	.240 X .320	.205 X .274	.180 X .240	.160 X .213	.144 X .192
V. 1/2"	NR	.685 X .914	.600 X .800	.533 X .711	.480 X .640	.384 X .512	.320 X .426	.274 X .365	.240 X .320	.213 X .284	.192 X .256	
	m m 2/3"	NR	NR	.825 X 1.10	.733 X .977	.660 X .880	.528 X .704	.440 X .586	.377 X .502	.330 X .440	.293 X .391	.264 X .352
Optem Super 20X W.D.=13	NA	0.40	0.46	0.525	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
	MAG	12.0X	14.0X	16.0X	18.0X	20.0X	25.0X	30.0X	35.0X	40.0X	45.0X	50.0X
	DOF	0.0035	0.0026	0.0020	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
	F. 1/4"	.227 X .304	.195 X .260	.170 X .228	.151 X .202	.136 X .182	.109 X .146	.091 X .121	.078 X .104	.068 X .091	.060 X .081	.054 X .073
	O. 1/3"	.300 X .400	.257 X .342	.225 X .300	.200 X .266	.180 X .240	.144 X .192	.120 X .160	.102 X .137	.090 X .120	.080 X .106	.072 X .096
V. 1/2"	.400 X .533	.342 X .457	.300 X .400	.266 X .355	.240 X .320	.192 X .256	.160 X .213	.137 X .182	.120 X .160	.106 X .142	.096 X .128	
	m m 2/3"	.550 X .733	.471 X .628	.412 X .550	.366 X .488	.330 X .440	.264 X .352	.220 X .293	.188 X .251	.165 X .220	.146 X .195	.132 X .176
Mitutoyo 10X W.D.=33	NA	0.20	0.23	0.26	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
	MAG	6.0X	7.0X	8.0X	9.0X	10.0X	12.5X	15.0X	17.5X	20.0X	22.5X	25.0X
	DOF	0.014	0.01	0.008	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
	F. 1/4"	.455 X .608	.390 X .521	.341 X .456	.303 X .405	.273 X .365	.218 X .292	.182 X .243	.156 X .208	.136 X .182	.121 X .162	.109 X .146
	O. 1/3"	.600 X .800	.514 X .685	.450 X .600	.400 X .533	.360 X .480	.288 X .384	.240 X .320	.205 X .274	.180 X .240	.160 X .213	.144 X .192
V. 1/2"	NR	.685 X .914	.600 X .800	.533 X .711	.480 X .640	.384 X .512	.320 X .426	.274 X .365	.240 X .320	.213 X .284	.192 X .256	
	m m 2/3"	NR	NR	.825 X 1.10	.733 X .977	.660 X .880	.528 X .704	.440 X .586	.377 X .502	.330 X .440	.293 X .391	.264 X .352
Mitutoyo 20X W.D.=20	NA	0.40	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
	MAG	12.0X	14.0X	16.0X	18.0X	20.0X	25.0X	30.0X	35.0X	40.0X	45.0X	50.0X
	DOF	0.0035	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
	F. 1/4"	.227 X .304	.195 X .260	.170 X .228	.151 X .202	.136 X .182	.109 X .146	.091 X .121	.078 X .104	.068 X .091	.060 X .081	.054 X .073
	O. 1/3"	.300 X .400	.257 X .342	.225 X .300	.200 X .266	.180 X .240	.144 X .192	.120 X .160	.102 X .137	.090 X .120	.080 X .106	.072 X .096
V. 1/2"	.400 X .533	.342 X .457	.300 X .400	.266 X .355	.240 X .320	.192 X .256	.160 X .213	.137 X .182	.120 X .160	.106 X .142	.096 X .128	
	m m 2/3"	.550 X .733	.471 X .628	.412 X .550	.366 X .488	.330 X .440	.264 X .352	.220 X .293	.188 X .251	.165 X .220	.146 X .195	.132 X .176
Mitutoyo 50X W.D.=13	NA	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
	MAG	30.0X	35.0X	40.0X	45.0X	50.0X	62.5X	75.0X	87.5X	100.0X	112.5X	125.0X
	DOF	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018
	F. 1/4"	.091 X .121	.078 X .104	.068 X .091	.060 X .081	.054 X .073	.043 X .058	.036 X .048	.031 X .041	.027 X .036	.024 X .032	.021 X .028
	O. 1/3"	.120 X .160	.102 X .137	.090 X .120	.080 X .106	.072 X .096	.057 X .076	.048 X .064	.041 X .054	.036 X .048	.032 X .042	.028 X .038
V. 1/2"	.160 X .213	.137 X .182	.120 X .160	.106 X .142	.096 X .128	.076 X .102	.064 X .085	.054 X .073	.048 X .064	.042 X .056	.038 X .051	
	m m 2/3"	.220 X .293	.188 X .251	.165 X .220	.146 X .195	.132 X .176	.105 X .140	.088 X .117	.075 X .100	.066 X .088	.058 X .078	.052 X .070
Mitutoyo 50X UL W.D.=20	NA	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
	MAG	30.0X	35.0X	40.0X	45.0X	50.0X	62.5X	75.0X	87.5X	100.0X	112.5X	125.0X
	DOF	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
	F. 1/4"	.091 X .121	.078 X .104	.068 X .091	.060 X .081	.054 X .073	.043 X .058	.036 X .048	.031 X .041	.027 X .036	.024 X .032	.021 X .028
	O. 1/3"	.120 X .160	.102 X .137	.090 X .120	.080 X .106	.072 X .096	.057 X .076	.048 X .064	.041 X .054	.036 X .048	.032 X .042	.028 X .038
V. 1/2"	.160 X .213	.137 X .182	.120 X .160	.106 X .142	.096 X .128	.076 X .102	.064 X .085	.054 X .073	.048 X .064	.042 X .056	.038 X .051	
	m m 2/3"	.220 X .293	.188 X .251	.165 X .220	.146 X .195	.132 X .176	.105 X .140	.088 X .117	.075 X .100	.066 X .088	.058 X .078	.052 X .070
Mitutoyo 100X W.D.=6	NA	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
	MAG	60X	70X	80X	90X	100X	125X	150X	175X	200X	225X	250X
	DOF	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011
	F. 1/4"	.045 X .060	.039 X .052	.034 X .045	.030 X .040	.027 X .036	.021 X .029	.018 X .024	.015 X .020	.013 X .018	.012 X .016	.010 X .014
	O. 1/3"	.060 X .080	.051 X .068	.045 X .060	.040 X .053	.036 X .048	.028 X .038	.024 X .032	.020 X .027	.018 X .024	.016 X .021	.014 X .019
V. 1/2"	.080 X .106	.068 X .091	.060 X .080	.053 X .071	.048 X .064	.038 X .051	.032 X .042	.027 X .036	.024 X .032	.021 X .028	.019 X .025	
	m m 2/3"	.110 X .146	.094 X .125	.082 X .110	.073 X .097	.066 X .088	.052 X .070	.044 X .058	.037 X .050	.033 X .044	.029 X .039	.026 X .035

NR Not Recommended, vignetting will occur.