

Telecentric Lens

DTTL Series Telecentric Lens

Model No:

1 Chip Support



DTTL Series

1 Chip Support

Target camera



■ Professional customization
of multiples and depth of field

■ Dual telecentric design
High definition Standard F
interface

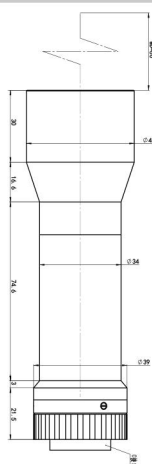
■ Can be equipped with a
dedicated parallel light

■ For high-precision
detection and measurement

Lens Model	Mag	WD	DOF	Telecen-	Optical	Aperture	Mtf>0.3	Mount	1"IMX183	1"IMX255	1"CMV4000
			mm	tricity	distortion	F/#	(lp/mm)		(13.13*8.76)mm	(14.19*7.51)mm	(11.26*11.26)mm
DTTL48-068X10	0.68X	48	1	<0.1	<0.1	6	144	C	19.3*12.9	20.9*11	16.6*16.6
DTTL90-06X10	0.6X	90	1.5	<0.1	<0.1	12	70	C	21.9*14.6	23.7*12.5	18.8*18.8
DTTL55-048X10	0.48X	55	2.4	<0.1	<0.1	7	130	C	27.4*18.3	29.6*15.6	23.5*23.5
DTTL113-046X10	0.46X	113	3.4	<0.1	<0.1	9	96	C	28.5*19	30.8*16.3	24.5*24.5
DTTL140-044X10	0.44X	140	3.1	<0.1	<0.1	7	100	C	29.8*19.9	32.3*17.1	25.6*25.6
DTTL50-042X10	0.42X	50	2.6	<0.1	<0.1	6	150	C	31.3*20.9	33.8*17.9	26.8*26.8
DTTL80-037X10	0.37X	80	3.8	<0.1	<0.1	6	110	C	35.5*23.7	38.4*20.3	30.4*30.4
DTTL140-035X10	0.35X	140	4.4	<0.1	<0.1	7	125	C	37.5*25	40.5*21.5	32.2*32.2
DTTL145-03X10	0.3X	145	6	<0.1	<0.1	6	135	C	43.8*29.2	47.3*25	37.5*37.5
DTTL180-0265X10	0.265X	180	7.8	<0.1	<0.1	7	110	C	49.5*33.1	53.5*28.3	42.5*42.5
DTTL110-025X10	0.25X	110	10.3	<0.1	<0.1	8	125	C	52.5*35	56.8*30	45*45
DTTL175-024X10	0.24X	175	9.3	<0.1	<0.1	8	105	C	54.7*36.5	59.1*31.3	46.9*46.9
DTTL280-02X10	0.2X	280	13.4	<0.1	<0.1	10	80	C	65.7*43.8	71*37.6	56.3*56.3
DTTL200-0184X10	0.184X	200	15.8	<0.1	<0.1	6	160	C	71.4*47.6	77.1*40.8	61.2*61.2
DTTL270-0163X10	0.163X	270	20.2	<0.1	<0.1	9	100	C	80.6*53.7	87.1*46.1	69.1*69.1
DTTL275-0147X10	0.147X	275	24.8	<0.1	<0.1	7	120	C	89.3*59.6	96.5*51.1	76.6*76.6
DTTL280-014X10	0.14X	280	27.4	<0.1	<0.1	6	145	C	93.8*62.6	101.4*53.6	80.4*80.4
DTTL300-0133X10	0.133X	300	30.3	<0.1	<0.1	6	150	C	98.7*65.9	106.7*56.5	84.7*84.7
DTTL300-011X10	0.11X	300	44.3	<0.1	<0.1	5	175	C	119.4*79.6	129*68.3	102.4*102.4
DTTL300-0098X10	0.098X	300	55.8	<0.1	<0.1	7	140	C	134*89.4	144.8*76.6	114.9*114.9
DTTL400-009X10	0.09X	400	61.1	<0.1	<0.1	6	150	C	145.9*97.3	157.7*83.4	125.1*125.1
DTTL320-0087X10	0.087X	320	70.8	<0.1	<0.1	6	145	C	150.9*100.7	163.1*86.3	129.4*129.4
DTTL330-0085X10	0.085X	330	74.2	<0.1	<0.1	6	150	C	154.5*103.1	166.9*88.4	132.5*132.5
DTTL180-008X10	0.08X	180	83.8	<0.1	<0.1	5	180	C	164.1*109.5	177.4*93.9	140.8*140.8
DTTL425-0077X10	0.077X	425	90.4	<0.1	<0.1	6	150	C	170.5*113.8	184.3*97.5	146.2*146.2

Lens Model	Mag	WD	DOF	Telecen-	Optical	Aperture	Mtf>0.3	Mount	1"IMX183	1"IMX255	1"CMV4000
			mm	tricity	distortion	F/#	(lp/mm)		(13.13*8.76)mm	(14.19*7.51)mm	(11.26*11.26)mm
DTTL220-0075X10	0.075X	220	95.3	<0.1	<0.1	4	195	C	175.1*116.8	189.2*100.1	150.1*150.1
DTTL430-0069X10	0.069X	430	112.6	<0.1	<0.1	7	120	C	190.3*127	205.7*108.8	163.2*163.2
DTTL450-0063X10	0.063X	450	141.3	<0.1	<0.1	5	165	C	208.4*139	225.2*119.2	178.7*178.7
DTTL450-0052X10	0.052X	450	198.3	<0.1	<0.1	7	120	C	252.5*168.5	272.9*144.4	216.5*216.5
DTTL400-00475X10	0.0475X	400	248.1	<0.1	<0.1	7	130	C	276.4*184.4	298.7*158.1	237.1*237.1

DTTL60-08X20



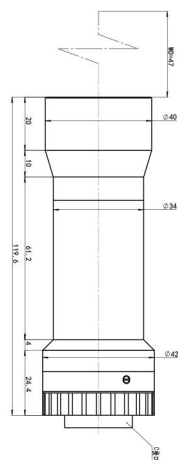
Main parameters

Mag	0.8X
WD	60
DOF(mm)	1.5
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	14
MTF>0.3(lp/mm)	65
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	10.5*8.88
1"CCD(12.8*9.6)mm	16*12
1.1"MX255(14.19*10.3)mm	17.74*12.88

DTTL47-075X20



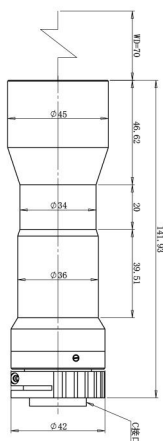
Main parameters

Mag	0.75X
WD	47
DOF(mm)	1.0
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	6
MTF>0.3(lp/mm)	120
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	11.2*9.47
1"CCD(12.8*9.6)mm	17.07*12.8
1.1"IMX255(14.19*10.3)mm	18.92*13.73

DTTL70-07X20



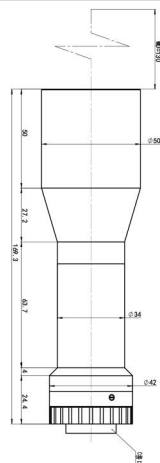
Main parameters

Mag	0.7X
WD	70
DOF(mm)	1.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	7
MTF>0.3(lp/mm)	125
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	12*10.14
1"CCD(12.8*9.6)mm	18.29*13.71
1.1"MX255(14.19*10.3)mm	20.27*14.71

DTTL130-05X20



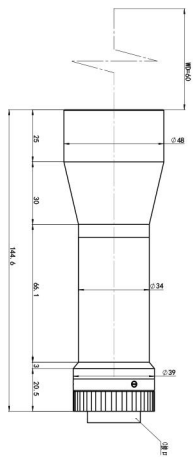
Main parameters

Mag	0.5X
WD	130
DOF(mm)	3.2
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	10
MTF>0.3(lp/mm)	90
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	16.8*14.2
1"CCD(12.8*9.6)mm	25.6*19.2
1.1"IMX255(14.19*10.3)mm	28.38*20.6

DTTL60-045X20



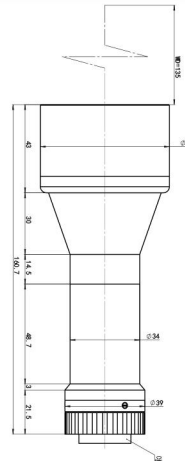
Main parameters

Mag	0.45X
WD	60
DOF(mm)	3.5
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	9
MTF>0.3(lp/mm)	105
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	18.67°15.78
1"CCD(12.8*9.6)mm	28.44°21.33
1.1"IMX255(14.19*10.3)mm	31.53°22.89

DTTL135-0385X20



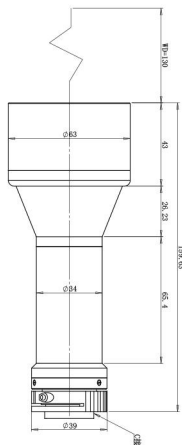
Main parameters

Mag	0.385X
WD	135
DOF(mm)	3.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	7
MTF>0.3(lp/mm)	100
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	21.82°18.44
1"CCD(12.8*9.6)mm	33.25°24.94
1.1"IMX255(14.19*10.3)mm	36.86°26.75

DTTL130-035X20



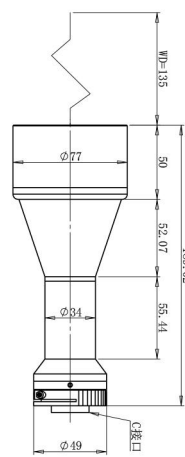
Main parameters

Mag	0.35X
WD	130
DOF(mm)	4.6
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	6
MTF>0.3(lp/mm)	122
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	24°20.29
1"CCD(12.8*9.6)mm	36.57°27.43
1.1"IMX255(14.19*10.3)mm	40.54°29.43

DTTL135-0326X20



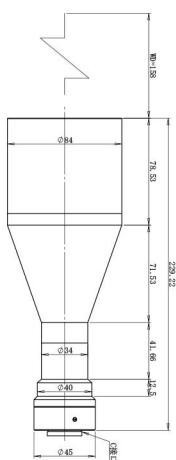
Main parameters

Mag	0.326X
WD	135
DOF(mm)	5.3
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	9
MTF>0.3(lp/mm)	98
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	25.77°21.78
1"CCD(12.8*9.6)mm	39.26°29.45
1.1"IMX255(14.19*10.3)mm	43.53°31.6

DTTL158-03X20



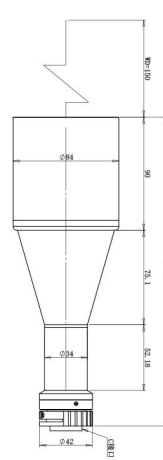
Main parameters

Mag	0.3X
WD	158
DOF(mm)	5.7
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	6
MTF>0.3(lp/mm)	150
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	28°23.67
1"CCD(12.8*9.6)mm	42.6°32
1.1"IMX255(14.19*10.3)mm	47.3°34.3

DTTL150-028X20



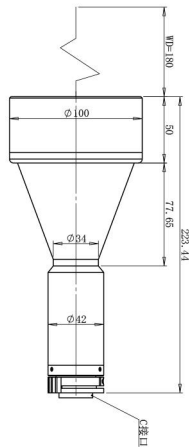
Main parameters

Mag	0.28X
WD	150
DOF(mm)	7.2
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	10
MTF>0.3(lp/mm)	98
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	30°25.36
1"CCD(12.8*9.6)mm	45.71°34.29
1.1"IMX255(14.19*10.3)mm	50.68°36.79

DTTL180-025X20N



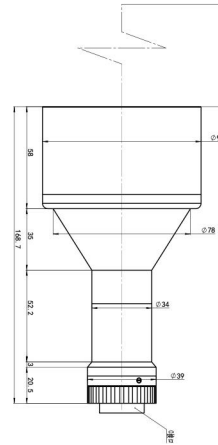
Main parameters

Mag	0.25X
WD	180
DOF(mm)	9.0
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	7
MTF>0.3(lp/mm)	120
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	33.6°28.4
1"CCD(12.8*9.6)mm	51.2°38.4
1.1"IMX255(14.19*10.3)mm	56.76°41.2

DTTL100-024X20



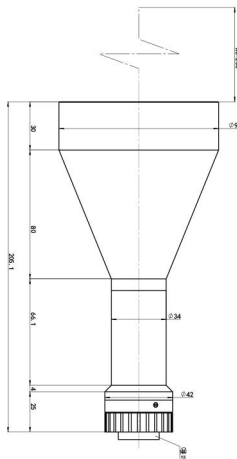
Main parameters

Mag	0.24X
WD	100
DOF(mm)	9.7
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	7
MTF>0.3(lp/mm)	126
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	35°29.58
1"CCD(12.8*9.6)mm	53.33°40
1.1"IMX255(14.19*10.3)mm	59.13°42.92

DTTL200-023X20



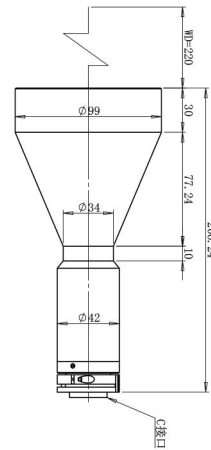
Main parameters

Mag	0.23X
WD	200
DOF(mm)	10.6
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	95
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	36.52°30.87
1"CCD(12.8*9.6)mm	55.65°41.74
1.1"IMX255(14.19*10.3)mm	61.7°44.78

DTTL220-022X20HR



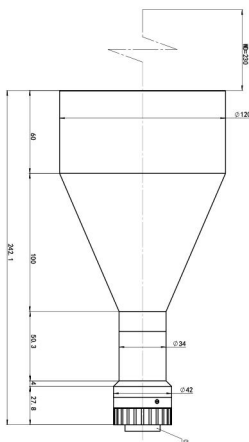
Main parameters

Mag	0.22X
WD	220
DOF(mm)	11.6
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	100
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	38.18°32.27
1"CCD(12.8*9.6)mm	58.18°43.64
1.1"IMX255(14.19*10.3)mm	64.54°46.82

DTTL230-02X20



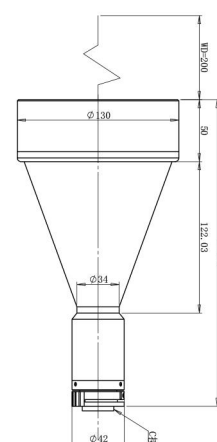
Main parameters

Mag	0.2X
WD	230
DOF(mm)	14.0
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	7
MTF>0.3(lp/mm)	145
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	42°35.5
1"CCD(12.8*9.6)mm	64°48
1.1"IMX255(14.19*10.3)mm	70.5°51.5

DTTL200-019X20

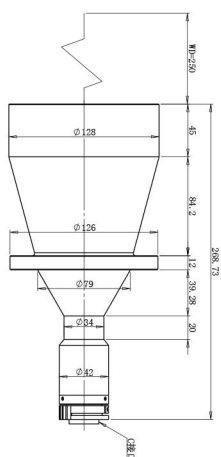


Main parameters

Mag	0.19X
WD	200
DOF(mm)	15.5
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	10
MTF>0.3(lp/mm)	93
Mount	C

Field of view

2/3"CCD(8.4*7.1)mm	44.21°37.37
1"CCD(12.8*9.6)mm	67.37°50.53
1.1"IMX255(14.19*10.3)mm	74.68°54.21

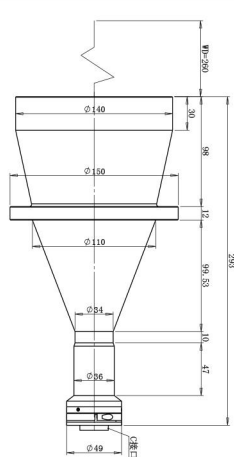


Main parameters	
Mag	0.183X
WD	250
DOF(mm)	16.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	100
Mount	C

Mag	0.183X
WD	250
DOF(mm)	16.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	100
Mount	C

Field of view	
2/3"CCD(8.4*7.1)mm	45.9°38.8
1"CCD(12.8*9.6)mm	69.95°52.46
1.1"IMX255(14.19*10.3)mm	77.54°56.28

2/3"CCD(8.4*7.1)mm	45.9*38.8
1"CCD(12.8*9.6)mm	69.95*52.46
1.1"MX255(14.19*10.3)mm	77.54*56.28

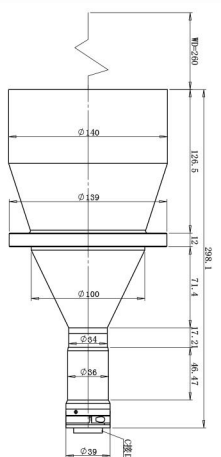


Main parameters	
Mag	0.168X
WD	260
DOF(mm)	14.4
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	5
MTF>0.3(lp/mm)	180
Mount	C

Mag	0.168X
WD	260
DOF(mm)	14.4
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	5
MTF>0.3(lp/mm)	180
Mount	C

Field of view	
2/3"CCD(8.4*7.1)mm	50°42'26"
1"CCD(12.8*9.6)mm	76.19°57'14"
1.1"IMX255(14.19*10.3)mm	84.46°61'31"

2/3"CCD(8.4*7.1)mm	50*42.26
1"CCD(12.8*9.6)mm	76.19*57.14
1.1"IMX255(14.19*10.3)mm	84.46*61.31

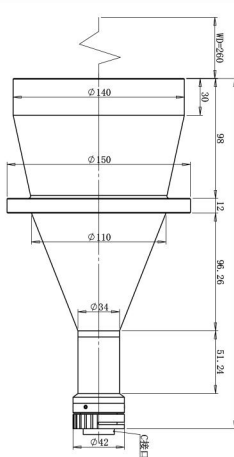


Main parameters	
Mag	0.163X
WD	260
DOF(mm)	21.1
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	105
Mount	C

Mag	0.163X
WD	260
DOF(mm)	21.1
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	105
Mount	C

Field of view	
2/3"CCD(8.4*7.1)mm	51.53°43.56'
1"CCD(12.8*9.6)mm	78.53°58.9'
1.1"MX255(14.19*10.3)mm	87.06°63.19'

2/3"CCD(8.4*7.1)mm	51.53*43.56
1"CCD(12.8*9.6)mm	78.53*58.9
1.1"IMX255(14.19*10.3)mm	87.06*63.19



Main parameters	
Mag	0.154X
WD	260
DOF(mm)	26.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	115
Mount	C

Mag	0.154X
WD	260
DOF(mm)	26.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	115
Mount	C

Field of view	
2/3"CCD(8.4*7.1)mm	54.55°46.1°
1"CCD(12.8*9.6)mm	83.12°62.34°
1.1"IMX255(14.19*10.3)mm	92.14°66.88°

2/3"CCD(8.4*7.1)mm	54.55*46.1
1"CCD(12.8*9.6)mm	83.12*62.34
1.1"IMX255(14.19*10.3)mm	92.14*66.88

Technical drawing of the DTL260-015X20HR component, showing a side view and a cross-sectional view. The side view shows a conical top with a diameter of 46, a central section with a diameter of 45, and a base with a diameter of 42. The cross-sectional view shows the internal structure, including a central bore and a flange. Dimensions are provided in millimeters (mm) and inches (in).

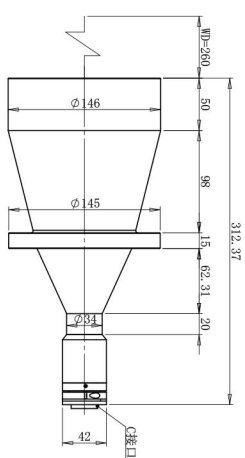
Dimensions (mm):

- Top diameter: 46
- Central diameter: 45
- Base diameter: 42
- Top section height: 50
- Central section height: 98
- Base section height: 15
- Total height: 163

Dimensions (in):

- Top section height: 2.0
- Central section height: 3.9
- Base section height: 0.6
- Total height: 6.5

Material: 316L

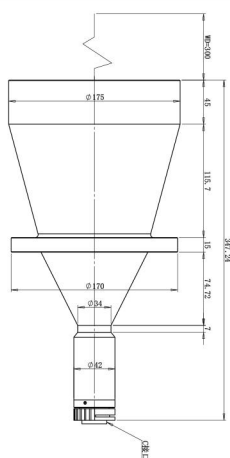


Main parameters	
Mag	0.15X
WD	260
DOF(mm)	34.4
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	9
MTF>0.3(lp/mm)	100
Mount	C

Mag	0.15X
WD	260
DOF(mm)	34.4
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	9
MTF>0.3(lp/mm)	100
Mount	C

Field of view	
2/3"CCD(8.4*7.1)mm	56°47.33
1"CCD(12.8*9.6)mm	85.33°64
1.1"IMX255(14.19*10.3)mm	94.6°68.67

2/3"CCD(8.4*7.1)mm	56*47.33
1"CCD(12.8*9.6)mm	85.33*64
1.1"IMX255(14.19*10.3)mm	94.6*68.67



Main parameters	
Mag	0.13X
WD	300
DOF(mm)	33.2
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	9
MTF>0.3(lp/mm)	95
Mount	C

Mag	0.13X
WD	300
DOF(mm)	33.2
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	9
MTF>0.3(lp/mm)	95
Mount	C

Field of view	
2/3"CCD(8.4*7.1)mm	64.62°54.62
1"CCD(12.8*9.6)mm	98.46°73.85
1.1"IMX255(14.19*10.3)mm	109.15°79.23

2/3"CCD(8.4*7.1)mm	64.62*54.62
1"CCD(12.8*9.6)mm	98.46*73.85
1.1"IMX255(14.19*10.3)mm	109.15*79.23

Technical drawing of a vertical pipe assembly. The drawing shows a cross-section of the pipe with various diameters and lengths. The top section has a diameter of $\phi 215$ and a length of 56. Below this is a tapered section with a diameter of $\phi 200$ and a length of 157. The next section has a diameter of $\phi 128$ and a length of 15. Below this is another tapered section with a diameter of $\phi 34$ and a length of 115. The bottom section has a diameter of $\phi 42$ and a length of 59.18. The drawing also includes a label 'C10' and a dimension line indicating a total length of 115.62 for a specific section.

Mag	0.1X
WD	420
DOF(mm)	68.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	95
Mount	C

2/3"CCD(8.4*7.1)mm	84*71
1"CCD(12.8*9.6)mm	128*96
1.1"MX255(14.19*10.3)mm	141.9*103

Technical drawing of a vertical pipe assembly with dimensions in mm. The assembly consists of a top flange (Ø240), a conical section (Ø227), a middle flange (Ø136), and a bottom section (Ø82). Dimensions include a total height of 880 mm, a top flange thickness of 85 mm, a conical section height of 186 mm, a middle flange thickness of 15 mm, a bottom section height of 103.14 mm, and a bottom flange thickness of 2.7 mm. A label 'CERK' points to the bottom section.

Mag	0.091X
WD	380
DOF(mm)	69.7
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	7
MTF>0.3(lp/mm)	110
Mount	C

2/3"CCD(8.4*7.1)mm	92.31*78.02
1"CCD(12.8*9.6)mm	140.66*105.49
1.1"IMX255(14.19*10.3)mm	155.93*113.19

Technical drawing of a tapered container. The drawing shows a cross-section of the container, which is a frustum of a cone. The top diameter is $\phi 290$ and the bottom diameter is $\phi 166$. The height of the frustum is 250. The total height of the container, including the top flange and the bottom neck, is 316.55. The top flange has a thickness of 58. The bottom neck has a diameter of $\phi 42$ and a height of 134.65. The drawing also shows a detail of the bottom neck with a diameter of $\phi 42$ and a height of 8. The drawing is labeled with dimensions in millimeters (mm).

Mag	0.077X
WD	400
DOF(mm)	94.6
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	6
MTF>0.3(lp/mm)	140
Mount	C

2/3" CCD(8.4*7.1)mm	109.09*92.21
1" CCD(12.8*9.6)mm	166.23*124.68
1.1" IMX255(14.19*10.3)mm	184.29*133.77

Mag	0.071X
WD	410
DOF(mm)	111.3
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	7
MTF>0.3(lp/mm)	125
Mount	C

2/3" CCD(8.4*7.1)mm	118.31*100
1" CCD(12.8*9.6)mm	180.28*135.21
1.1" IMX255(14.19*10.3)mm	199.86*145.07

Mag	0.069X
WD	470
DOF(mm)	117.8
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	6
MTF>0.3(lp/mm)	155
Mount	C

2/3" CCD(8.4*7.1)mm	121.74*102.9
1" CCD(12.8*9.6)mm	185.51*139.13
1.1"IMX255(14.19*10.3)mm	205.65*149.28

Technical drawing of a funnel with a total height of 1000 mm. The drawing shows the funnel's profile with various diameters and elevation points. The diameters are: $\phi 356$ at the top, $\phi 336$ below the top flange, $\phi 216$ in the middle section, $\phi 150$ below the middle section, $\phi 85$ at the narrow neck, $\phi 34$ at the bottom neck, $\phi 40$ at the base, and $\phi 45$ at the very bottom. The elevation points are: 0 at the top, 130 at the top flange, 292.5 and 310.0 at the middle section, 411.5 and 453 at the narrow neck, 468.1 at the bottom neck, 603.1 at the base, 646.6 at the bottom neck, 691.6 at the base, 717.1 at the bottom neck, and 742.1 at the very bottom. A dimension of 603.1 is also indicated for the height from the base to the narrow neck.

Mag	0.061X
WD	530
DOF(mm)	169.1
Telecentricity	<0.1
Optical distortion	<0.1
Aperture(F/#)	8
MTF>0.3(lp/mm)	120
Mount	C

2/3" CCD(8.4*7.1)mm	137.7*116.39
1" CCD(12.8*9.6)mm	209.84*157.38
1.1" IMX255(14.19*10.3)mm	232.62*168.85