Shooting distance and coverage with use of extension rings

Model:　23FM16SP/23FM25SP/23FM50SP

Instructions and Cautions

1. Please use the data shown here for your reference only, it is not the actual figure.
   Tamron will not be responsible for any trouble caused using the this figure.
2. The data is calculated figure, not based on real measurements.
   Please be noted that tolerance are not counted in with this calculation.
   There might be small difference between each piece.
3. There may be some loss in image quality by applying the extension ring.
   Tamron will not guarantee the original image performance when use with an extension ring.
4. This data is based on all source available as of July 1, 2015
5. Subjects may change with out notice.

For Reference Only

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Explanation of Text

Here under shows how to read the text.

Size of Extension Ring	Mxxxx (xxmm) Distance	Coverage
W/O	98.5	101.7 × 74.9
0.5	119.2	121.7 × 89.6
	49.8	55.4 × 40.8
1	55.2	60.8 × 44.8
	31.6	38.1 × 28.0
1.5	33.9	40.6 × 29.9
	22.0	29.0 × 21.4
5	4.0	12.2 × 9.0
	3.0	10.9 × 8.0

Model Number (Focal Length)

Object distance from the tip of mechanical end at infinity focusing position

Data at infinity focusing position.

Data at the minimum focusing position.

Object distance from the tip of mechanical end at minimum focusing position

Size of Extension Ring

In this case, at object distance of 49.8mm
the field coverage will be approximately 55.4mm(H) x 40.8mm(V) at MOD.
(The data is calculated figure, not based on real measurements.)

- Shooting distance and coverage with use of extension rings -

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Shooting WD and coverage with use of extension rings (Imager Size 2/3)

※Design Value

Unit : mm

Size of Extension Ring	23FM16SP (PB020A0) (f=16/F1.4)		23FM25SP (PB030A0) (f=25/F1.4)		23FM50SP (PB040A0) (f=50/F2.8)	
	WD	Coverage	WD	Coverage	WD	Coverage
W/O	1000.0 142.2	562.2 × 420.9 87.1 × 65.0	1000.0 148.3	358.9 × 269.1 57.1 × 42.7	1000.0 191.8	172.5 × 129.4 30.2 × 22.7
0.5	494.6 105.4	283.6 × 212.2 67.0 × 60.0	1231.6 129.9	440.6 × 330.3 50.8 × 38.0	5012.4 186.1	878.9 × 659.2 29.2 × 21.9
1	239.0 82.4	142.1 × 106.2 54.5 × 40.7	606.8 115.1	220.4 × 165.2 45.7 × 34.2	2517.5 180.8	439.6 × 329.7 28.3 × 21.2
1.5	153.7 66.7	94.8 × 70.9 45.9 × 34.3	398.6 103.0	147.0 × 110.1 41.6 × 31.1	1685.5 175.8	293.1 × 219.8 27.4 × 20.5
5	34.3 22.8	28.7 × 21.4 22.0 × 16.3	107.2 55.9	44.3 × 33.1 25.5 × 19.0	520.2 148.0	88.0 × 66.0 22.5 × 16.9
10	8.7 5.8	14.5 × 10.7 12.7 × 6.4	44.7 29.6	22.3 × 16.6 16.4 × 12.3	270.5 122.0	44.0 × 33.0 17.9 × 13.4
15	0.2	9.8 × 7.2 ×	23.9 17.1	14.9 × 11.1 12.2 × 9.1	187.2 104.8	29.3 × 22.0 14.9 × 11.1
20		× ×	13.5 9.8	11.2 × 8.4 9.7 × 7.2	145.6 92.6	22.0 × 16.5 12.7 × 9.5
25		× ×	7.2 5.0	9.0 × 6.7 8.0 × 6.0	120.6 83.5	17.6 × 13.2 11.1 × 8.3
30		× ×	3.1 1.7	7.6 × 5.6 6.9 × 5.1	103.9 76.5	14.7 × 11.0 9.8 × 7.4
35		× ×	0.1	6.5 × 4.8 ×	92.0 70.8	12.6 × 9.4 8.9 × 6.6
40		× ×		× ×	83.1 66.2	11.0 × 8.2 8.0 × 6.0

・Upper column : Data at the infinity focusing position.
(In W/O , Data at 1.0m focusing position.)
・Lower column : Data at the nearest focusing position.
・Taking distance : From Barrel Top to the object

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Shooting WD and coverage with use of extension rings (Imager Size 1/1.8)

※Design Value

Unit : mm

Size of Extension Ring	23FM16SP (PB020A0) (f=16/F1.4)		23FM25SP (PB030A0) (f=25/F1.4)		23FM50SP (PB040A0) (f=50/F2.8)	
	WD	Coverage	WD	Coverage	WD	Coverage
W/O	1000.0 142.2	464.6 × 347.8 71.8 × 53.7	1000.0 148.3	296.9 × 222.5 47.1 × 17.7	1000.0 191.8	142.7 × 107.0 25.0 × 18.7
0.5	494.6 105.4	234.4 × 175.4 55.3 × 41.3	1231.6 129.9	364.4 × 273.2 41.9 × 31.4	5012.4 186.1	727.1 × 545.3 24.2 × 18.1
1	239.0 82.4	117.4 × 87.8 44.9 × 33.6	606.8 115.1	182.2 × 136.6 37.7 × 28.3	2517.5 180.8	363.7 × 272.8 23.4 × 17.5
1.5	153.7 66.7	78.3 × 58.6 37.9 × 28.3	398.6 103.0	121.6 × 91.1 34.3 × 25.7	1685.5 175.8	242.5 × 181.9 22.7 × 17.0
5	34.3 22.8	23.7 × 17.6 18.1 × 13.5	107.2 55.9	36.6 × 27.4 21.0 × 15.7	520.2 148.0	72.8 × 54.6 18.6 × 13.9
10	8.7 5.8	11.9 × 8.8 10.3 × 7.7	44.7 29.6	18.3 × 13.7 13.5 × 10.1	270.5 122.0	36.4 × 27.3 14.8 × 11.1
15	0.2	7.9 × 5.9 ×	23.9 17.1	12.2 × 9.1 10.0 × 7.4	187.2 104.8	24.3 × 18.2 12.3 × 9.2
20		× ×	13.5 9.8	9.1 × 6.8 7.9 × 5.9	145.6 92.6	18.2 × 13.6 10.5 × 7.9
25		× ×	7.2 5.0	7.3 × 5.5 6.5 × 4.9	120.6 83.5	14.6 × 10.9 9.2 × 6.9
30		× ×	3.1 1.7	6.1 × 4.6 5.5 × 4.2	103.9 76.5	12.1 × 9.1 8.1 × 6.1
35		× ×	0.1	5.2 × 3.9 ×	92.0 70.8	10.4 × 7.8 7.3 × 5.5
40		× ×		× ×	83.1 66.2	9.1 × 6.8 6.7 × 5.0

- Upper column : Data at the infinity focusing position.
  (In W/O , Data at 1.0m focusing position.)
- Lower column : Data at the nearest focusing position.
- Taking distance : From Barrel Top to the object

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Shooting WD and coverage with use of extension rings (Imager Size 1/2)

※Design Value

Unit : mm

Size of Extension Ring	23FM16SP (PB020A0) (f=16/F1.4)		23FM25SP (PB030A0) (f=25/F1.4)		23FM50SP (PB040A0) (f=50/F2.8)	
	WD	Coverage	WD	Coverage	WD	Coverage
W/O	1000.0 142.2	408.0 × 305.5 63.1 × 47.2	1000.0 148.3	260.9 × 195.6 41.4 × 31.0	1000.0 191.8	125.5 × 94.1 22.0 × 16.5
0.5	494.6 105.4	205.7 × 154.0 48.5 × 36.3	1231.6 129.9	320.3 × 240.1 36.8 × 27.6	5012.4 186.1	639.2 × 479.4 21.2 × 15.9
1	239.0 82.4	103.0 × 77.0 39.4 × 29.5	606.8 115.1	160.1 × 120.1 33.1 × 24.8	2517.5 180.8	319.7 × 239.8 20.6 × 15.4
1.5	153.7 66.7	68.7 × 51.4 33.2 × 24.8	398.6 103.0	106.8 × 80.0 30.1 × 22.6	1685.5 175.8	213.2 × 159.9 19.9 × 14.9
5	34.3 22.8	20.7 × 15.5 15.8 × 11.8	107.2 55.9	32.1 × 24.0 18.4 × 13.8	520.2 148.0	64.0 × 48.0 16.3 × 12.3
10	8.7 5.8	10.4 × 7.8 9.1 × 6.8	44.7 29.6	16.1 × 12.0 11.9 × 8.9	270.5 122.0	32.0 × 24.0 13.0 × 9.8
15	0.2	7.0 × 5.2 ×	23.9 17.1	10.8 × 8.0 8.8 × 6.5	187.2 104.8	21.3 × 16.0 10.8 × 8.1
20		× ×	13.5 9.8	8.1 × 6.0 7.0 × 5.2	145.6 92.6	16.0 × 12.0 9.2 × 6.9
25		× ×	7.2 5.0	6.5 × 4.8 5.8 × 4.3	120.6 83.5	12.8 × 9.6 8.1 × 6.1
30		× ×	3.1 1.7	5.4 × 4.0 4.9 × 3.7	103.9 76.5	10.7 × 8.0 7.2 × 5.4
35		× ×	0.1	4.7 × 3.5 ×	92.0 70.8	9.1 × 6.9 6.4 × 4.8
40		× ×		× ×	83.1 66.2	8.0 × 6.0 5.9 × 4.4

・Upper column : Data at the infinity focusing position.
(In W/O , Data at 1.0m focusing position.)
・Lower column : Data at the nearest focusing position.
・Taking distance : From Barrel Top to the object

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Shooting WD and coverage with use of extension rings (Imager Size 1/3)

※Design Value

Unit : mm

Size of Extension Ring	23FM16SP (PB020A0) (f=16/F1.4)			23FM25SP (PB030A0) (f=25/F1.4)			23FM50SP (PB040A0) (f=50/F2.8)		
	WD	Coverage		WD	Coverage		WD	Coverage	
W/O	1000.0	305.5 ×	228.8	1000.0	195.6 ×	146.7	1000.0	94.1 ×	70.6
	142.2	47.2 ×	35.3	148.3	31.0 ×	23.2	191.8	16.5 ×	12.4
0.5	494.6	154.0 ×	115.3	1231.6	240.1 ×	180.0	5012.4	479.4 ×	359.6
	105.4	36.3 ×	27.1	129.9	27.6 ×	20.7	186.1	15.9 ×	12.0
1	239.0	77.0 ×	57.7	606.8	120.1 ×	90.0	2517.5	239.8 ×	179.9
	82.4	29.5 ×	22.1	115.1	24.8 ×	18.6	180.8	15.4 ×	11.6
1.5	153.7	51.4 ×	38.5	398.6	80.0 ×	60.0	1685.5	159.9 ×	119.9
	66.7	24.8 ×	18.6	103.0	22.6 ×	16.9	175.8	14.9 ×	11.2
5	34.3	15.5 ×	11.6	107.2	24.0 ×	18.0	520.2	48.0 ×	36.0
	22.8	11.8 ×	8.8	55.9	13.8 ×	10.3	148.0	12.3 ×	9.2
10	8.7	7.8 ×	5.8	44.7	12.0 ×	9.0	270.5	24.0 ×	18.0
	5.8	6.8 ×	5.0	29.6	8.9 ×	6.6	122.0	9.8 ×	7.3
15	0.2	5.2 ×	3.9	23.9	8.0 ×	6.0	187.2	16.0 ×	12.0
		×		17.1	6.5 ×	4.9	104.8	8.1 ×	6.1
20		×		13.5	6.0 ×	4.5	145.6	12.0 ×	9.0
		×		9.8	5.2 ×	3.9	92.6	6.9 ×	5.2
25		×		7.2	4.8 ×	3.6	120.6	9.6 ×	7.2
		×		5.0	4.3 ×	3.2	83.5	6.1 ×	4.5
30		×		3.1	4.0 ×	3.0	103.9	8.0 ×	6.0
		×		1.7	3.7 ×	2.7	76.5	5.4 ×	4.0
35		×		0.1	3.5 ×	2.6	92.0	6.9 ×	5.1
		×			×		70.8	4.8 ×	3.6
40		×			×		83.1	6.0 ×	4.5
		×			×		66.2	4.4 ×	3.3

・Upper column : Data at the infinity focusing position.
(In W/O , Data at 1.0m focusing position.)
・Lower column : Data at the nearest focusing position.
・Taking distance : From Barrel Top to the object

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Shooting WD and coverage with use of extension rings (Imager Size 1/4)

※Design Value

Unit : mm

Size of Extension Ring	23FM16SP (PB020A0) (f=16/F1.4)		23FM25SP (PB030A0) (f=25/F1.4)		23FM50SP (PB040A0) (f=50/F2.8)	
	WD	Coverage	WD	Coverage	WD	Coverage
W/O	1000.0 142.2	228.8 × 171.5 35.3 × 26.5	1000.0 148.3	146.7 × 110.0 23.2 × 17.4	1000.0 191.8	70.6 × 52.9 12.4 × 9.3
0.5	494.6 105.4	115.3 × 86.4 27.1 × 20.3	1231.6 129.9	180.0 × 135.0 20.7 × 15.5	5012.4 186.1	359.6 × 269.7 12.0 × 9.0
1	239.0 82.4	57.7 × 43.2 22.1 × 16.5	606.8 115.1	90.0 × 67.5 18.6 × 13.9	2517.5 180.8	179.9 × 134.9 11.6 × 8.7
1.5	153.7 66.7	38.5 × 28.8 18.6 × 13.9	398.6 103.0	60.0 × 45.0 16.9 × 12.7	1685.5 175.8	119.9 × 89.9 11.2 × 8.4
5	34.3 22.8	11.6 × 8.7 8.8 × 6.6	107.2 55.9	18.0 × 13.5 10.3 × 7.7	520.2 148.0	36.0 × 27.0 9.2 × 6.9
10	8.7 5.8	5.8 × 4.3 5.0 × 3.8	44.7 29.6	9.0 × 6.8 6.6 × 5.0	270.5 122.0	18.0 × 13.5 7.3 × 5.5
15	0.2	3.9 × 2.9 ×	23.9 17.1	6.0 × 4.5 4.9 × 3.7	187.2 104.8	12.0 × 9.0 6.1 × 4.6
20		× ×	13.5 9.8	4.5 × 3.4 3.9 × 2.9	145.6 92.6	9.0 × 6.7 5.2 × 3.9
25		× ×	7.2 5.0	3.6 × 2.7 3.2 × 2.4	120.6 83.5	7.2 × 5.4 4.5 × 3.4
30		× ×	3.1 1.7	3.0 × 2.3 2.7 × 2.1	103.9 76.5	6.0 × 4.5 4.0 × 3.0
35		× ×	0.1	2.6 × 1.9 ×	92.0 70.8	5.1 × 3.9 3.6 × 2.7
40		× ×		× ×	83.1 66.2	4.5 × 3.4 3.3 × 2.5

・Upper column : Data at the infinity focusing position.
(In W/O , Data at 1.0m focusing position.)
・Lower column : Data at the nearest focusing position.
・Taking distance : From Barrel Top to the object