



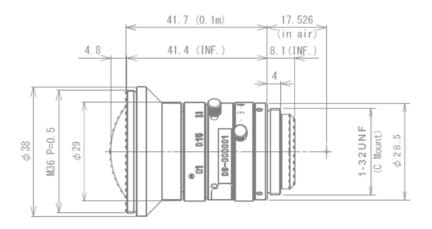
#### HIGHLIGHTS OF THE M112FM SERIES

- Whole series optically designed for both 1/1.2"(5.86µm) and 2/3" (3.45µm) sensors
- High resolution and contrast power with low distortion
- From 6mm to 75mm whole range with 8 different focal lengths for a large variety of applications
- Extreme compact thank to only 29mm lens barrel diameter
- Whole series is compatible with M27 P:0,5mm size optical filters\*
- High transmission rates even out of visible light range
- Very large image circles covering up to 1.1"\*\*
- M112FM06 (6mm) delivered with detachable filter mount adapter, changing the max.
   diameter from 60mm to 38mm for extremely small setup size even for 6mm
- All lenses delivered with 2 types of screw sets for extended flexibility and optimal compactness

<sup>\*:</sup> Except for M112FM06 and M112FM08

<sup>\*\*:</sup> Depending on focal length, see details in further pages





Focal length 6mm

• Aperture F/2.8 ~ F/16

• Filter size M58 P=0.75mm

Exit Pupil Position -39.24mm or more

• TV Distortion -1.99%

• M.O.D. 100mm

Max. Diameter 38.0mm \*

• Weight 115g \*\*

Angle of View	1 /1 2"	4:3	87.7° x 70.1°
	1/1.2"	16:9	93.1° x 59.0°
	2/2"	4:3	75.5° x 59.2°
	2/3"	16:3	80.8° x 49.3°

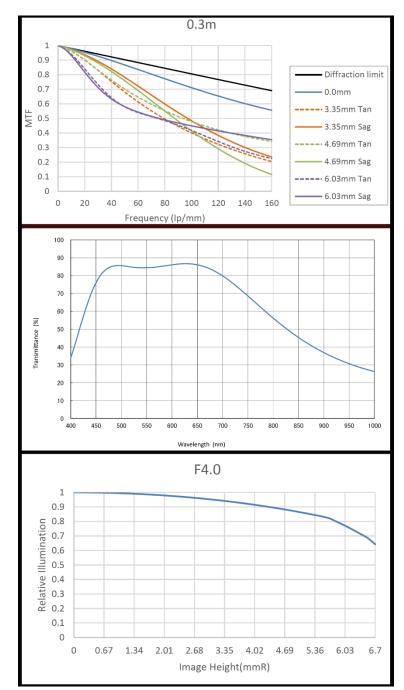
<sup>\*: 60</sup>mm with detachable filter mount adapter

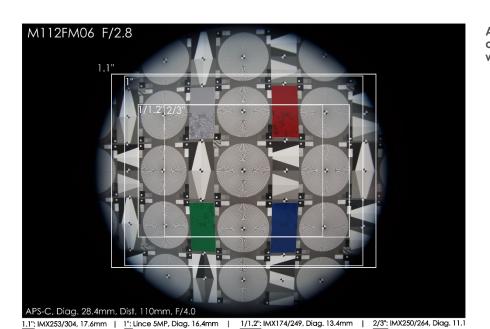
<sup>\*\*:</sup> Incl. filter mount adapter

MTF Curves

Of Wave Lengths Transmittance

Relativ Illumination on Image Circle





Actual image circle on APS-C (28.4mm Ø) sensor with theoretical sensor sizes

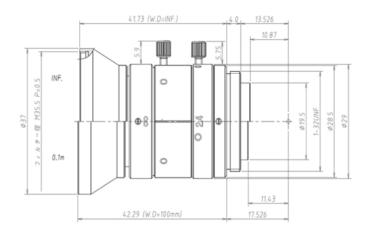
M112FM06 6mm, F/2.8

Size of	10	1/1 Imager 1/2 Imager.		Т	Imager 2/3'"' 8.8mm x 6.6mm			
Extension Ring	WD	Cov	erage	✝	WD	Coverage		
W/0	1000. 0 100. 0	1946. 5 213. 6	× 1423. 3 × 155. 8	T	1000. 0 100. 0	1569. 8 172. 0	×	1151. 8 126. 0
0. 5	60. 9 32. 9	138. 2 84. 3	× 100. 7 × 61. 3	1	60. 9 32. 9	111. 2	×	81. 4 49. 6
1	25. 2 16. 5	69. 6 52. 8	× 50.6 × 38.3		25. 2 16. 5	55. 8 42. 3	×	40. 8 30. 9
1.5	13. 3	46. 7 38. 5	× 33.8 × 27.8	┪	13. 3	37. 3 30. 8	×	27. 3 22. 5
5			× ×	1			×	
10			× ×	T			×	
15			× ×	T			×	
20			× ×	T			×	
25			× ×	T			×	
30			× ×				×	
35			× ×				×	
40			× ×				×	

This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position. (In W/O, focus at 1.0m)





• Focal length 8mm

• Aperture F/2.4 ~ F/16

• Filter size M35.5 P=0.5mm

• Exit Pupil Position -47.8mm

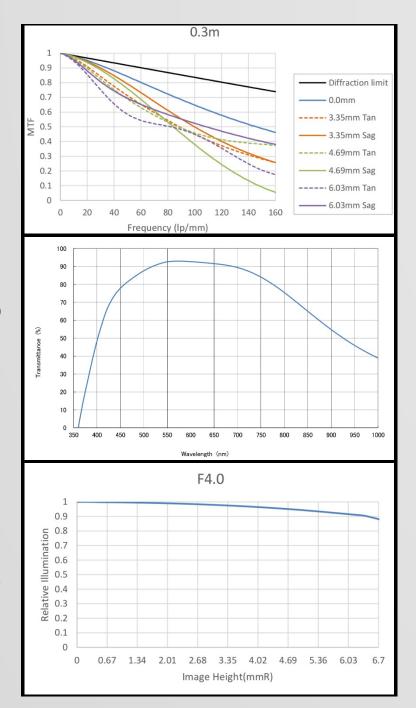
• TV Distortion -1.47%

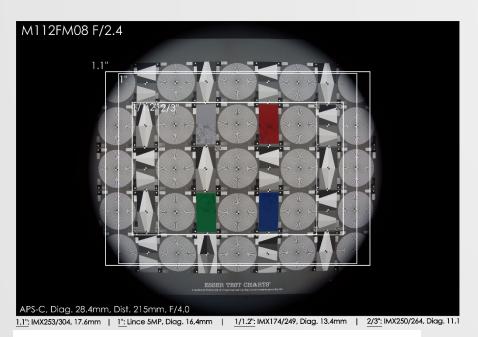
• M.O.D. 100mm

• Max. Diameter 37.0mm

• Weight 86g

<b>-</b>	1 /1 2"	4:3	70.3° x 54.9°
<u>e</u> o€	1/1.2"	16:9	75.3° x 45.6°
Angle	2/2"	4:3	59.5° x 45.8°
	2/3"	16:3	64.0° x 37.8°





#### M112FM08 8mm, F/2.4

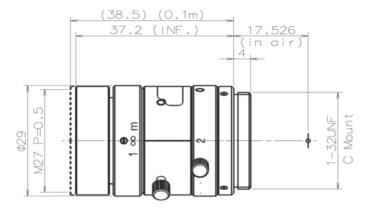
Size of Extension Ring	10.	lmager 1/1.2" 0.72mm x 8.04mm			lmager 2/3" 8.8mm x 6.6mm			
Extension King	WD	Co	ver	age	WD	Coverage		
W/0	1000. 0 100. 0	1428. 1 160. 5	×	1052. 4 118. 0	1000.0 100.0	1157. 9 129. 9	×	855. 7 95. 9
0. 5	114. 7 46. 7	181. 2 85. 4	×	133. 3 62. 7	114. 7 46. 7	146. 7 69. 0	×	108.3 50.9
1	49. 9 27. 3	89. 9 58. 0	×	66. 0 42. 5	49. 9 27. 3	72. 7 46. 8	×	53. 6 34. 5
1. 5	28. 9 17. 4	60. 4 44. 1	×	44. 2 32. 3	28. 9 17. 4	48. 7 35. 5	×	35. 9 26. 2
5			×				×	
10			×				×	
15			×				×	
20			×			×		
25			×			×		
30		×			×			
35		×			×			
40			×				×	

This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position.

(In W/O, focus at 1.0m)





• Focal length 12mm

• Aperture F/2.0 ~ F/16

Filter size M27 P=0.5mm

• Exit Pupil Position -35.5mm

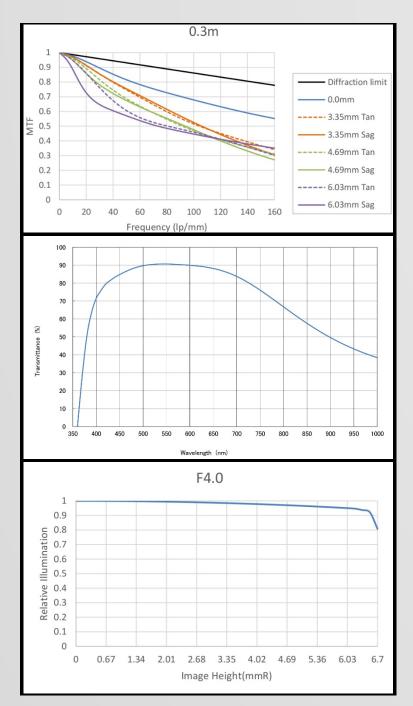
• TV Distortion -0.97%

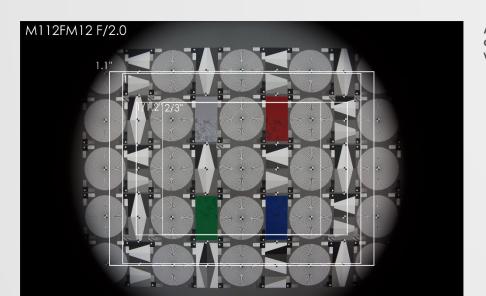
• M.O.D. 100mm

• Max. Diameter 29.0mm

• Weight 64g

Angle of View	1/1 2"	4:3	49.2° x 37.6°
	1/1.2"	16:9	53.2° x 30.6°
\ng Vie	2/2"	4:3	40.9° x 31.1°
<b>⋖</b>	2/3"	16:3	44.4° x 25.5°





M112FM12 12mm, F/2.0

1.1": IMX253/304, 17.6mm | 1": Lince 5MP, Diag. 16.4mm | 1/1.2": IMX174/249, Diag. 13.4mm | 2/3": IMX250/264, Diag. 11.1

Size of Extension Ring	10.	lmager 1/1.2" 10.72mm x 8.04mm			lmager 2/3" 8.8mm x 6.6mm			1
EXCENSION KING	WD	Cov	era	ge	WD	Coverage		
W/0	1000. 0 100. 0	927. 3 103. 2	×	688. 7 76. 5	1000. 0 100. 0	755. 8 84. 0	×	562. 7 62. 5
0. 5	271. 4 68. 3	260. 2 74. 1	×	193. 1 54. 9	271. 4 68. 3	212. 0 60. 3	×	157. 8 44. 8
1	129. 3 50. 5	130. 0 57. 8	×	96. 5 42. 8	129. 3 50. 5	105. 9 47. 0	×	78. 8 34. 9
1. 5	82. 3 39. 2	87. 0 47. 4	×	64. 5 35. 1	82. 3 39. 2	70. 8 38. 6	×	52. 6 28. 7
5	16. 3 10. 6	26. 4 21. 2	×	19. 5 15. 6	16. 3 10. 6	21. 4 17. 2	×	15. 9 12. 7
10	2. 2 0. 6	13. 4 11. 9	× ×	9. 9 8. 8	2. 2 0. 6	10. 8 9. 6	×	8. 0 7. 1
15			×				×	
20			× ×				×	
25			× ×			×		
30		×			×			
35		× ×			×			
40			×				×	

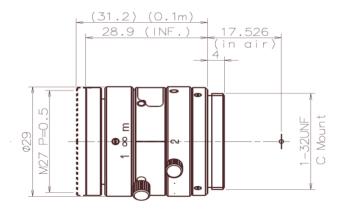
APS-C, Diag. 28.4mm, Dist. 295mm, F/4.0°

This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position.

(In W/O, focus at 1.0m)





• Focal length 16mm

• Aperture F/2.0 ~ F/16

Filter size M27 P=0.5mm

• Exit Pupil Position -35.9mm

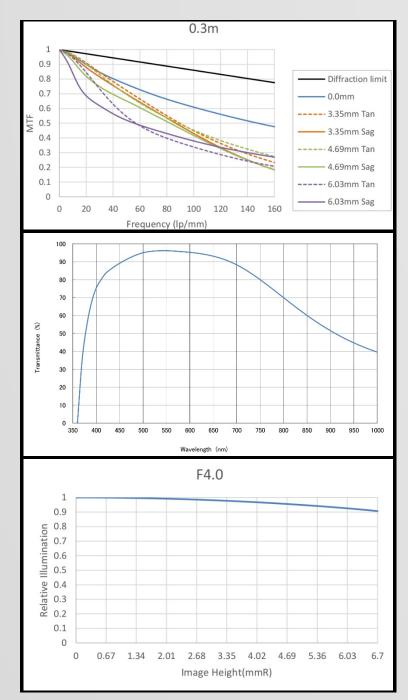
• TV Distortion -0.56%

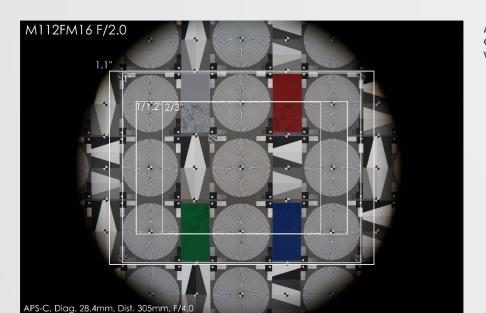
• M.O.D. 100mm

• Max. Diameter 29.0mm

• Weight 51g

<b>4</b> _	1 /1 2"	4:3	37.4° x 28.4°
<u>a</u> ≥	1/1.2"	16:9	40.5° x 22.3°
Angle of View	2/2"	4:3	31.0° x 23.4°
	2/3"	16:3	33.7° x 19.2°





M112FM16 16mm, F/2.0

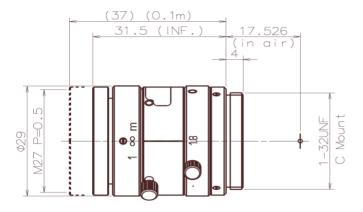
1.1": IMX253/304, 17.6mm | 1": Lince 5MP, Diag. 16,4mm | 1/1.2": IMX174/249, Diag. 13.4mm | 2/3": IMX250/264, Diag. 11.1

Size of Extension Ring	10.	lmager 1/1.2" 72mm x 8.04mm	1	lmager 2/3" 8.8mm x 6.6mm			
EXCENSION KING	WD	Coverage		WD	Coverage		
W/0	1000. 0 100. 0		12. 5 57. 2	1000. 0 100. 0	561. 7 62. 7	× 419.7 × 46.7	
0. 5	493. 9 79. 6	63.0 ×	56. 5 46. 8	493. 9 79. 6	281. 1 51. 4	× 210.0 × 38.3	
1	240. 7 65. 5	53.4 ×	28. 4 39. 7	240. 7 65. 5	140. 8 43. 5	× 105.1 × 32.4	
1. 5	156. 1 55. 1	46.4 ×	85. 6 34. 4	156. 1 55. 1	93. 8 37. 8	× 70.0 × 28.1	
5	38. 3 22. 7	24. 2 ×	25. 9 17. 9	38. 3 22. 7	28. 4 19. 7	× 21.2 × 14.6	
10	13. 1 8. 5	17. 7 × 14. 5 ×	13. 1 10. 7	13. 1 8. 5	14. 3 11. 7	× 10.7 × 8.7	
15	4. 7 -	11.8 ×	8. 7	4. 7 -	9. 6	× 7.1	
20		× ×				×	
25		× ×				×	
30		× ×				×	
35		× ×				×	
40		× ×				×	

This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position. (In W/O, focus at 1.0m)





• Focal length 25mm

• Aperture F/1.8 ~ F/16

• Filter size M27 P=0.5mm

• Exit Pupil Position -36.2mm

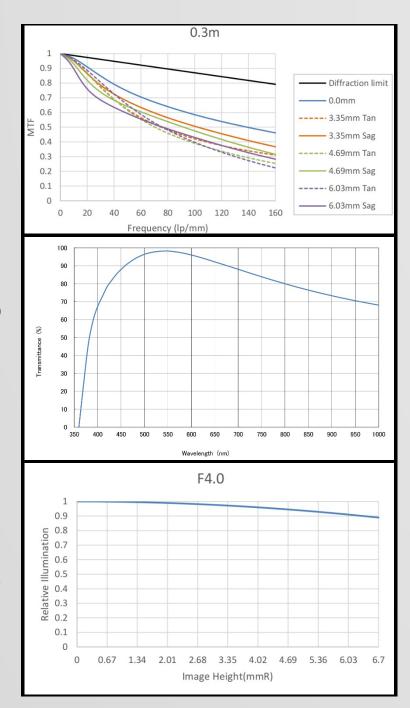
• TV Distortion -0.09%

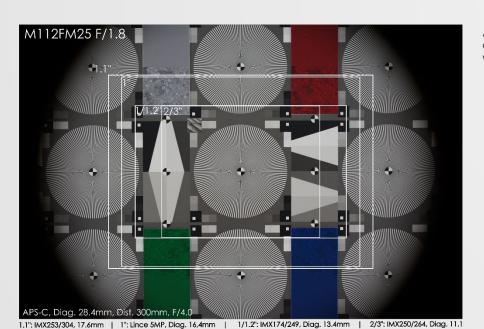
• M.O.D. 100mm

• Max. Diameter 29.0mm

• Weight 54g

<b>4</b>	1 /1 2"	4:3	24.1° x 18.2°
<u>e</u> ≥	1/1.2"	16:9	26.2° x 15.0°
Angle of View	2/3"	4:3	19.9° x 15.0°
4	2/3	16:3	21.7° x 12.3°





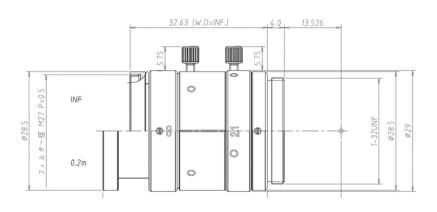
M112FM25 25mm, F/1.8

Size of Extension Ring	10	lmager 1/1.2" .72mm x 8.04mm	lmager 2/3" 8.8mm x 6.6mm
EXTENSION KING	WD	Coverage	WD Coverage
W/0	1000. 0	431.5 × 323.7	1000. 0 354. 3 × 265. 8
0. 5	1243. 2 -	535.5 × 401.8	1243. 2   439. 7 × 329. 9 -
1	614. 2 -	266.5 × 199.9	614. 2 218. 7 × 164. 1
1. 5	405. 7 –	177.3 × 132.9	405. 7   145. 5 × 109. 1 -
5	116. 0 -	53.3 × 39.8	116. 0 43. 6 × 32. 7
10	54. 8 32. 2	26.9 × 20.1 17.1 × 12.8	54. 8   22. 0 × 16. 5 32. 2   14. 0 × 10. 5
15	34. 3 22. 7	18.0 × 13.5 13.0 × 9.7	34. 3   14. 7 × 11. 0 22. 7   10. 7 × 8. 0
20	24. 0 -	13.5 × 10.1	24. 0   11. 1 × 8. 3 -
25		× ×	× ×
30		× ×	× ×
35		× ×	× ×
40		×	× ×

This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position. (In W/O, focus at 1.0m)





• Focal length 35mm

• Aperture F/2.1 ~ F/16

• Filter size M27 P=0.5mm

• Exit Pupil Position -29.4mm

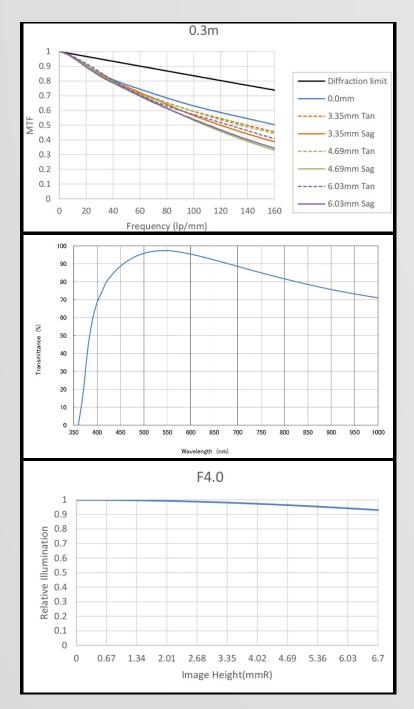
• TV Distortion 0.05%

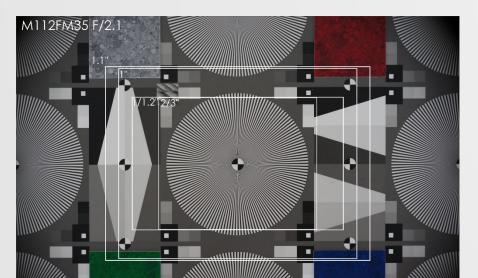
• M.O.D. 200mm

• Max. Diameter 29.0mm

• Weight 57g

Angle of View	1 /1 2"	4:3	17.3° x 13.1°
	1/1.2"	16:9	18.8° x 10.7°
	2/2"	4:3	14.3° x 10.7°
	2/3"	16:3	15.5° x 8.8°





M112FM35 35mm, F/2.1

1/1.2": IMX174/249, Diag. 13.4mm | 2/3": IMX250/264, Diag. 11.1

Size of Extension Ring	10.	Imager 1 72mm x 8			lmager 2/3" 8.8mm x 6.6mm			
Excension King	WD	Co	vera	ige	WD	Coverage		
W/0	1000.0	301.5	×	226.3	1000.0	247. 7	×	185. 9
W/U	200.0	57. 6	×	43. 2	200.0	47. 3	×	35.4
0. 5	2462.3	747. 2	×	561.1	2462.3	614.0	×	460.9
0. 3	186. 5	53. 5	×	40.1	186.5	43. 9	×	32.9
1	1242. 2	375. 3	×	281.8	1242. 2	308. 3	×	231.4
'	174.8	49. 9	×	37. 4	174. 8	41.0	×	30. 7
1. 5	827.8	249. 0	×	46.8	827.8	204. 5	×	153. 5
1. 5	164. 6	186. 9	×	35. 1	164. 6	38. 4	×	28.8
5	254. 6	74. 3	×	55.7	254. 6	61.0	×	45. 7
0	118.3	32. 6	×	24. 4	118.3	26. 7	×	20.0
10	133.6	37. 3	×	27. 9	133.6	30.6	×	22. 9
10	86. 2	22. 7	×	17. 0	86. 2	18. 7	×	14.0
15	93.4	24. 9	×	18. 7	93.4	20. 5	×	15. 3
10	69. 1	17. 5	×	13. 1	69.1	14. 3	×	10. 7
20	73. 2	18. 7	×	14.0	73. 2	15. 4	×	11.5
20	58. 5	14. 2	×	10.6	58. 5	11.6	×	8. 7
25	61.1	15. 0	×	11.3	61.1	12.3	×	9. 2
20	51.2	11. 9	×	8. 9	51.2	9.8	×	7. 3
30	53.0	12. 5	×	9.4	53.0	10.3	×	7. 7
	45. 9	10. 3	×	7.7	45.9	8. 5	×	6.3
35	47. 2	10. 7	×	8.0	47. 2	8. 8	×	6.6
	41.8	9. 1	×	6.8	41.8	7. 4	×	5.6
40	42. 9	9. 4	×	7. 0	42. 9	7. 7	×	5.8
70	38.6	8. 1	×	6. 1	38.6	6.6	×	5.0

APS-C, Diag. 28.4mm, Dist. 300mm, 5/4.5

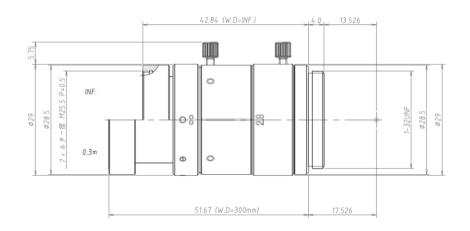
1.1": IMX253/304, 17.6mm | 1": Lince 5MP, Diag. 16,4mm |

This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position.

(In W/O, focus at 1.0m)





• Focal length 50mm

• Aperture F/2.8 ~ F/16

• Filter size M27 P=0.5mm

• Exit Pupil Position -44.2mm

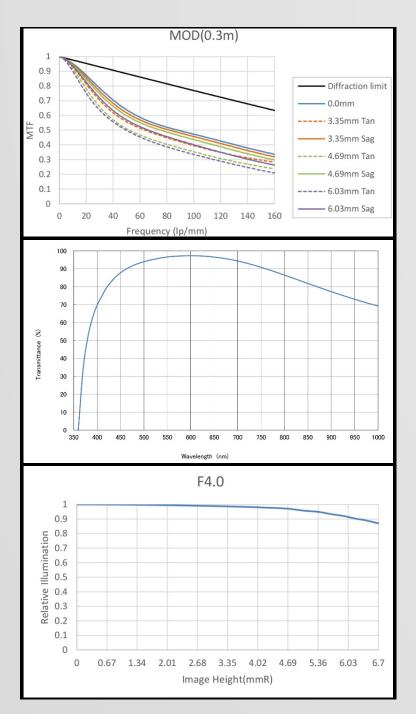
• TV Distortion 0.08%

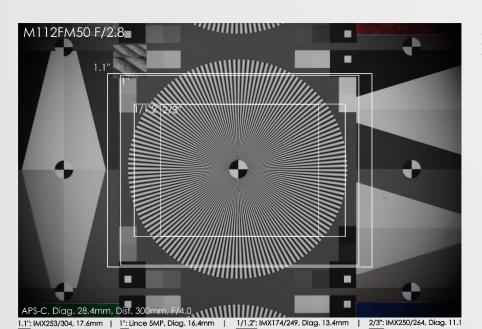
• M.O.D. 300mm

• Max. Diameter 29.0mm

• Weight 70g

Angle of View	1/1.2"	4:3	12.2° x 9.2°
		16:9	13.2° x 7.5°
	2/3"	4:3	10.0° x 7.5°
		16:3	10.9° x 6.16°





M112FM50 50mm, F/2.8

2/3": IMX250/264, Diag. 11.1

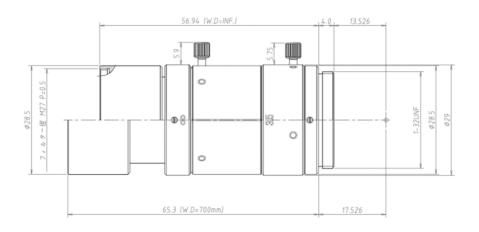
Size of Extension Ring	lmager 1/1.2" 10.72mm x 8.04mm			lmager 2/3" 8.8mm x 6.6mm				]	
Extension King	WD	Coverage		WD	Coverage			1	
W/0	1000. 0	209.5	×	157.3	1000. 0	172. 1	×	129. 2	1
	300.0	60. 2	×	45. 2	300.0	49.4	×	37. 1	ш
0. 5	5244. 4	1113.5	×	836.7	5244. 4	915. 3	×	687.4	l
0. 5	285. 0	57.0	×	42.8	285. 0	46.8	×	35. 1	Ш
1	2575. 7	545.0	×	409.5	2575. 7	448.0	×	336.4	1
'	271. 5	54. 1	×	40.6	271. 5	44. 4	×	33.3	Ш
1. 5	1703. 3	359. 2	×	269.9	1703. 3	295. 3	×	221.7	П
1. 5	259. 3	51.5	×	38.7	259. 3	42. 3	×	31.7	ш
5	517. 7	106.7	×	80. 1	517. 7	87. 6	×	65.7	1
5	198. 6	38.6	×	28.9	198. 6	31.6	×	23.7	ш
10	267. 8	53.4	×	40.0	267. 8	43.8	×	32.8	1
10	151. 1	28.4	×	21.3	151. 1	23. 3	×	17.5	Ш
15	184. 9	35.6	×	26. 7	184. 9	29. 2	×	21.9	1
10	123. 5	22.5	×	16.8	123. 5	18.4	×	13.8	ш
20	143. 5	26.8	×	20. 1	143. 5	22. 0	×	16.5	1
20	105. 5	18.6	×	13.9	105. 5	15. 3	×	11.4	ш
25	118. 7	21.4	×	16. 1	118. 7	17. 6	×	13. 2	1
	92. 7	15.8	×	11.9	92. 7	13.0	×	9.7	Ш
30	102. 2	17. 9	×	13.4	102. 2	14. 7	×	11.0	1
	83. 2	13.8	×	10.3	83. 2	11.3	×	8.5	Ш
35			×				×		
			×				×		
40			×				×		П
40			×				×		J

This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position.

(In W/O, focus at 1.0m)





• Focal length 75mm

• Aperture F/3.5 ~ F/16

• Filter size M27 P=0.5mm

• Exit Pupil Position -40.8mm

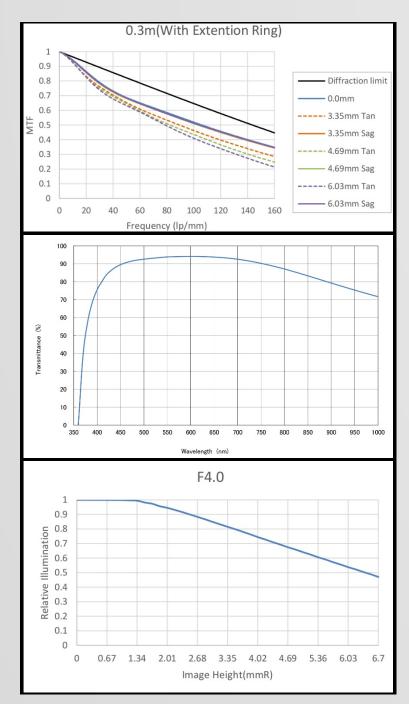
• TV Distortion 0.03%

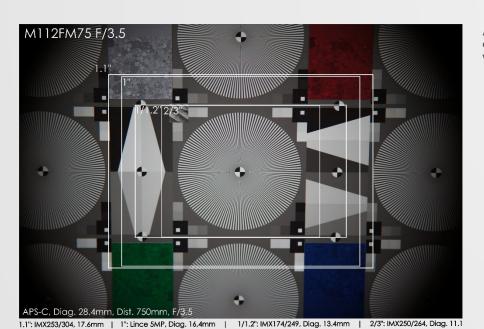
• M.O.D. 700mm

• Max. Diameter 28.5mm

• Weight 70g

Angle of View	1/1.2"	4:3	8.1° x 6.1°
		16:9	8.9° x 5.0°
	2/3"	4:3	6.7° x 5.0°
		16:3	7.3° x 4.1°





M112FM75 75mm, F/3.5

Size of	Imager 1/1.2"			lmager 2/3"			
Extension Ring	10.72mm x 8.04mm			8.8mm x 6.6mm			
- Likesine reni itting	WD	Coverage		WD	Coverage		
W/O	1000.0	139.1 ×	104. 4	1000.0	114.2 ×	85. 7	
11/0	700.0	48. 2 ×	36. 2	700.0	79.2 ×	59. 4	
0. 5	12807. 3	1816.6 ×	1364. 7	12807.3	1493.1 ×	1121.0	
0. 3	661.7	90.9 ×	68. 2	661.7	74.7 ×	56. 0	
1	6007. 9	850.6 ×	638. 9	6007. 9	699.0 ×	524. 8	
_ '	627. 2	86.0 ×	64. 5	627. 2	70.6 ×	53. 0	
1. 5	3840. 2	543.0 ×	407. 8	3840. 2	446. 2 ×	335. 0	
1. 5	595.5	81.5 ×	61. 2	595.5	67.0 ×	50. 2	
5	1151.2	160.6 ×	120. 6	1151.2	131.9 ×	99. 0	
J	445.3	60.1 ×	45. 1	445.3	49.4 ×	37. 0	
10	585.8	80.2 ×	60. 1	585.8	65.8 ×	49. 4	
10	330.5	43.8 ×	32. 8	330.5	35.9 ×	26. 9	
15	398. 4	53.5 ×	40. 1	398. 4	43.9 ×	32. 9	
13	264. 9	34.4 ×	25. 8	264. 9	28. 2 ×	21. 2	
20	304. 9	40.1 ×	30. 1	304. 9	32.9 ×	24. 7	
20	222.5	28.3 ×	21. 2	222.5	23.3 ×	17. 4	
25	248. 9	32.1 ×	24. 1	248. 9	26.4 ×	19. 8	
23	192.8	24.1 ×	18. 1	192.8	19.8 ×	14. 8	
30	211.5	26.8 ×	20. 1	211.5	22.0 ×	16. 5	
30	170.9	21.0 ×	15. 7	170. 9	17.2 ×	12. 9	
35	184. 8	22.9 ×	17. 2	184. 8	18.8 ×	14. 1	
33	154. 0	18.5 ×	13. 9	154. 0	15.2 ×	11. 4	
40	164.8	20.1 ×	15. 1	164.8	16.5 ×	12. 4	
40	140.6	16.6 ×	12. 5	140. 6	13.6 ×	10. 2	

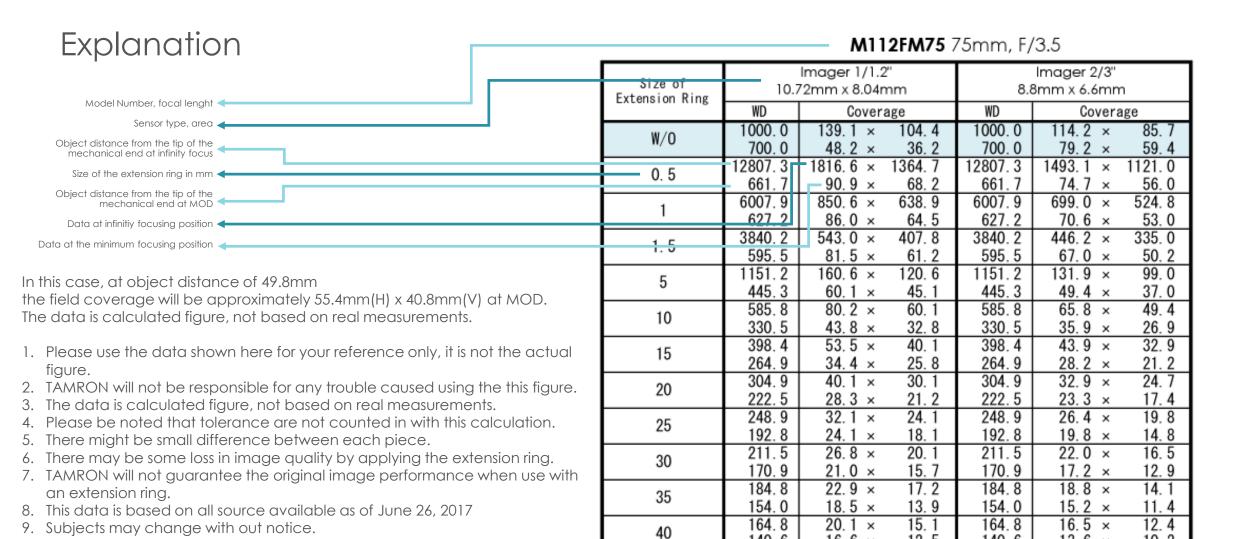
This table shows the shooting distance and coverage by using different extension rings

Upper column : Focus the infinity position.

(In W/O, focus at 1.0m)

Lower column : Focus at the closest position

Taking distance: From barrel top to object



10. All units are in mm.

140.6

16.6 ×

12. 5

140.6

13.6 ×

10. 2



#### Vision Light Tech B.V.

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