

Macro Lenses / Objective Lenses / A.E. Rings for Objective Lenses

Low/High Magnification

Objective Lenses / A.E. Rings Mounting Conversion Chart

Macro Lens - Low Magnification

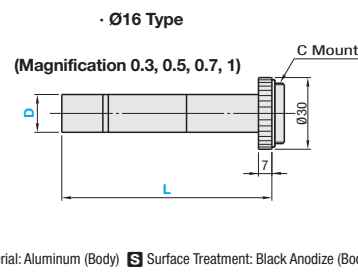
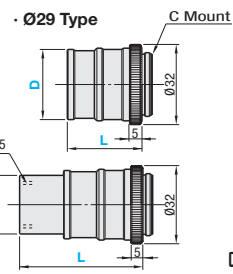


RoHS 10

LFSL

(Magnification 0.3)

(Magnification 0.5/1.0)



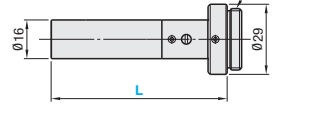
Material: Aluminum (Body) Surface Treatment: Black Anodize (Body)

Macro Lens - High Magnification



RoHS 10

LFSHA (Precision Grade)



LFSHB (General Purpose)



Material: Aluminum (Body) Surface Treatment: Black Anodize (Body)

Low Magnification

Part Number	D	L	WD	Resolution μ m	Depth of Field (mm)	Weight (g)	Unit Price	Volume Discount Rate
Type	Magnification						1 - 4 pc(s)	5 - 20 pcs.
LFSL	0.3	16	242	14.5	4.38	23		
		29	29.8	90	14	4	39	
	0.5	16	35	105	6.4	1.19	20	
			42	118	7.2	1.35	21.5	
			50	139	8.6	1.55	23	
			60	162	9.8	1.82	25	
	29	50.5	90	8	2.4	55		
0.7	16	41	84	5.2	0.67	21.5		
		69	129	7.9	1.03	26		
1	16	50	68	4.2	0.4	23		
			57.5	77	4.7	0.45	25	
		68.5	90	5.5	0.52	26		
		99	128	7.4	1.2	35		
	29	92.6	90	5	0.8	68		

For orders larger than indicated quantity, please check with WOS.

High Magnification

Part Number	L	WD	Resolution μ m	Depth of Field (mm)	Weight (g)	Unit Price	Volume Discount Rate
Type	Magnification					1 - 4 pc(s)	5 - 20 pcs.
LFSHA	2	72.8	75	3.3	0.4	35	
	4	103.8			0.2	40	
LFSHB	2	90	56	3.4	0.28	33	
			113	63	3.9	0.32	40
		125	77	4.7	0.38	43	
	4	158	45	2.8	0.12	53	
			186	52	3.2	0.14	60
		6	198	37	2.3	0.06	65

Ordering Example: Part Number LFSL0.5 - 29 - 50.5, LFSHB4 - 29 - 158. For orders larger than indicated quantity, please check with WOS.

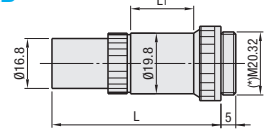
Features: The combination of the objective lens, generally used for microscopes, with a macro ring can be used as an economical FA image inspection lens. For selection, see P.2028, 2030

Objective Lens



RoHS 10

LTAB



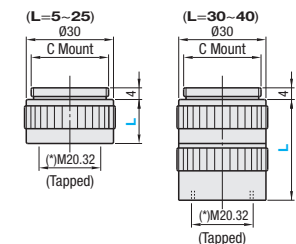
Material: Aluminum (Body) Surface Treatment: Black Anodize (Body)

Auto Extension Rings for Objective Lenses



RoHS 10

LTABA



Material: Aluminum (Body) Surface Treatment: Black Anodize (Body)

(*) Thread size specific to microscope-related products. The combination of LTAB and LTABA can be used as the C Mount FA lens. (See P.2028, 2030)

Objective Lens

Part Number	Resolution μ m	Depth of Field (mm)	L	L ₁	Weight (g)	Unit Price	Volume Discount Rate
Type	Magnification					1 - 4 pc(s)	5 - 20 pcs.
LTAB	3	4.8	0.124	42	7	24	
	4	3.7	0.074	56	21	28	
	6	2.4	0.031	71.5	34	37	
	8	2.2	0.024	79	41	43	

For orders larger than indicated quantity, please check with WOS. Data in the above table are the values for lens only and it will be changed depending on the combination of auto extension ring. P.2030

Auto Extension Rings for Objective Lenses

Part Number	Weight (g)	Unit Price	Volume Discount Rate
Type	L		1 - 4 pc(s)
LTABA	5	7	
	10	12	
	15	17	
	20	22	
	25	27	
	30	28	
	35	32.5	
	40	37	

For orders larger than indicated quantity, please check with WOS.

Ordering Example: Part Number LTAB3, LTABA10. Most suitable for cost sensitive applications not requiring high quality imaging.

The Field of View and Monitor Magnification with Auto Extension Ring mounted to the Objective Lens

Auto Extension Ring No.	Objective Lens No.	CCD Camera Size and Field of View (Length x Width mm)			CCD Camera Size and Monitor Magnification (9 Inch Monitor)			Shooting Distance WD
		2/3 inch	1/2 inch	1/3 inch	2/3 inch	1/2 inch	1/3 inch	
5	3	32x41	24x31	18x24	4	6	7	330
	4	8.2x10.8	6x8	4.8x6.2	16	21	28	100
	6	3.3x4.5	2.6x3.4	2x2.6	38	50	67	47
	8	2.2x2.9	1.6x2.2	1.3x1.7	59	78	104	33
10	3	20.5x27	15.5x20.5	12x15.5	6	8	11	230
	4	7x9.3	5.3x7	4x5.3	18	24	32	93
	6	3.1x4	2.4x3.2	1.8x2.4	41	54	73	45
15	3	15.4x20	11x15	9x11.5	9	12	15	181
	4	6.2x8	4.7x6.1	3.5x4.8	21	28	37	86
	6	2.9x3.8	2.2x2.9	1.6x2.2	45	59	77	43
20	3	12x16	9x12	7x9	11	14	19	153
	4	5.5x7.1	4.1x5.4	3.1x4.1	24	31	42	81
	6	2.7x3.4	2x2.7	1.5x2	48	65	83	42
25	3	10x13	7.5x10	5.7x7.5	13	17	23	135
	4	5x6.3	3.8x5	2.9x3.8	26	34	46	77
	6	2.5x3.2	1.9x2.5	1.4x1.9	51	69	89	41
30	3	8.5x11	6.5x8.5	5x6.5	16	20	27	122
	4	4.5x5.9	3.3x4.4	2.6x3.4	29	38	51	73
	6	2.3x3	1.8x2.3	1.3x1.8	54	73	96	40
35	3	7.4x9.8	5.7x7.3	4.2x5.7	18	23	30	112
	4	4x5.3	3x4	2.3x3.1	31	42	55	70
	6	2.2x2.9	1.7x2.2	1.3x1.7	58	77	103	39
40	3	6.6x8.5	5x6.5	3.9x5	20	26	34	105
	4	3.8x5	2.8x3.8	2.2x2.9	35	45	59	68
	6	2.1x2.8	1.6x2.1	1.2x1.6	61	81	109	39
	8	1.5x1.9	1.1x1.5	0.8x1.1	89	118	154	30

Monitor Magnification: Magnification of each lens and expansion of magnification on the monitor with the actual size of CCD camera. Data in the above table are only for reference, which are obtained through our actual measurements using 9 inches monitor. Note that when the monitor size is different, its value will be different because the size of monitor and monitor magnification are proportional. CCD Camera Used: 400,000 Pixels, Resolution: 570 Pairs in TV (Horizontal Resolution)