

REVERSE RING

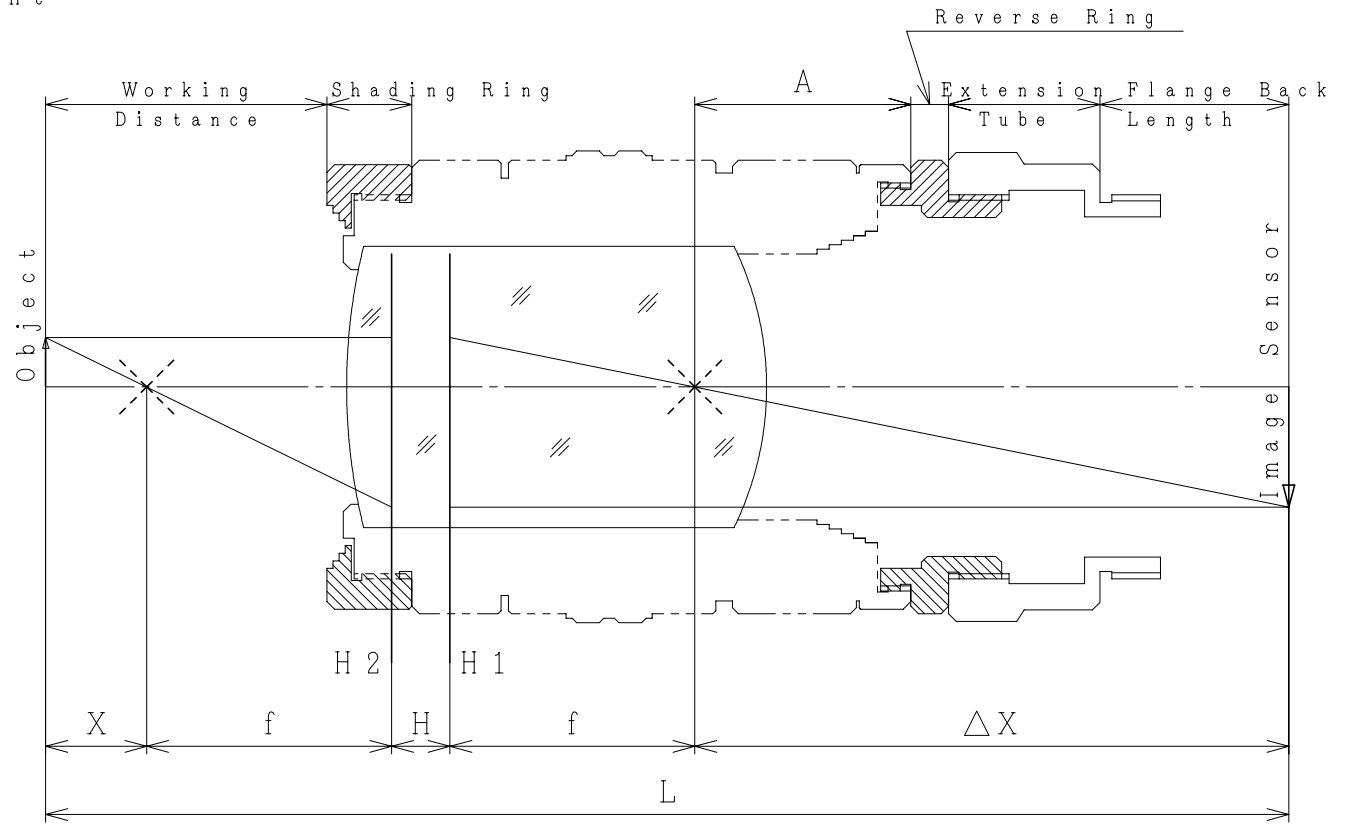
RR - 27

RR - 40.5



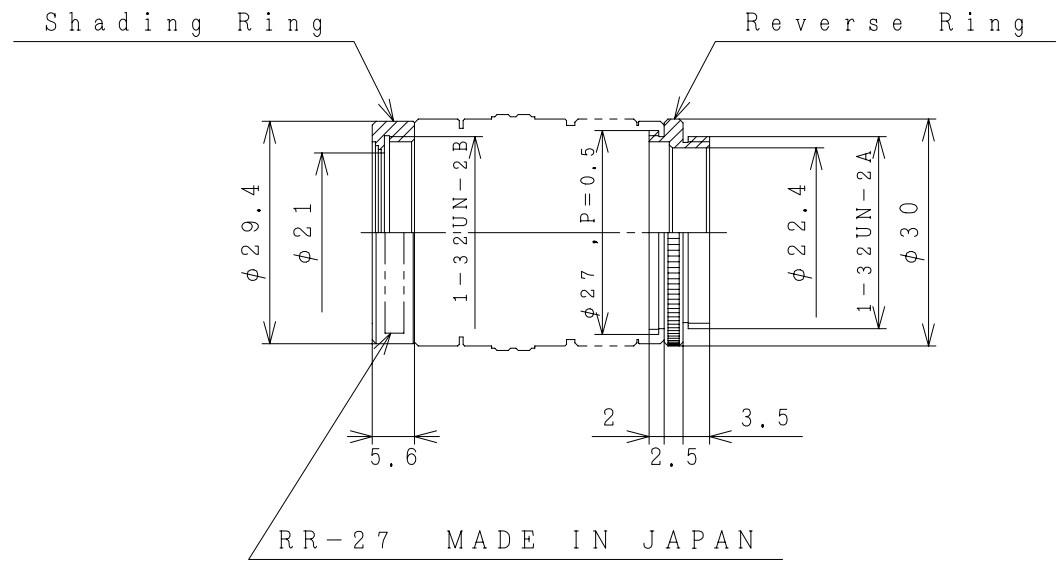
$f$  = Focal Length  
 $H$  = Principal Interval  
 $H1$  = Primary Principal Point  
 $H2$  = Secondary Principal Point  
 $A$  = Focal Point to Lens  
 Front End Distance

Optical and Mechanical Data		
	H mm	A mm
H 1 2 1 2 - M	5.372	15.782
C 1 6 1 4 - M	1.975	16.755
C 2 5 1 4 - M	-10.507	10.027
C 3 5 1 6 - M	-23.004	8.030
H 1 2 1 2 B	14.545	14.101
C 1 6 1 4 A	3.852	14.278
B 2 5 1 4 D	0.530	4.180
H 1 2 1 2 A	14.545	24.601
C 1 6 1 4	3.852	21.278
B 2 5 1 4 C - 2	-4.252	11.798
B 5 0 1 8 A - 3	-5.020	-24.794



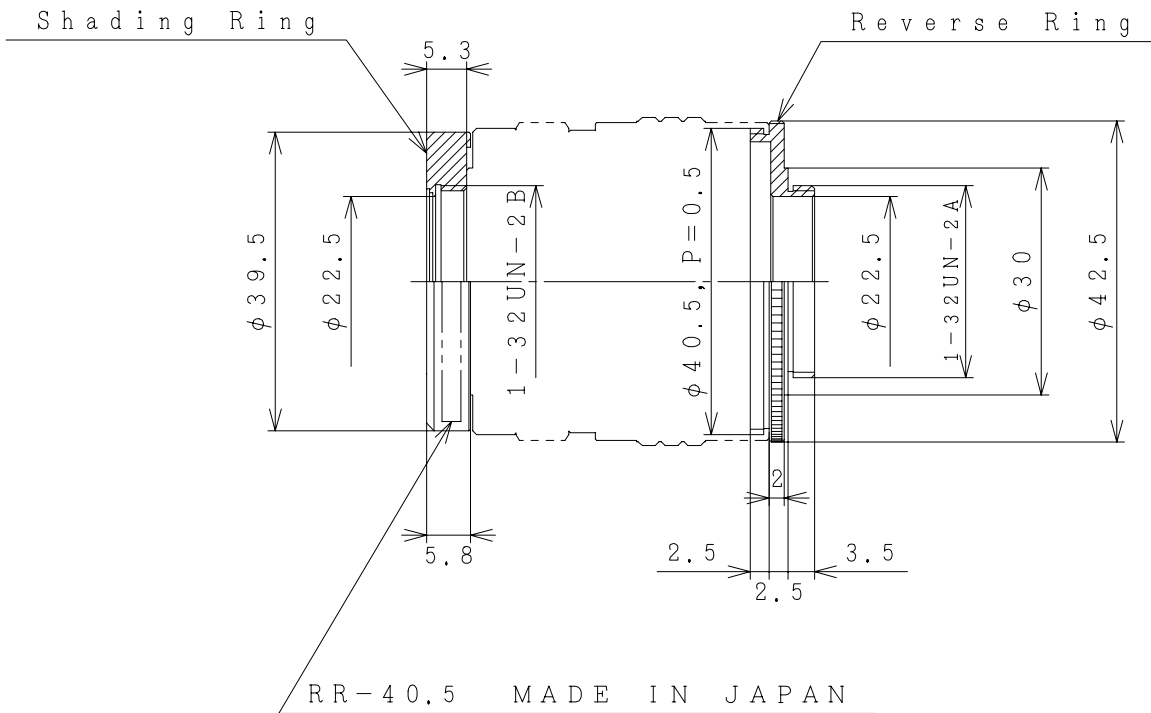
UNIT : mm

				尺度	個数	
				N. T. S.		
				名称		
	訂正	記事	年月日	RR-27 RR-40.5 Reverse Setup Illustration		
承認	設計	製図	検図	完図	Nov. 25.'02 年月日	
				図面番号		
				80036-X001-00T1-B24		
<b>PENTAX Precision Co., Ltd.</b>						



UNIT : mm

3				尺度	個数	
2				N. T. S.		
1				名称		
訂正記事				年月日	担当	RR-27 Reverse Ring Setup View
承認	設計	製図	検図	完図		
				Nov. 25.'02	年月日	図面番号
						80036-X001-00T1-B34
<b>PENTAX Precision Co., Ltd.</b>						



UNIT : mm

				尺度	個数	
				N.T.S.		
				名称		
訂正記事				年月日	担当	RR-40.5 Reverse Ring Setup View
承認	設計	製図	検図	完図		図面番号
				Nov. 25.'02		80036-X001-00T1-B44
PENTAX Precision Co., Ltd.						

Supplementary Table 1.								
Macro-Focus Table (Shading Ring + H1214-M + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	14.7	2.9					2.2	1.7
5	14.2	3.3					2.0	1.5
10	13.8	3.7					1.7	1.3
15	13.5	4.1					1.6	1.2
20	13.2	4.5					1.4	1.1
25	13.0	4.9					1.3	1.0
30	12.8	5.3					1.2	0.9
35	12.6	5.7					1.1	0.8
40	12.5	6.1					1.0	0.8
45	12.3	6.5					1.0	0.7
50	12.2	6.9					0.9	0.7
55	12.1	7.3					0.9	0.7
60	12.0	7.7					0.8	0.6
65	12.0	8.1					0.8	0.6
70	11.9	8.5					0.8	0.6
75	11.8	8.9					0.7	0.5

Supplementary Table 2.								
Macro-Focus Table (Shading Ring + H1214-M + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	15.4	2.5	2.6	1.9	1.9	1.5	1.5	1.1
5	14.7	2.9	2.2	1.7	1.7	1.3	1.3	0.9
10	14.2	3.3	2.0	1.5	1.5	1.1	1.1	0.8
15	13.8	3.7	1.7	1.3	1.3	1.0	1.0	0.7
20	13.5	4.1	1.6	1.2	1.2	0.9	0.9	0.7
25	13.2	4.5	1.4	1.1	1.1	0.8	0.8	0.6
30	13.0	4.9	1.3	1.0	1.0	0.7	0.7	0.6
35	12.8	5.3	1.2	0.9	0.9	0.7	0.7	0.5
40	12.6	5.7	1.1	0.8	0.8	0.6	0.6	0.5
45	12.5	6.1	1.1	0.8	0.8	0.6	0.6	0.4
50	12.3	6.5	1.0	0.7	0.7	0.6	0.6	0.4
55	12.2	6.9	0.9	0.7	0.7	0.5	0.5	0.4
60	12.1	7.3	0.9	0.7	0.7	0.5	0.5	0.4
65	12.0	7.7	0.8	0.6	0.6	0.5	0.5	0.4
70	12.0	8.1	0.8	0.6	0.6	0.4	0.4	0.3
75	11.9	8.5	0.8	0.6	0.6	0.4	0.4	0.3

				Approved	Checked	Drawn	Drawing Title
							SPEC. SHEET
No.	Revisions	Date	By	Date Drawn NOV. 22,'02		Drawing Number 80036 Supplementary Table	

**PENTAX Precision Co.,Ltd.**

Supplementary Table 3.								
Macro-Focus Table (Shading Ring + C1614-M + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	18.9	2.3			3.8	2.9	2.8	2.1
5	18.1	2.6			3.4	2.5	2.5	1.8
10	17.4	2.9			3.0	2.3	2.2	1.6
15	16.9	3.2			2.7	2.0	2.0	1.5
20	16.4	3.5			2.5	1.9	1.8	1.4
25	16.1	3.9			2.3	1.7	1.7	1.2
30	15.8	4.2			2.1	1.6	1.5	1.1
35	15.5	4.5			2.0	1.5	1.4	1.1
40	15.3	4.8			1.8	1.4	1.3	1.0
45	15.1	5.1			1.7	1.3	1.3	0.9
50	14.9	5.4			1.6	1.2	1.2	0.9
55	14.7	5.7			1.5	1.2	1.1	0.8
60	14.6	6.0			1.5	1.1	1.1	0.8
65	14.4	6.4			1.4	1.0	1.0	0.8
70	14.3	6.7			1.3	1.0	1.0	0.7
75	14.2	7.0			1.3	0.9	0.9	0.7

Supplementary Table 4.								
Macro-Focus Table (Shading Ring + C1614-M + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	20.0	2.0	3.2	2.4	2.4	1.8	1.8	1.4
5	18.9	2.3	2.8	2.1	2.1	1.6	1.6	1.2
10	18.1	2.6	2.5	1.8	1.8	1.4	1.4	1.0
15	17.4	2.9	2.2	1.6	1.6	1.2	1.2	0.9
20	16.9	3.2	2.0	1.5	1.5	1.1	1.1	0.8
25	16.4	3.5	1.8	1.4	1.4	1.0	1.0	0.8
30	16.1	3.9	1.7	1.2	1.2	0.9	0.9	0.7
35	15.8	4.2	1.5	1.2	1.2	0.9	0.9	0.6
40	15.5	4.5	1.4	1.1	1.1	0.8	0.8	0.6
45	15.3	4.8	1.3	1.0	1.0	0.8	0.8	0.6
50	15.1	5.1	1.3	0.9	0.9	0.7	0.7	0.5
55	14.9	5.4	1.2	0.9	0.9	0.7	0.7	0.5
60	14.7	5.7	1.1	0.8	0.8	0.6	0.6	0.5
65	14.6	6.0	1.1	0.8	0.8	0.6	0.6	0.4
70	14.4	6.4	1.0	0.8	0.8	0.6	0.6	0.4
75	14.3	6.7	1.0	0.7	0.7	0.5	0.5	0.4

				Approved	Checked	Drawn	Drawing Title
							SPEC. SHEET
No.	Revisions	Date	By	Date Drawn	Drawning Number		
				NOV. 22, '02	80036 Supplementary Table		

**PENTAX Precision Co.,Ltd.**

Supplementary Table 5.								
Macro-Focus Table (Shading Ring + C2514-M + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	31.5	1.2			7.3	5.5	5.3	4.0
5	28.5	1.4			6.3	4.7	4.6	3.4
10	26.3	1.6			5.5	4.1	4.0	3.0
15	24.6	1.8			4.9	3.7	3.6	2.7
20	23.2	2.0			4.4	3.3	3.2	2.4
25	22.1	2.2			4.0	3.0	2.9	2.2
30	21.1	2.4			3.7	2.7	2.7	2.0
35	20.3	2.6			3.4	2.5	2.5	1.8
40	19.6	2.8			3.1	2.4	2.3	1.7
45	19.0	3.0			2.9	2.2	2.1	1.6
50	18.5	3.2			2.7	2.1	2.0	1.5
55	18.0	3.4			2.6	1.9	1.9	1.4
60	17.6	3.6			2.4	1.8	1.8	1.3
65	17.3	3.8			2.3	1.7	1.7	1.3
70	16.9	4.0			2.2	1.6	1.6	1.2
75	16.6	4.2			2.1	1.6	1.5	1.1

Supplementary Table 6.								
Macro-Focus Table (Shading Ring + C2514-M + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	35.7	1.0	6.4	4.8	4.8	3.6	3.6	2.7
5	31.5	1.2	5.3	4.0	4.0	3.0	3.0	2.2
10	28.5	1.4	4.6	3.4	3.4	2.6	2.6	1.9
15	26.3	1.6	4.0	3.0	3.0	2.2	2.2	1.7
20	24.6	1.8	3.6	2.7	2.7	2.0	2.0	1.5
25	23.2	2.0	3.2	2.4	2.4	1.8	1.8	1.3
30	22.1	2.2	2.9	2.2	2.2	1.6	1.6	1.2
35	21.1	2.4	2.7	2.0	2.0	1.5	1.5	1.1
40	20.3	2.6	2.5	1.8	1.8	1.4	1.4	1.0
45	19.6	2.8	2.3	1.7	1.7	1.3	1.3	1.0
50	19.0	3.0	2.1	1.6	1.6	1.2	1.2	0.9
55	18.5	3.2	2.0	1.5	1.5	1.1	1.1	0.8
60	18.0	3.4	1.9	1.4	1.4	1.1	1.1	0.8
65	17.6	3.6	1.8	1.3	1.3	1.0	1.0	0.7
70	17.3	3.8	1.7	1.3	1.3	0.9	0.9	0.7
75	16.9	4.0	1.6	1.2	1.2	0.9	0.9	0.7

				Approved	Checked	Drawn	Drawing Title
							SPEC. SHEET
No.	Revisions	Date	By	Date Drawn		Drawning Number	
<b>PENTAX Precision Co.,Ltd.</b>				NOV. 22,'02		80036 Supplementary Table	



Supplementary Table 7.								
Macro-Focus Table (Shading Ring + C3516-M + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	52.6	0.8			10.6	8.0	7.7	5.8
5	46.4	1.0			9.0	6.8	6.6	4.9
10	41.8	1.1			7.9	5.9	5.7	4.3
15	38.3	1.3			6.9	5.2	5.0	3.8
20	35.5	1.4			6.2	4.7	4.5	3.4
25	33.3	1.6			5.6	4.2	4.1	3.1
30	31.4	1.7			5.1	3.9	3.7	2.8
35	29.8	1.9			4.7	3.6	3.4	2.6
40	28.5	2.0			4.4	3.3	3.2	2.4
45	27.3	2.2			4.1	3.1	3.0	2.2
50	26.3	2.3			3.8	2.9	2.8	2.1
55	25.4	2.4			3.6	2.7	2.6	2.0
60	24.6	2.6			3.4	2.5	2.5	1.9
65	23.9	2.7			3.2	2.4	2.3	1.8
70	23.3	2.9			3.0	2.3	2.2	1.7
75	22.7	3.0			2.9	2.2	2.1	1.6

Supplementary Table 8.								
Macro-Focus Table (Shading Ring + C3516-M + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	61.6	0.7	9.4	7.1	7.1	5.3	5.3	4.0
5	52.7	0.8	7.8	5.8	5.8	4.4	4.4	3.3
10	46.4	1.0	6.6	4.9	4.9	3.7	3.7	2.8
15	41.8	1.1	5.7	4.3	4.3	3.2	3.2	2.4
20	38.3	1.3	5.0	3.8	3.8	2.8	2.8	2.1
25	35.5	1.4	4.5	3.4	3.4	2.5	2.5	1.9
30	33.3	1.6	4.1	3.1	3.1	2.3	2.3	1.7
35	31.4	1.7	3.7	2.8	2.8	2.1	2.1	1.6
40	29.8	1.9	3.4	2.6	2.6	1.9	1.9	1.5
45	28.5	2.0	3.2	2.4	2.4	1.8	1.8	1.3
50	27.3	2.2	3.0	2.2	2.2	1.7	1.7	1.3
55	26.3	2.3	2.8	2.1	2.1	1.6	1.6	1.2
60	25.4	2.4	2.6	2.0	2.0	1.5	1.5	1.1
65	24.6	2.6	2.5	1.9	1.9	1.4	1.4	1.0
70	23.9	2.7	2.3	1.8	1.8	1.3	1.3	1.0
75	23.3	2.9	2.2	1.7	1.7	1.2	1.2	0.9

				Approved	Checked	Drawn	Drawing Title
							SPEC. SHEET
No.	Revisions	Date	By	Date Drawn		Drawnig Number	
<b>PENTAX Precision Co.,Ltd.</b>				NOV. 22,'02		80036 Supplementary Table	

Supplementary Table 9.								
Macro-Focus Table (Shading Ring + H1212B + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	16.3	2.8					2.3	1.7
5	15.7	3.2					2.0	1.5
10	15.3	3.6					1.8	1.3
15	15.0	4.0					1.6	1.2
20	14.7	4.4					1.4	1.1
25	14.4	4.9					1.3	1.0
30	14.2	5.3					1.2	0.9
35	14.1	5.7					1.1	0.8
40	13.9	6.1					1.1	0.8
45	13.8	6.5					1.0	0.7
50	13.7	6.9					0.9	0.7
55	13.6	7.3					0.9	0.7
60	13.5	7.7					0.8	0.6
65	13.4	8.1					0.8	0.6
70	13.4	8.5					0.7	0.6
75	13.3	9.0					0.7	0.5

Supplementary Table 10.								
Macro-Focus Table (Shading Ring + H1212B + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	17.0	2.4	2.7	2.0	2.0	1.5	1.5	1.1
5	16.3	2.8	2.3	1.7	1.7	1.3	1.3	1.0
10	15.7	3.2	2.0	1.5	1.5	1.1	1.1	0.8
15	15.3	3.6	1.8	1.3	1.3	1.0	1.0	0.7
20	15.0	4.0	1.6	1.2	1.2	0.9	0.9	0.7
25	14.7	4.4	1.4	1.1	1.1	0.8	0.8	0.6
30	14.4	4.8	1.3	1.0	1.0	0.7	0.7	0.6
35	14.2	5.3	1.2	0.9	0.9	0.7	0.7	0.5
40	14.1	5.7	1.1	0.8	0.8	0.6	0.6	0.5
45	13.9	6.1	1.1	0.8	0.8	0.6	0.6	0.4
50	13.8	6.5	1.0	0.7	0.7	0.6	0.6	0.4
55	13.7	6.9	0.9	0.7	0.7	0.5	0.5	0.4
60	13.6	7.3	0.9	0.7	0.7	0.5	0.5	0.4
65	13.5	7.7	0.8	0.6	0.6	0.5	0.5	0.3
70	13.4	8.1	0.8	0.6	0.6	0.4	0.4	0.3
75	13.4	8.5	0.7	0.6	0.6	0.4	0.4	0.3

				Approved	Checked	Drawn	Drawing Title
							SPEC. SHEET
No.	Revisions	Date	By				
<b>PENTAX Precision Co.,Ltd.</b>				Date Drawn NOV. 22,'02	Drawnig Number 80036 Supplementary Table		

Supplementary Table 11.

Macro-Focus Table (Shading Ring + C1614A + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	19.6	2.1			4.2	3.1	3.0	2.3
5	18.6	2.4			3.6	2.7	2.6	2.0
10	17.8	2.7			3.2	2.4	2.3	1.8
15	17.2	3.0			2.9	2.2	2.1	1.6
20	16.8	3.4			2.6	2.0	1.9	1.4
25	16.4	3.7			2.4	1.8	1.7	1.3
30	16.0	4.0			2.2	1.7	1.6	1.2
35	15.7	4.3			2.1	1.5	1.5	1.1
40	15.5	4.6			1.9	1.4	1.4	1.0
45	15.2	4.9			1.8	1.3	1.3	1.0
50	15.0	5.2			1.7	1.3	1.2	0.9
55	14.9	5.5			1.6	1.2	1.2	0.9
60	14.7	5.8			1.5	1.1	1.1	0.8
65	14.6	6.1			1.4	1.1	1.0	0.8
70	14.4	6.4			1.4	1.0	1.0	0.7
75	14.3	6.7			1.3	1.0	0.9	0.7

Supplementary Table 12.

Macro-Focus Table (Shading Ring + C1614A + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	20.9	1.8	3.5	2.7	2.7	2.0	2.0	1.5
5	19.6	2.1	3.0	2.3	2.3	1.7	1.7	1.3
10	18.6	2.4	2.6	2.0	2.0	1.5	1.5	1.1
15	17.9	2.7	2.3	1.8	1.8	1.3	1.3	1.0
20	17.3	3.0	2.1	1.6	1.6	1.2	1.2	0.9
25	16.8	3.4	1.9	1.4	1.4	1.1	1.1	0.8
30	16.4	3.7	1.7	1.3	1.3	1.0	1.0	0.7
35	16.0	4.0	1.6	1.2	1.2	0.9	0.9	0.7
40	15.7	4.3	1.5	1.1	1.1	0.8	0.8	0.6
45	15.5	4.6	1.4	1.0	1.0	0.8	0.8	0.6
50	15.2	4.9	1.3	1.0	1.0	0.7	0.7	0.6
55	15.0	5.2	1.2	0.9	0.9	0.7	0.7	0.5
60	14.9	5.5	1.2	0.9	0.9	0.7	0.7	0.5
65	14.7	5.8	1.1	0.8	0.8	0.6	0.6	0.5
70	14.6	6.1	1.0	0.8	0.8	0.6	0.6	0.4
75	14.4	6.4	1.0	0.7	0.7	0.6	0.6	0.4

				Approved	Checked	Drawn	Drawing Title
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No.	Revisions	Date	By	Date Drawn	Drawning Number		
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Drawning Number  
80036 Supplementary Table

Supplementary Table 13.								
Macro-Focus Table (Shading Ring + B2514D + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	37.9	1.0	13.1	9.9	9.1	6.8	6.6	5.0
5	33.4	1.2	10.9	8.2	7.6	5.7	5.5	4.1
10	30.3	1.4	9.3	7.0	6.4	4.8	4.7	3.5
15	27.9	1.6	8.1	6.1	5.6	4.2	4.1	3.1
20	26.1	1.8	7.2	5.4	5.0	3.7	3.6	2.7
25	24.7	2.0	6.5	4.9	4.5	3.4	3.3	2.4
30	23.5	2.2	5.9	4.4	4.1	3.1	3.0	2.2
35	22.5	2.4	5.4	4.0	3.7	2.8	2.7	2.0
40	21.7	2.6	5.0	3.7	3.4	2.6	2.5	1.9
45	21.0	2.8	4.6	3.4	3.2	2.4	2.3	1.7
50	20.4	3.0	4.3	3.2	3.0	2.2	2.2	1.6
55	19.9	3.2	4.0	3.0	2.8	2.1	2.0	1.5
60	19.4	3.4	3.8	2.8	2.6	2.0	1.9	1.4
65	19.0	3.6	3.6	2.7	2.5	1.9	1.8	1.3
70	18.6	3.8	3.4	2.5	2.3	1.8	1.7	1.3
75	18.3	4.0	3.2	2.4	2.2	1.7	1.6	1.2

Supplementary Table 14.								
Macro-Focus Table (Shading Ring + B2514D + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	44.7	0.8	8.4	6.3	6.3	4.7	4.7	3.5
5	37.9	1.0	6.6	5.0	5.0	3.7	3.7	2.8
10	33.4	1.2	5.5	4.1	4.1	3.1	3.1	2.3
15	30.3	1.4	4.7	3.5	3.5	2.6	2.6	2.0
20	28.0	1.6	4.1	3.1	3.1	2.3	2.3	1.7
25	26.1	1.8	3.6	2.7	2.7	2.0	2.0	1.5
30	24.7	2.0	3.3	2.4	2.4	1.8	1.8	1.4
35	23.5	2.2	3.0	2.2	2.2	1.7	1.7	1.2
40	22.5	2.4	2.7	2.0	2.0	1.5	1.5	1.1
45	21.7	2.6	2.5	1.9	1.9	1.4	1.4	1.1
50	21.0	2.8	2.3	1.7	1.7	1.3	1.3	1.0
55	20.4	3.0	2.2	1.6	1.6	1.2	1.2	0.9
60	19.9	3.2	2.0	1.5	1.5	1.1	1.1	0.9
65	19.4	3.4	1.9	1.4	1.4	1.1	1.1	0.8
70	19.0	3.6	1.8	1.3	1.3	1.0	1.0	0.8
75	18.6	3.8	1.7	1.3	1.3	1.0	1.0	0.7

				Approved	Checked	Drawn	Drawing Title
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No.	Revisions	Date	By	Date Drawn	Drawning Number		
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Supplementary Table 15.								
Macro-Focus Table (Shading Ring + H1212A + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	15.6	3.7	/	/	/	/	1.7	1.3
5	15.2	4.1	/	/	/	/	1.6	1.2
10	14.9	4.5	/	/	/	/	1.4	1.1
15	14.7	4.9	/	/	/	/	1.3	1.0
20	14.5	5.3	/	/	/	/	1.2	0.9
25	14.4	5.7	/	/	/	/	1.1	0.8
30	14.2	6.1	/	/	/	/	1.0	0.8
35	14.1	6.5	/	/	/	/	1.0	0.7
40	14.0	6.9	/	/	/	/	0.9	0.7
45	13.9	7.4	/	/	/	/	0.9	0.7
50	13.8	7.8	/	/	/	/	0.8	0.6
55	13.7	8.2	/	/	/	/	0.8	0.6
60	13.6	8.6	/	/	/	/	0.7	0.6
65	13.6	9.0	/	/	/	/	0.7	0.5
70	13.5	9.4	/	/	/	/	0.7	0.5
75	13.5	9.8	/	/	/	/	0.7	0.5

Supplementary Table 16.								
Macro-Focus Table (Shading Ring + H1212A + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	16.0	3.2	2.0	1.5	1.5	1.1	1.1	0.8
5	15.6	3.7	1.7	1.3	1.3	1.0	1.0	0.7
10	15.2	4.1	1.6	1.2	1.2	0.9	0.9	0.7
15	14.9	4.5	1.4	1.1	1.1	0.8	0.8	0.6
20	14.7	4.9	1.3	1.0	1.0	0.7	0.7	0.6
25	14.5	5.3	1.2	0.9	0.9	0.7	0.7	0.5
30	14.4	5.7	1.1	0.8	0.8	0.6	0.6	0.5
35	14.2	6.1	1.0	0.8	0.8	0.6	0.6	0.4
40	14.1	6.5	1.0	0.7	0.7	0.6	0.6	0.4
45	14.0	6.9	0.9	0.7	0.7	0.5	0.5	0.4
50	13.9	7.4	0.9	0.7	0.7	0.5	0.5	0.4
55	13.8	7.8	0.8	0.6	0.6	0.5	0.5	0.3
60	13.7	8.2	0.8	0.6	0.6	0.4	0.4	0.3
65	13.6	8.6	0.7	0.6	0.6	0.4	0.4	0.3
70	13.6	9.0	0.7	0.5	0.5	0.4	0.4	0.3
75	13.5	9.4	0.7	0.5	0.5	0.4	0.4	0.3

				Approved	Checked	Drawn	Drawing Title
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Supplementary Table 17.

Macro-Focus Table (Shading Ring + C1614 + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	18.6	2.5			3.5	2.6	2.5	1.9
5	17.9	2.9			3.1	2.3	2.2	1.7
10	17.3	3.2			2.8	2.1	2.0	1.5
15	16.9	3.5			2.5	1.9	1.8	1.4
20	16.5	3.8			2.3	1.7	1.7	1.3
25	16.2	4.1			2.1	1.6	1.6	1.2
30	15.9	4.4			2.0	1.5	1.5	1.1
35	15.7	4.7			1.9	1.4	1.4	1.0
40	15.5	5.0			1.8	1.3	1.3	1.0
45	15.3	5.3			1.7	1.2	1.2	0.9
50	15.1	5.6			1.6	1.2	1.1	0.9
55	15.0	5.9			1.5	1.1	1.1	0.8
60	14.8	6.3			1.4	1.1	1.0	0.8
65	14.7	6.6			1.3	1.0	1.0	0.7
70	14.6	6.9			1.3	1.0	0.9	0.7
75	14.5	7.2			1.2	0.9	0.9	0.7

Supplementary Table 18.

Macro-Focus Table (Shading Ring + C1614 + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	19.5	2.2	2.9	2.1	2.1	1.6	1.6	1.2
5	18.6	2.5	2.5	1.9	1.9	1.4	1.4	1.1
10	17.9	2.9	2.2	1.7	1.7	1.3	1.3	0.9
15	17.3	3.2	2.0	1.5	1.5	1.1	1.1	0.9
20	16.9	3.5	1.8	1.4	1.4	1.0	1.0	0.8
25	16.5	3.8	1.7	1.3	1.3	1.0	1.0	0.7
30	16.2	4.1	1.6	1.2	1.2	0.9	0.9	0.7
35	15.9	4.4	1.5	1.1	1.1	0.8	0.8	0.6
40	15.7	4.7	1.4	1.0	1.0	0.8	0.8	0.6
45	15.5	5.0	1.3	1.0	1.0	0.7	0.7	0.5
50	15.3	5.3	1.2	0.9	0.9	0.7	0.7	0.5
55	15.1	5.6	1.1	0.9	0.9	0.6	0.6	0.5
60	15.0	5.9	1.1	0.8	0.8	0.6	0.6	0.5
65	14.8	6.3	1.0	0.8	0.8	0.6	0.6	0.4
70	14.7	6.6	1.0	0.7	0.7	0.5	0.5	0.4
75	14.6	6.9	0.9	0.7	0.7	0.5	0.5	0.4

				Approved	Checked	Drawn	Drawing Title
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Supplementary Table 19.

Macro-Focus Table (Shading Ring + B2514C-2 + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	31.8	1.3	10.0	7.5	6.9	5.2	5.0	3.8
5	29.2	1.5	8.6	6.5	6.0	4.5	4.3	3.3
10	27.2	1.7	7.6	5.7	5.3	3.9	3.8	2.9
15	25.6	1.9	6.8	5.1	4.7	3.5	3.4	2.6
20	24.3	2.1	6.1	4.6	4.2	3.2	3.1	2.3
25	23.2	2.3	5.6	4.2	3.9	2.9	2.8	2.1
30	22.3	2.5	5.1	3.9	3.6	2.7	2.6	1.9
35	21.6	2.7	4.7	3.6	3.3	2.5	2.4	1.8
40	20.9	2.9	4.4	3.3	3.1	2.3	2.2	1.7
45	20.4	3.1	4.1	3.1	2.9	2.1	2.1	1.6
50	19.9	3.3	3.9	2.9	2.7	2.0	2.0	1.5
55	19.4	3.5	3.7	2.7	2.5	1.9	1.8	1.4
60	19.0	3.7	3.5	2.6	2.4	1.8	1.7	1.3
65	18.7	3.9	3.3	2.5	2.3	1.7	1.7	1.2
70	18.4	4.1	3.1	2.3	2.2	1.6	1.6	1.2
75	18.1	4.3	3.0	2.2	2.1	1.5	1.5	1.1

Supplementary Table 20.

Macro-Focus Table (Shading Ring + B2514C-2 + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0	35.5	1.1	6.0	4.5	4.5	3.4	3.4	2.5
5	31.9	1.3	5.0	3.8	3.8	2.8	2.8	2.1
10	29.2	1.5	4.3	3.3	3.3	2.4	2.4	1.8
15	27.2	1.7	3.8	2.9	2.9	2.2	2.2	1.6
20	25.6	1.9	3.4	2.6	2.6	1.9	1.9	1.4
25	24.3	2.1	3.1	2.3	2.3	1.7	1.7	1.3
30	23.2	2.3	2.8	2.1	2.1	1.6	1.6	1.2
35	22.3	2.5	2.6	1.9	1.9	1.5	1.5	1.1
40	21.6	2.7	2.4	1.8	1.8	1.3	1.3	1.0
45	20.9	2.9	2.2	1.7	1.7	1.3	1.3	0.9
50	20.4	3.1	2.1	1.6	1.6	1.2	1.2	0.9
55	19.9	3.3	2.0	1.5	1.5	1.1	1.1	0.8
60	19.4	3.5	1.8	1.4	1.4	1.0	1.0	0.8
65	19.0	3.7	1.7	1.3	1.3	1.0	1.0	0.7
70	18.7	3.9	1.7	1.2	1.2	0.9	0.9	0.7
75	18.4	4.1	1.6	1.2	1.2	0.9	0.9	0.7

				Approved	Checked	Drawn	Drawing Title
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				NOV. 22,'02	80036 Supplementary Table		

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Supplementary Table 21.

Macro-Focus Table (Shading Ring + B5018A-3 + Reverse Ring + Extension Tube + C-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1 Format		2/3 Format		1/2 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0								
5								
10								
15								
20								
25								
30								
35								
40								
45								
50								
55	61.8	1.0	12.6	9.5	8.7	6.6	6.4	4.8
60	57.3	1.1	11.5	8.6	8.0	6.0	5.8	4.3
65	53.6	1.2	10.5	7.9	7.3	5.5	5.3	4.0
70	50.4	1.3	9.7	7.3	6.7	5.1	4.9	3.7
75	47.7	1.4	9.0	6.8	6.3	4.7	4.5	3.4

Supplementary Table 22.

Macro-Focus Table (Shading Ring + B5018A-3 + Reverse Ring + Extension Tube + CS-Mount Camera)								
Extension Tube Length [mm]	Working Distance [mm]	Magnification	Field of View [mm]					
			1/2 Format		1/3 Format		1/4 Format	
			Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
0								
5								
10								
15								
20								
25								
30								
35								
40								
45								
50								
55								
60	61.9	1.0	6.4	4.8	4.8	3.6	3.6	2.7
65	57.4	1.1	5.8	4.3	4.3	3.3	3.3	2.4
70	53.6	1.2	5.3	4.0	4.0	3.0	3.0	2.2
75	50.4	1.3	4.9	3.7	3.7	2.8	2.8	2.1

				Approved	Checked	Drawn	Drawing Title	
							SPEC. SHEET	
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