

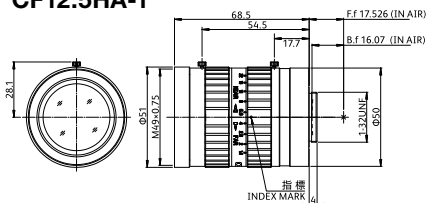
CF-HA series, 1", 9.1μm, 1.5MP

- Low distortion
- Large maximum aperture

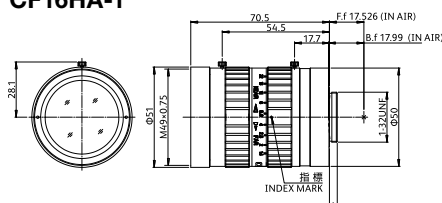


	CF12.5HA-1	CF16HA-1	CF25HA-1	CF35HA-1	CF50HA-1	CF75HA-1
Focal length [mm]	12.5	16	25	35	50	75
Iris range [F. no]	F1.4-F22	F1.4-F22	F1.4-F22	F1.4-F22	F1.8-F22	F1.8-F22
Angle of view : 1"	53.1°x41.2°	42.6°x32.8°	29.9°x22.7°	20.3°x15.3°	14.1°x10.6°	9.8°x7.3°
Working Distance*1 [mm]	∞-100	∞-100	∞-100	∞-200	∞-400	∞-900
Operation of focus	Manual	Manual	Manual	Manual	Manual	Manual
Operation of iris	Manual	Manual	Manual	Manual	Manual	Manual
Filter thread [mm]	M49x0.75	M49x0.75	M49x0.75	M49x0.75	M49x0.75	M49x0.75
Mount	C-mount	C-mount	C-mount	C-mount	C-mount	C-mount
Weight (approx.) [g]	290	280	310	180	235	300
Sensor size (std.)*2	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)
Sensor size (max.)*3	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)	1"(9.1μm)
TV distortion [%]	0.86	0.79	0.36	0.18	0.20	0.01
Dimension [mm]	ø51x68.5	ø51x70.5	ø51x75.5	ø51x48.5	ø51x55.5	ø51x76

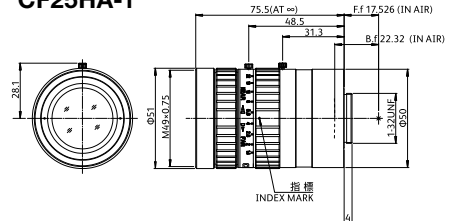
CF12.5HA-1



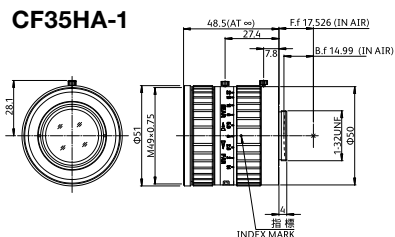
CF16HA-1



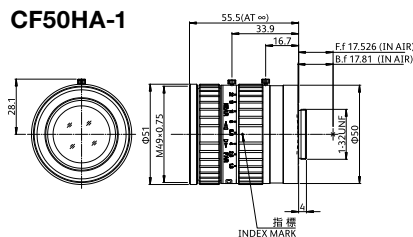
CF25HA-1



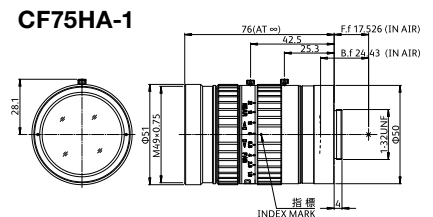
CF35HA-1



CF50HA-1



CF75HA-1



*1 From front of lens barrel. *2 Sensor size(std.): Ideal size to maximize the target resolution.

*3 Sensor size(max.): Adaptable sensor size varies depending on the model. Please check the amount of light and resolution on the edges pertaining to your particular application.

CF-HA series

CF12.5HA-1

Working Distance [mm]	Optical Magnification	Extension Tube [mm]	Field of View [mm]					
			1"		2/3"		1/2"	
			H	V	H	V	H	V
1000	0.013x	-	1024.8	769.8	705.4	528.0	511.9	383.3
950	0.013x	-	974.8	732.2	670.9	502.2	486.9	364.6
900	0.014x	-	924.8	694.6	636.4	476.4	461.8	345.8
850	0.015x	-	874.8	657.0	601.9	450.5	436.8	327.1
800	0.016x	-	824.8	619.4	567.5	424.7	411.8	308.3
750	0.017x	-	774.8	581.8	533.0	398.9	386.7	289.6
700	0.018x	-	724.8	544.1	498.5	373.1	361.7	270.8
650	0.019x	-	674.8	506.5	464.1	347.3	336.7	252.1
600	0.021x	-	624.8	468.9	429.6	321.5	311.7	233.3
550	0.022x	-	574.8	431.3	395.1	295.6	286.6	214.6
500	0.025x	-	524.8	393.7	360.6	269.8	261.6	195.8
450	0.027x	-	474.8	356.1	326.2	244.0	236.6	177.1
400	0.030x	-	424.8	318.5	291.7	218.2	211.5	158.3
350	0.034x	-	374.8	280.9	257.2	192.4	186.5	139.6
300	0.040x	-	324.8	243.2	222.8	166.6	161.5	120.8
250	0.047x	-	274.7	205.6	188.3	140.7	136.4	102.1
200	0.058x	-	224.7	168.0	153.8	114.9	111.4	83.4
150	0.075x	-	174.7	130.4	119.3	89.1	86.4	64.6
100	0.105x	-	124.7	92.8	84.9	63.3	61.3	45.9

CF16HA-1

Working Distance [mm]	Optical Magnification	Extension Tube [mm]	Field of View [mm]					
			1"		2/3"		1/2"	
			H	V	H	V	H	V
1000	0.016x	-	806.4	606.5	556.0	416.9	404.3	303.1
950	0.017x	-	767.4	577.1	529.1	396.7	384.7	288.4
900	0.018x	-	728.4	547.7	502.1	376.5	365.1	273.7
850	0.019x	-	689.4	518.3	475.2	356.3	345.5	259.0
800	0.020x	-	650.4	488.9	448.2	336.0	325.8	244.3
750	0.021x	-	611.4	459.6	421.3	315.8	306.2	229.6
700	0.022x	-	572.4	430.2	394.3	295.6	286.6	214.8
650	0.024x	-	533.4	400.8	367.4	275.4	267.0	200.1
600	0.026x	-	494.3	371.4	340.4	255.2	247.4	185.4
550	0.028x	-	455.3	342.0	313.5	234.9	227.8	170.7
500	0.031x	-	416.3	312.6	286.5	214.7	208.2	156.0
450	0.034x	-	377.3	283.2	259.6	194.5	188.6	141.3
400	0.038x	-	338.3	253.8	232.6	174.3	169.0	126.6
350	0.043x	-	299.3	224.4	205.7	154.0	149.4	111.9
300	0.049x	-	260.3	195.1	178.7	133.8	129.7	97.2
250	0.058x	-	221.2	165.7	151.8	113.6	110.1	82.5
200	0.071x	-	182.2	136.3	124.8	93.4	90.5	67.8
150	0.091x	-	143.2	106.9	97.9	73.1	70.9	53.1
100	0.126x	-	104.2	77.5	70.9	52.9	51.3	38.4

CF25HA-1

Working Distance [mm]	Optical Magnification	Extension Tube [mm]	Field of View [mm]					
			1"		2/3"		1/2"	
			H	V	H	V	H	V
1000	0.023x	-	551.0	413.0	378.4	283.4	274.8	205.9
950	0.025x	-	524.2	392.9	360.0	269.6	261.4	195.9
900	0.026x	-	497.5	372.9	341.6	255.9	248.1	185.9
850	0.027x	-	470.8	352.8	323.2	242.1	234.7	175.9
800	0.029x	-	444.1	332.7	304.9	228.3	221.4	165.9
750	0.031x	-	417.3	312.7	286.5	214.5	208.0	155.9
700	0.033x	-	390.6	292.6	268.1	200.8	194.7	145.8
650	0.035x	-	363.9	272.6	249.7	187.0	181.3	135.8
600	0.038x	-	337.2	252.5	231.3	173.2	167.9	125.8
550	0.042x	-	310.4	232.4	212.9	159.4	154.6	115.8
500	0.045x	-	283.7	212.4	194.6	145.7	141.2	105.8
450	0.050x	-	257.0	192.3	176.2	131.9	127.9	95.8
400	0.056x	-	230.2	172.3	157.8	118.1	114.5	85.8
350	0.063x	-	203.5	152.2	139.4	104.3	101.1	75.8
300	0.073x	-	176.8	132.1	121.0	90.5	87.8	65.7
250	0.086x	-	150.0	112.1	102.6	76.8	74.4	55.7
200	0.105x	-	123.3	92.0	84.2	63.0	61.1	45.7
150	0.135x	-	96.5	71.9	65.9	49.2	47.7	35.7
100	0.187x	-	69.8	51.9	47.5	35.4	34.3	25.7

CF35HA-1

Working Distance [mm]	Optical Magnification	Extension Tube [mm]	Field of View [mm]					
			1"		2/3"		1/2"	
			H	V	H	V	H	V
1000	0.035x	-	362.6	271.9	249.2	186.9	181.2	135.9
950	0.037x	-	344.7	258.4	236.9	177.6	172.2	129.2
900	0.039x	-	326.9	245.0	224.6	168.4	163.3	122.5
850	0.041x	-	309.0	231.6	212.3	159.2	154.3	115.7
800	0.044x	-	291.1	218.2	200.0	149.9	145.4	109.0
750	0.047x	-	273.3	204.8	187.7	140.7	136.4	102.3
700	0.050x	-	255.4	191.4	175.4	131.5	127.5	95.6
650	0.054x	-	237.5	177.9	163.1	122.2	118.5	88.9
600	0.058x	-	219.7	164.5	150.8	113.0	109.6	82.2
550	0.064x	-	201.8	151.1	138.5	103.8	100.6	75.5
500	0.070x	-	183.9	137.7	126.2	94.6	91.7	68.7
450	0.077x	-	166.0	124.3	113.9	85.3	82.7	62.0
400	0.087x	-	148.1	110.8	101.6	76.1	73.8	55.3
350	0.099x	-	130.2	97.4	89.3	66.9	64.8	48.6
300	0.115x	-	112.3	84.0	76.9	57.6	55.9	41.9
250	0.137x	-	94.4	70.6	64.6	48.4	46.9	35.2
200	0.169x	-	76.5	57.1	52.3	39.2	38.0	28.4
150	0.221x	2	58.5	43.7	40.0	29.9	29.0	21.7
100	0.320x	10	40.5	30.2	27.6	20.7	20.0	15.0

CF50HA-1

Working Distance [mm]	Optical Magnification	Extension Tube [mm]	Field of View [mm]					
			1"		2/3"		1/2"	
			H	V	H	V	H	V
1500	0.034x	-	371.4	278.7	255.5	191.6	185.8	139.4
1450	0.036x	-	359.1	269.4	247.0	185.3	179.7	134.8
1400	0.037x	-	346.8	260.2	238.5	178.9	173.5	130.1
1350	0.038x	-	334.4	250.9	230.0	172.5	167.3	125.5
1300	0.040x	-	322.1	241.6	221.5	166.1	161.1	120.8
1250	0.041x	-	309.7	232.4	213.0	159.8	154.9	116.2
1200	0.043x	-	297.4	223.1	204.5	153.4	148.7	111.6
1150	0.045x	-	285.1	213.8	196.0	147.0	142.6	106.9
1100	0.047x	-	272.7	204.6	187.5	140.6	136.4	102.3
1050	0.049x	-	260.4	195.3	179.0	134.3	130.2	97.6
1000	0.052x	-	248.0	186.0	170.5	127.9	124.0	93.0
950	0.054x	-	235.7	176.7	162.0	121.5	117.8	88.4
900	0.057x	-	223.4	167.5	153.5	115.1	111.6	83.7
850	0.061x	-	211.0	158.2	145.0	108.7	105.4	79.1
800	0.064x	-	198.7	148.9	136.5	102.4	99.3	74.4
750	0.069x	-	186.3	139.7	128.0	96.0	93.1	69.8
700	0.074x	-	174.0	130.4	119.5	89.6	86.9	65.2
650	0.079x	-	161.6	121.1	111.0	83.2	80.7	60.5
600	0.086x	-	149.3	111.9	102.5	76.9	74.5	55.9
550	0.094x	-	136.9	102.6	94.0	70.5	68.3	51.2
500	0.103x	-	124.6	93.3	85.5	64.1	62.2	46.6
450	0.114x	-	112.2	84.0	77.0	57.7	56.0	42.0
400	0.129x	-	99.8	74.8	68.5	51.3	49.8	37.3
350	0.147x	1	87.5	65.5	60.0	45.0	43.6	32.7
300	0.171x	5	75.1	56.2	51.5	38.6	37.4	28.0
250	0.205x	5	62.7	46.9	43.0	32.2	31.2	23.4
200	0.256x	10	50.3	37.6	34.5	25.8	25.0	18.8
150	0.340x	15	37.9	28.3	25.9	19.4	18.8	14.1
100	0.507x	20	25.4	19.0	17.4	13.0	12.6	9.5

CF75HA-1

Working Distance [mm]	Optical Magnification	Extension Tube [mm]	Field of View [mm]					
			1"		2/3"		1/2"	
			H	V	H	V	H	V
2000	0.038x	-	335.8	251.8	230.8	173.1	167.9	125.9
1950	0.039x	-	327.3	245.4	225.0	168.7	163.6	122.7
1900	0.040x	-	318.8	239.0	219.1	164.3	159.3	119.5
1850	0.041x	-	310.2	232.6	213.2	159.9	155.1	116.3
1800	0.042x	-	301.7	226.2	207.4	155.5	150.8	113.1
1750	0.044x	-	293.2	219.8	201.5	151.1	146.5	109.9
1700	0.045x	-	284.6	213.4	195.6	146.7	142.3	106.7
1650	0.046x	-	276.1	207.0	189.8	142.3	138.0	103.5
1600	0.048x	-	267.6	200.6	183.9	137.9	133.7	100.3
1550	0.049x	-	259.0	194.2	178.0	133.5	129.5	97.1
1500	0.051x	-	250.5	187.8	172.2	129.1	125.2	93.9
1450	0.053x	-	242.0	181.4	166.3	124.7	120.9	90.7
1400	0.055x	-	233.4	175.0	160.4	120.3	116.7	87.5
1350	0.057x	-	224.9	168.6	154.6	115.9	112.4	84.3
1300	0.059x	-	216.4	162.2	148.7	111.5	108.1	81.1
1250	0.062x	-	207.8	155.8	142.8	107.1	103.9	77.9
1200	0.064x	-	199.3	149.4	137.0	102.7	99.6	74.7
1150	0.067x	-	190.8	143.0	131.1	98.3	95.3	71.5