

VS-LD系列

低失真低倍镜头

LD系列是用于近距离摄影的低失真微距镜头。备有焦点距离 $f=4\text{mm} \sim f=75\text{mm}$ 之间的10个机种。

从低倍广角低失真型镜头到长工作距离型镜头皆可应需要进行选择。

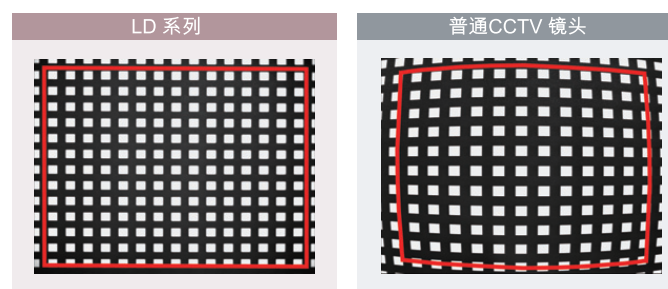
本系列的最大特征是镜筒的旋转延长量大,可广泛地调整倍率与工作距离。

在光学设计上适用于百万像素相机,并在近距离摄影时极大地减轻了失真现象,实现高对比度图像输入。

此系列非常适用于图像检查,测量,文字认识与高精度图像输入等项目。

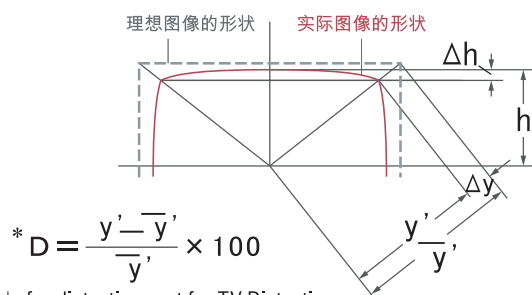
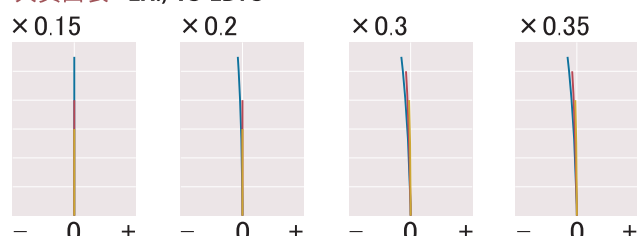


适用于百万像素相机的高解析度



什么是变形失真?

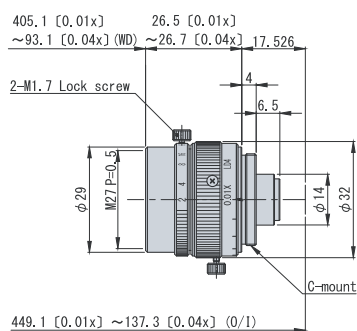
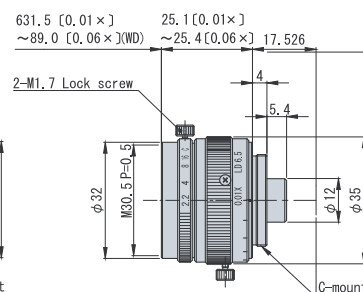
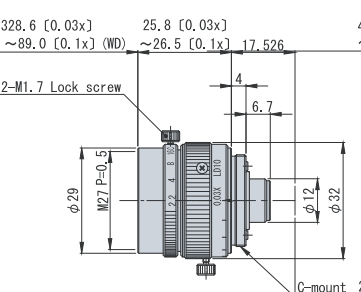
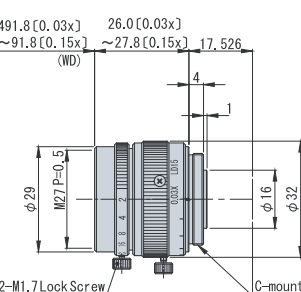
失真图表 EX.) VS-LD75



* Formula for distortion, not for TV Distortion.

旋转延长量的比较

LD系列与以往的CCTV一样,具有变焦结构和可调光圈。LD系列镜筒的旋转延长量大,可广泛地调整倍率与工作距离。涵盖的全倍率低失真,周边光亮高,可实现高对比度图像输入。

**VS-LD4**405.1 [0.01x] ~ 26.5 [0.01x] 17.526
~93.1 [0.04x] (WD) ~26.7 [0.04x]
2-M1.7 Lock screw
4
6.5
4
6.5
27 P=0.5
29
27
14
32
C-mount
449.1 [0.01x] ~ 137.3 [0.04x] (O/I)**VS-LD6.5**631.5 [0.01x] ~ 25.1 [0.01x] 17.526
~89.0 [0.06x] (WD) ~25.4 [0.06x]
2-M1.7 Lock screw
4
5.4
4
5.4
30.5 P=0.5
32
30.5
12
35
C-mount
674.1 [0.01x] ~ 131.9 [0.06x] (O/I)**VS-LD10**328.6 [0.03x] ~ 25.8 [0.03x] 17.526
~89.0 [0.1x] (WD) ~26.5 [0.1x]
2-M1.7 Lock screw
4
6.7
4
6.7
27 P=0.5
29
27
12
32
C-mount
371.9 [0.03x] ~ 133.0 [0.1x] (O/I)**VS-LD15**491.8 [0.03x] ~ 26.0 [0.03x] 17.526
~91.8 [0.15x] (WD) ~27.8 [0.15x]
2-M1.7 Lock Screw
4
1
4
1
27 P=0.5
29
27
16
32
C-mount
535.3 [0.03x] ~ 137.1 [0.15x] (O/I)

规格	VS-LD4				VS-LD6.5				VS-LD10				VS-LD15			
焦距距离(f) mm	4				6.5				10				15			
变倍范围	0.01x ~ 0.04x				0.01x ~ 0.06x				0.03x ~ 0.1x				0.03x ~ 0.15x			
光学倍率	0.01x	0.016x	0.03x	0.04x	0.01x	0.02x	0.04x	0.06x	0.03x	0.05x	0.08x	0.1x	0.03x	0.06x	0.1x	0.15x
视场2/3"(VxHmm)	-	-	-	-	-	-	-	-	-	-	-	-	220x293.3	110x146.7	66x88	44x58.7
视场1/2"(VxHmm)	480x640	300x400	160x213.3	120x160	480x640	240x320	120x160	80x106.7	160x213.3	96x128	60x80	48x64	160x213.3	80x106.7	48x64	32x42.7
视场1/3"(VxHmm)	360x480	225x300	120x160	90x120	360x480	180x240	90x120	60x80	120x160	72x96	45x60	36x48	120x160	60x80	36x48	24x32
WD (mm)	405.1	249.1	127.8	93.1	631.5	306.0	143.3	89.0	328.6	191.7	114.6	89.0	491.8	241.8	141.8	91.8
物像间距离 O/I (mm)	449.1	293.1	171.8	137.3	674.1	348.6	186.0	131.9	371.9	235.2	158.5	133.0	535.3	285.7	186.3	137.1
实效 F *1	2.10	2.11	2.14	2.16	2.28	2.31	2.35	2.4	2.24	2.31	2.38	2.42	2.06	2.12	2.2	2.3
景深(mm) *2	1680.0	659.4	190.2	108.0	1824.0	462.0	117.5	53.3	448	73.9	29.8	19.4	183.1	47.1	17.6	8.2
TV失真	0.95%	0.95%	0.93%	0.92%	0.11%	0.09%	0.04%	-0.01%	0.08%	0.04%	-0.05%	-0.08%	0.11%	0.09%	0.03%	0.00%
光圈·调焦操作	手动				手动				手动				手动			
光圈·调焦固定螺丝	○				○				○				○			
重量	约52g				约50g				约46g				约46g			
兼容CCD / 接口	1/2"以下 / C接口				1/2"以下 / C接口				1/2"以下 / C接口				2/3"以下 / C接口			
镜头旋转最大延长量	0.2mm				0.3mm				0.7mm				1.8mm			

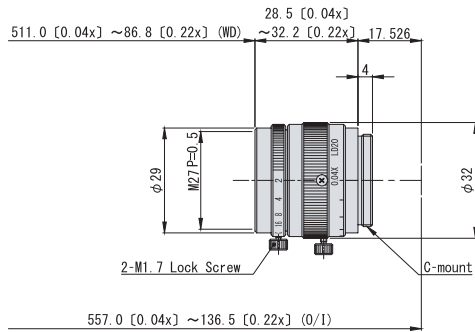
*1 光圈开放时

*2 容许错乱圆径φ0.04mm

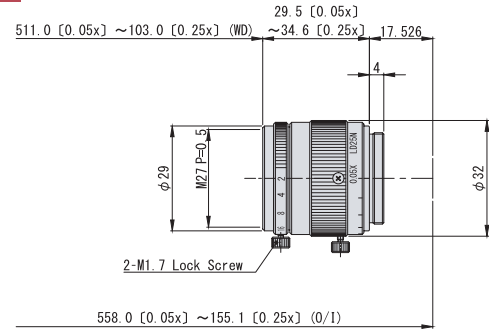
Distortionless Macro Lens VS-LD Series



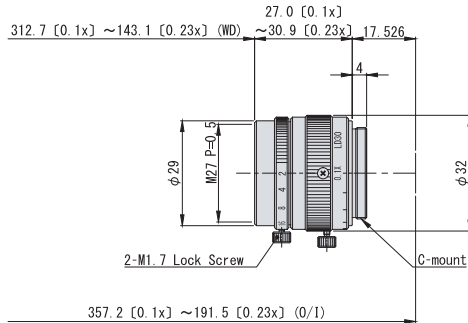
VS-LD20



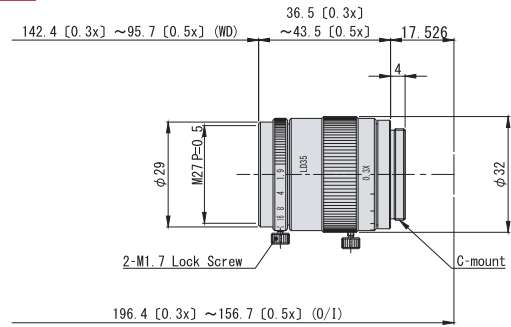
VS-LD25N



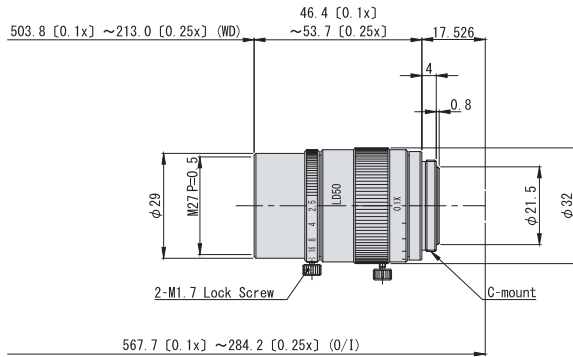
VS-LD30



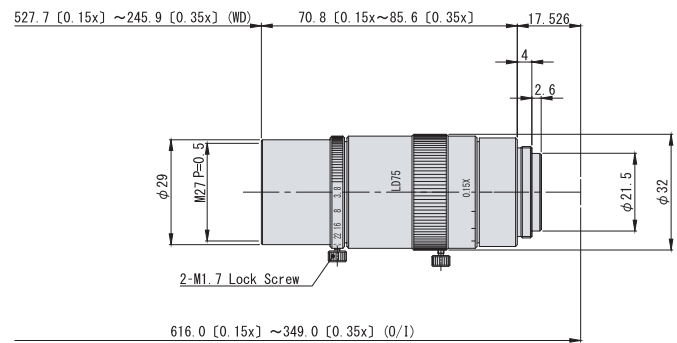
VS-LD35



VS-LD50



VS-LD75



规格	VS-LD20				VS-LD25N				VS-LD30			
焦距距离(f) mm	20				25				30			
变倍范围	0.04x~0.22x				0.05x~0.25x				0.1x~0.23x			
光学倍率	0.04x	0.08x	0.15x	0.22x	0.05x	0.1x	0.2x	0.25x	0.1x	0.13x	0.2x	0.23x
视场2/3"(VxHmm)	165x220	82.5x110	44x58.7	30x40	132x176	66x88	33x44	26.4x35.2	66x88	50.8x67.7	33x44	28.7x38.3
视场1/2"(VxHmm)	120x160	60x80	32x42.7	21.8x29.1	96x128	48x64	24x32	19.2x25.6	48x64	36.9x49.2	24x32	20.9x27.8
视场1/3"(VxHmm)	90x120	45x60	24x32	16.4x21.8	72x96	36x48	18x24	14.4x19.2	36x48	27.7x36.9	18x24	15.7x20.9
WD (mm)	511.0	251.7	130.7	86.8	511.0	255.9	128.4	103.0	312.7	243.5	162.7	143.1
物像间距离 O/I(mm)	557.0	298.6	179.0	136.5	558.0	304.2	179.2	155.1	357.2	288.9	210.2	191.5
实效 F *1	2.22	2.30	2.45	2.60	2.1	2.2	2.4	2.5	2.20	2.26	2.40	2.46
景深(mm) *2	102.0	24.1	8.0	4.0	65	17.0	4.6	3.1	18.5	11.5	5.0	3.9
TV失真	0.06%	0.00%	-0.08%	-0.15%	0.05%	0.00%	-0.06%	-0.09%	0.03%	0.02%	-0.05%	-0.05%
光圈·调焦操作	手动				手动				手动			
光圈·调焦固定螺丝	○				○				○			
重量	约45g				约47g				约46g			
兼容CCD / 接口	2/3"以下 / C 接口				2/3"以下 / C 接口				2/3"以下 / C 接口			
镜头旋转最大延长量	3.7mm				5.1mm				3.9mm			

规格	VS-LD35				VS-LD50				VS-LD75			
焦距距离(f) mm	35				50				75			
变倍范围	0.3x~0.5x				0.1x~0.25x				0.15x~0.35x			
光学倍率	0.3x	0.35x	0.4x	0.5x	0.1x	0.15x	0.2x	0.25x	0.15x	0.2x	0.3x	0.35x
视场2/3"(VxHmm)	22x29.3	18.9x25.1	16.5x22	13.2x17.6	66x88	44x58.7	33x44	26.4x35.2	44x58.7	33x44	22x29.3	18.9x25.1
视场1/2"(VxHmm)	16x21.3	13.7x18.3	12x16	9.6x12.8	48x64	32x43	24x32.3	19.2x25.8	32x43	24x32.3	16x21.5	13.7x18.4
视场1/3"(VxHmm)	12x16	10.3x13.7	9x12	7.2x9.6	36x48	24x32	18x24	14.4x19.2	24x32	18x24	12x16	10.3x13.7
WD (mm)	142.4	125.7	113.2	95.7	503.8	342.2	261.5	213.0	527.7	404.4	281.1	245.9
物像间距离 O/I(mm)	196.4	181.4	170.7	156.7	567.7	408.6	330.3	284.2	616.0	496.4	380.5	349.0
实效 F *1	2.47	2.57	2.66	2.85	2.70	2.82	2.94	3.06	4.38	4.57	4.95	5.14
景深(mm) *2	2.2	1.7	1.3	0.9	22	10.2	6	4	15.5	9.1	4.4	3.4
TV失真	-0.03%				0.05%				-0.02%			
光圈·调焦操作	手动				手动				手动			
光圈·调焦固定螺丝	○				○				○			
重量	约58g				约73g				约100g			
兼容CCD / 接口	2/3"以下 / C 接口				2/3"以下 / C 接口				2/3"以下 / C 接口			
镜头旋转最大延长量	7mm				7.3mm				14.8mm			

*1 光圈开放时

*2 容许错乱圆径φ0.04mm



■ 接环 · 倍率表

接环 mm	型 号 焦距 对 焦	VS-LD4	VS-LD6.5	VS-LD10	VS-LD15	VS-LD20	VS-LD25N	VS-LD30	VS-LD35	VS-LD50	VS-LD75										
		f4.16 90~500mm	f6.51 90~630mm	f10.27 90~450mm	f15.00 90~500mm	f20.74 90~500mm	f25.18 85~190mm	f30.01 150~300mm	f35.02 100~150mm	f48.46 200~500mm	f73.98 250~530mm										
0	WD	93.1	509.1	89.0	631.5	89.3	448.0	91.8	491.8	86.8	511.0	102.9	510.9	143.1	312.7	95.7	142.4	213.0	503.8	245.9	527.7
	1/3"	90x120	450x600	60x80	360x480	36x48	180x240	24x32	120x160	16.4x21.8	90x120	14.4x19.2	72x96	15.7x20.9	36x48	7.2x9.6	12x16	14.4x19.2	36x48	10.3x13.7	24x32
	1/2"	120x160	600x800	80x106.7	480x640	48x64	240x320	32x42.7	160x213.3	21.8x29.1	120x160	19.2x25.6	96x128	20.9x27.8	48x64	9.6x12.8	16x21.3	19.2x25.6	48x64	13.7x18.3	32x42.7
	倍率	0.04x	0.008x	0.06x	0.01x	0.1x	0.02x	0.15x	0.03x	0.22x	0.04x	0.25x	0.05x	0.23x	0.1x	0.5x	0.3x	0.25x	0.1x	0.35x	0.15x
0.5	WD	15.1	22.4	27	52.8	55.2	135.1	73.8	229.9	76.8	315.7	95.4	365.2	134.1	269.1	93.8	137.2	205.6	459.7	241.9	506.5
	1/3"	22.5x30	28.8x38.4	25.7x34.3	40.9x54.5	25x33.3	52.2x69.6	19.7x26.2	57.1x76.2	14.6x19.5	56.3x75	13.3x17.8	51.4x68.6	14.6x19.4	30.8x41	7x9.3	11.5x15.3	13.8x18.5	32.7x43.6	10.1x13.4	22.9x30.6
	1/2"	30x40	38.4x51.2	34.3x45.7	54.5x72.7	33.3x44.4	69.6x92.8	26.2x35	76.2x101.6	19.5x26	75x100	17.8x23.7	68.6x91.4	19.4x25.9	41x54.7	9.3x12.5	15.3x20.4	18.5x24.6	43.6x58.2	13.4x17.9	30.6x40.8
	倍率	0.16x	0.125x	0.14x	0.088x	0.144x	0.069x	0.183x	0.063x	0.246x	0.064x	0.27x	0.07x	0.247x	0.117x	0.514x	0.314x	0.26x	0.11x	0.357x	0.157x
1	WD			10.1	20.0	38.2	73.3	61.3	148.1	69.3	227.4	88.9	284.3	126.7	238.3	91.9	132.1	198.0	419.7	238	485.6
	1/3"			16.4x21.8	21.8x29.1	18.2x24.2	30.5x40.7	16.7x22.2	37.5x50	13.3x17.8	40.9x54.5	12.4x16.6	40x53.3	13.7x18.3	27.1x36.1	6.8x9.1	10.9x14.6	13.3x17.7	29.8x39.7	9.9x13.2	22x29.3
	1/2"			21.8x29.1	29.1x38.8	24.2x32.3	40.7x54.2	22.2x29.6	50x66.7	17.8x23.7	54.5x72.7	16.6x22.1	53.3x71.1	18.3x24.3	36.1x48.1	9.1x12.1	14.6x19.5	17.7x23.6	39.7x52.9	13.2x17.6	29.3x39
	倍率			0.22x	0.165x	0.198x	0.118x	0.216x	0.096x	0.27x	0.088x	0.29x	0.09x	0.263x	0.133x	0.529x	0.329x	0.271x	0.121x	0.363x	0.164x
1.5	WD				28.0	48.2	51.8	107.2	62.2	176.8	83.2	234.9	119.8	212.7	90.2	127.8	191.6	389.1	234.4	468.9	
	1/3"				14.6x19.5	21.7x28.9	14.4x19.2	27.7x36.9	12.2x16.3	32.1x42.9	11.6x15.5	33x44	12.9x17.1	24x32	6.6x8.8	10.5x14	12.8x17.1	27.5x36.6	9.7x13	21.2x28.2	
	1/2"				19.5x26	28.9x38.6	19.2x25.6	36.9x49.2	16.3x21.8	42.9x57.1	15.5x20.6	44x58.7	17.1x22.9	32x42.7	8.8x11.8	14x18.7	17.1x22.8	36.6x48.9	13x17.3	28.2x37.6	
	倍率				0.246x	0.166x	0.25x	0.13x	0.294x	0.112x	0.31x	0.11x	0.28x	0.15x	0.543x	0.343x	0.281x	0.131x	0.37x	0.17x	
2	WD				21.1	34.1	44.8	83.3	52.3	144.2	78.2	199.2	113.7	192.3	88.5	123.8	185.7	362.1	230.8	452.2	
	1/3"				12.2x16.3	16.7x22.3	12.7x17	22x29.3	10.5x14	26.5x35.3	10.9x14.5	27.9x37.2	12.1x16.2	21.6x28.7	6.5x8.6	10.1x13.4	12.4x16.5	25.5x34	9.5x12.7	20.3x27.1	
	1/2"				16.3x21.7	22.3x29.8	17x22.6	29.3x39	14x18.7	35.3x47.1	14.5x19.4	37.2x49.6	16.2x21.5	28.7x38.3	8.6x11.5	13.4x17.9	16.5x22	34x45.4	12.7x17	27.1x36.2	
	倍率				0.295x	0.215x	0.283x	0.164x	0.342x	0.136x	0.33x	0.13x	0.297x	0.167x	0.557x	0.357x	0.291x	0.141x	0.377x	0.177x	
5	WD					22.9	33.2	37.5	65.5	60.2	104.2	88.2	125	80.1	104.7	156.4	257.9	211.7	373.9		
	1/3"					7.5x9.9	9.9x13.2	7.8x10.4	12.8x17.1	8.4x11.2	14.6x19.4	9.1x12.1	13.5x18	5.6x7.5	8.1x10.8	10.2x13.6	17.7x23.6	8.6x11.5	16.5x22		
	1/2"					9.9x13.3	13.2x17.6	10.4x13.9	17.1x22.8	11.2x14.9	19.4x25.9	12.1x16.1	18x24	7.5x10	10.8x14.4	13.6x18.1	23.6x31.5	11.5x15.3	22x29.4		
	倍率					0.483x	0.363x	0.461x	0.281x	0.43x	0.25x	0.397x	0.267x	0.643x	0.443x	0.353x	0.203x	0.417x	0.218x		
10	WD					10.2	13.4	21.1	31.4	40.6	58.	65.9	81.9	70.2	85.4	125.4	177.3	187.1	293.9		
	1/3"					4.4x5.9	5.2x6.9	5.1x6.8	6.9x9.2	5.6x7.5	8.1x10.8	6.4x8.5	8.3x11.1	4.6x6.1	6.1x8.2	7.9x10.5	11.8x15.7	7.4x9.9	12.6x16.8		
	1/2"					5.9x7.8	6.9x9.2	6.8x9.1	9.2x12.3	7.5x10	10.8x14.4	8.5x11.4	11.1x14.8	6.1x8.1	8.2x10.9	10.5x14	15.7x20.9	9.9x13.2	16.8x22.5		
	倍率					0.817x	0.697x	0.704x	0.522x	0.64x	0.44x	0.563x	0.433x	0.786x	0.586x	0.456x	0.306x	0.485x	0.285x		
15	WD							13.7	18.9	31.3	40.8	53.8	62.7	63.4	73.8	105.9	137.4	168.3	244.1		
	1/3"							3.8x5.1	4.7x6.3	4.3x5.7	5.6x7.5	4.9x6.6	6x8	3.9x5.2	4.9x6.6	6.4x8.6	8.8x11.7	6.5x8.7	10.1x13.4		
	1/2"							5.1x6.8	6.3x8.4	5.7x7.6	7.5x10	6.6x8.8	8x10.7	5.2x6.9	6.6x8.8	8.6x11.4	11.7x15.6	8.7x11.6	13.4x17.9		
	倍率							0.943x	0.763x	0.84x	0.64x	0.73x	0.6x	0.928x	0.728x	0.559x	0.41x	0.553x	0.357x		
20	WD										25.6	31.5	46.1	51.8	58.4	65.9	92.3	113.6	153.8	210.5	
	1/3"										3.5x4.6	4.3x5.7	4x5.4	4.7x6.3	3.4x4.5	4.1x5.5	5.4x7.2	7x9.4	5.8x7.7	8.6x11.4	
	1/2"										4.6x6.2	5.7x7.7	5.4x7.1	6.3x8.4	4.5x6	5.5x7.3	7.2x9.7	9.4x12.5	7.7x10.3	11.4x15.2	
	倍率										1.04x	0.84x	0.896x	0.766x	1.071x	0.871x	0.663x	0.513x	0.62x	0.42x	
25	WD										21.7	25.7	40.9	44.8	54.5	60.2	82.4	97.8	142	186.1	
	1/3"										2.9x3.9	3.5x4.7	3.4x4.5	3.9x5.1	3x4	3.6x4.7	4.7x6.3	5.8x7.8	5.2x7	7.4x9.8	
	1/2"										3.9x5.2	4.7x6.2	4.5x6	5.1x6.9	4x5.3	4.7x6.3	6.3x8.4	7.8x10.4	7x9.3	9.8x13.1	
	倍率										1.23x	1.03x	1.063x	0.933x	1.214x	1.014x	0.766x	0.616x	0.688x	0.488x	
30	WD										18.8	21.7	37.0	39.9	51.5	56.0	74.9	86.6	132.4	167.6	
	1/3"										2.5x3.4	2.9x3.9	2.9x3.9	3.3x4.4	2.7x3.5	3.1x4.1	4.1x5.5	5x6.7	4.8x6.4	6.5x8.6	
	1/2"										3.4x4.5	3.9x5.2	3.9x5.2	4.4x5.8	3.5x4.7	4.1x5.5	5.5x7.4	6.7x8.9	6.4x8.5	8.6x11.5	
	倍率										1.43x	1.23x	1.23x	1.1x	1.357x	1.157x	0.869x	0.719x	0.755x	0.556x	
35	WD										16.6	18.9	34.1	36.3	49	52.6	69	78.1	124.4	153.2	
	1/3"										2.2x3	2.5x3.4	2.6x3.4	2.8x3.8	2.4x3.2	2.8x3.7	3.7x4.9	4.4x5.8	4.4x5.8	5.8x7.7	
	1/2"										3x3.9	3.4x4.5	3.4x4.6	3.8x5.1	3.2x4.3	3.7x4.9	4.9x6.6	5.8x7.8	5.8x7.8	7.7x10.3	
	倍率										1.63x	1.42x	1.396x	1.266x	1.5x	1.3x	0.972x	0.822x	0.823x	0.623x	
40	WD										15.0	16.7	31.8	33.6	47.0	49.4	64.2	71.5	117.3	141.6	
	1/3"																				