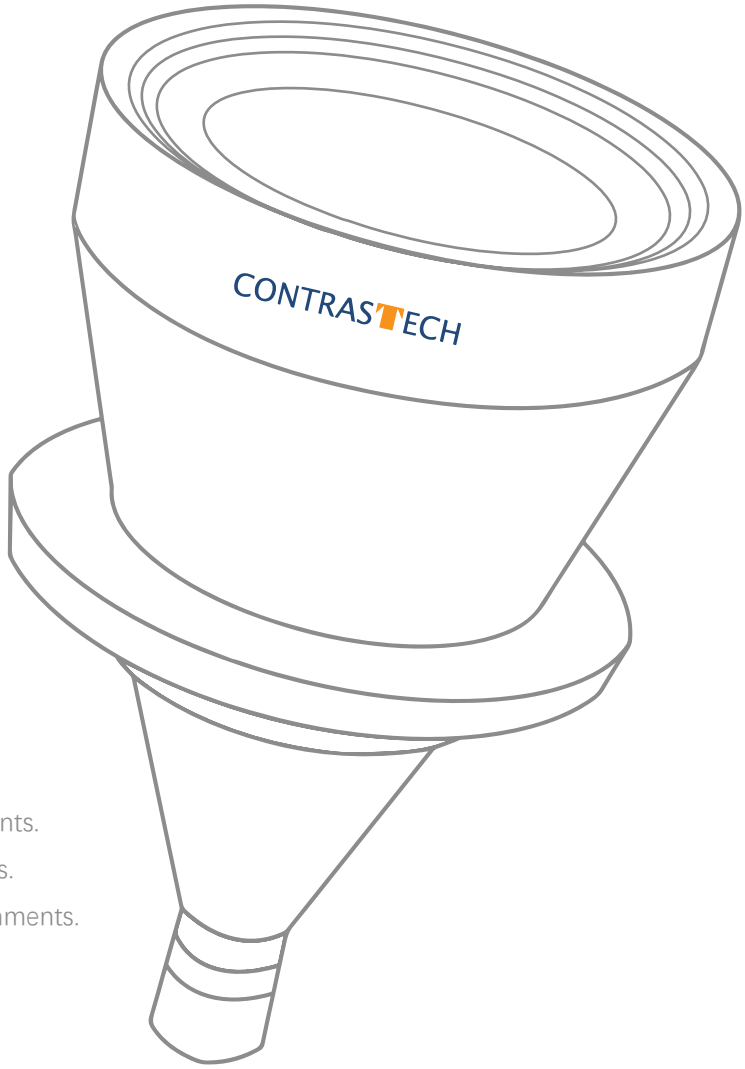
BTL-118 SERIES



MAIN FEATURES

- **High telecentricity** for thick object imaging.
- **Nearly zero distortion** for accurate measurements.
- **Excellent resolution** for high resolution cameras.
- **Simple and robust design** for industrial environments.

ABOUT US

Hangzhou Contrastech Co., Ltd. is a leading imaging technology company with 20+ years of expertise in machine vision, optical imaging, and intelligent data processing.

Our flagship telecentric lenses, together with 360° telecentric lenses and telecentric light sources, deliver distortion-free imaging and precise measurement, with stable illumination for advanced automation and inspection.

Beyond standard products, we provide customized optical solutions—including infrared, ultraviolet, and multispectral designs—to tackle the most demanding applications.

Today, Contrastech telecentric technology powers leading-edge AI vision systems worldwide, enabling high-precision inspection, intelligent recognition, and reliable data acquisition. By combining world-class performance with optimized cost control, we help customers cut costs by 30–50% while achieving top-tier performance and efficiency.

BTL-118 SERIES

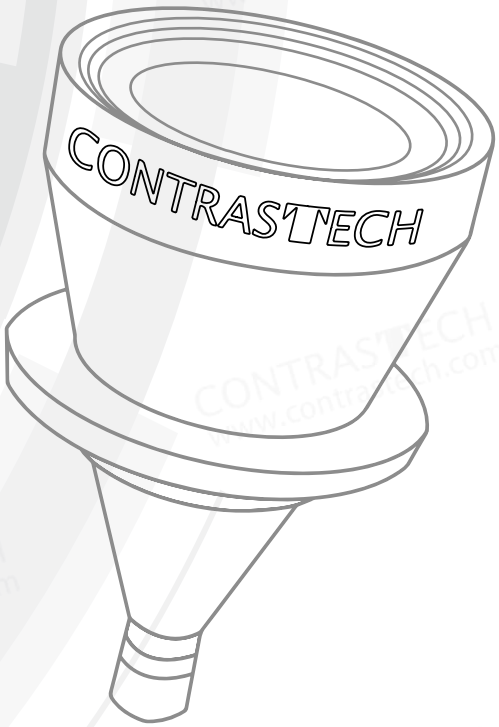
1/1.8"

Model No.	Click to view details/drawings												
	FOV (Φmm)	Mag. (x)	WD (mm)	Max. Sesnor Size (Φmm)	F/#	MTF30 (lp/mm)	DOF (mm)	Distortion (% max)	Telecentricity (° max)	I/O (mm)	Length (mm)	Mount	重量 (kg)
BTL-0.346X-73-118	26	0.346	73±1	9.0(1/1.8")	4.6	>170	±3.7@F11	<0.1	<0.1	199±1	108.2	C Mount	0.3
BTL-0.25X-110-118	36	0.250	110±2	9.0(1/1.8")	4.6	>180	±7.0@F11	<0.1	<0.1	256±2	128.3	C Mount	0.4
BTL-0.214X-118-118	42	0.214	118±3	9.0(1/1.8")	4.6	>195	±9.6@F11	<0.1	<0.1	249±3	113.8	C Mount	0.4
BTL-0.188X-128-118	48	0.188	128±3	9.0(1/1.8")	4.6	>190	±12.4@F11	<0.1	<0.1	273±3	127.3	C Mount	0.4
BTL-0.188X-138-118(LM)	48	0.188	138±3	9.0(1/1.8")	4.6	>190	±12.4@F11	<0.1	<0.1	268±3	112.4	C Mount	0.4
BTL-0.161X-138-118(LM)	56	0.161	138±3	9.0(1/1.8")	4.6	>190	±17.0@F11	<0.1	<0.1	306±3	149.9	C Mount	0.7
BTL-0.141X-158-118(LM)	64	0.141	158±3	9.0(1/1.8")	4.6	>195	±22.3@F11	<0.1	<0.1	338±3	162.4	C Mount	0.8
BTL-0.125X-178-118(LM)	72	0.125	178±3	9.0(1/1.8")	4.6	>195	±28.1@F11	<0.1	<0.1	378±3	182.4	C Mount	1.1
BTL-0.113XH-228-118(LM)	80	0.113	228±4	9.0(1/1.8")	4.6	>195	±34.8@F11	<0.1	<0.1	418±4	172.4	C Mount	1.9
BTL-0.1X-208-118(LM)	90	0.100	208±3	9.0(1/1.8")	4.6	>195	±44@F11	<0.1	<0.1	433±3	207.4	C Mount	1.7
BTL-0.09X-238-118(LM)	100	0.090	238±4	9.0(1/1.8")	4.6	>200	±54.3@F11	<0.1	<0.1	506±4	250.1	C Mount	3.1
BTL-0.082X-263-118(LM)	110	0.082	263±4	9.0(1/1.8")	4.6	>200	±65.4@F11	<0.1	<0.1	541±4	260.0	C Mount	2.7
BTL-0.075X-273-118(LM)	120	0.075	273±5	9.0(1/1.8")	4.5	>200	±78.2@F11	<0.1	<0.1	562±5	271.7	C Mount	4.2
BTL-0.066X-288-118(LM)	136	0.066	288±5	9.0(1/1.8")	4.6	>200	±101@F11	<0.1	<0.1	651±5	345.0	C Mount	4.2
BTL-0.06X-300-118(LM)	150	0.060	300±5	9.0(1/1.8")	4.6	>200	±122@F11	<0.1	<0.1	632±5	314.4	C Mount	5.7
BTL-0.053X-318-118(LM)	170	0.053	318±5	9.0(1/1.8")	4.6	>200	±157@F11	<0.1	<0.1	712±5	376.3	C Mount	6.5
BTL-0.047X-330-118(LM)	190	0.047	330±5	9.0(1/1.8")	4.6	>200	±199@F11	<0.1	<0.1	751±5	403.6	C Mount	9.6
BTL-0.042X-372-118(LM)	216	0.042	372±5	9.0(1/1.8")	4.6	>200	±249@F11	<0.1	<0.1	889±5	499.1	C Mount	13.7
BTL-0.038XH-410-118(LM)	240	0.038	410±6	9.0(1/1.8")	4.6	>200	±313@F11	<0.1	<0.1	972±6	544.9	C Mount	19.1
BTL-0.035X-338-118(LM)	258	0.035	338±5	9.0(1/1.8")	4.6	>200	±362@F11	<0.1	<0.1	776±5	420.3	C Mount	24.3
BTL-0.03XH-465-118(LM)	300	0.030	465±6	9.0(1/1.8")	4.6	>190	±488@F11	<0.1	<0.1	1106±6	623.4	C Mount	46.6

1. The back focal length of model with (LM) is adjustable.

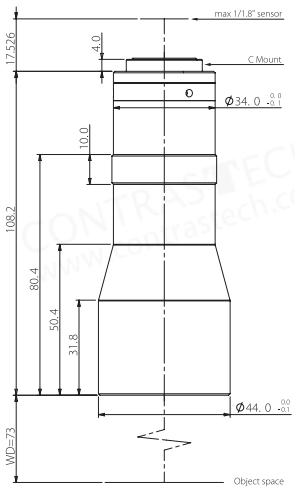
2. Warm tips: The above DOF is just theoretical value at the ideal aperture (eg. ±763@F11). Actual DOF or the DOF what you need, please check with our sales engineer before order cfm.

LENS PARAMETER DIAGRAM



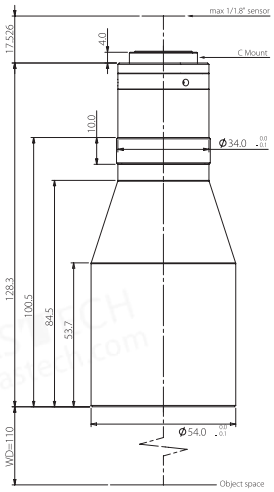
BTL-118 Series

BTL-0.346X-73-118



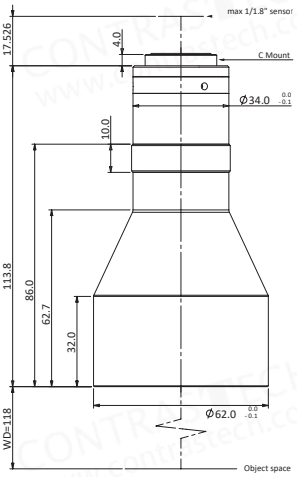
FOV(Φmm)	26
Mag.(x)	0.346
WD(mm)	73±1
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>170
DoF(mm)	±3.7@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	199±1
Length(mm)	108.2
Mount	C-Mount
Weight(kg)	0.3
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	21.5x14.2
1/1.8" IMX252/265 (7.1x5.3)	20.5x15.3

BTL-0.25X-110-118



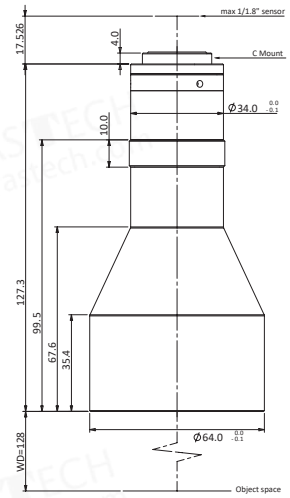
FOV(Φmm)	36
Mag.(x)	0.250
WD(mm)	110±2
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>180
DoF(mm)	±7.0@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	256±2
Length(mm)	128.3
Mount	C-Mount
Weight(kg)	0.4
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	29.7x19.6
1/1.8" IMX252/265 (7.1x5.3)	28.4x21.2

BTL-0.214X-118-118



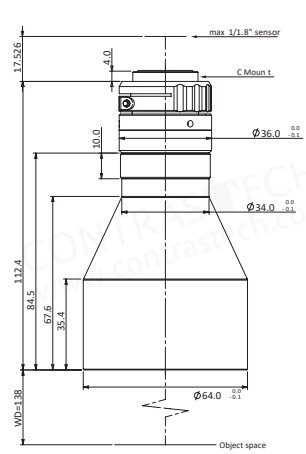
FOV(Φmm)	42
Mag.(x)	0.214
WD(mm)	118±3
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>195
DoF(mm)	±9.6@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	249±3
Length(mm)	113.8
Mount	C-Mount
Weight(kg)	0.4
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	34.7x22.9
1/1.8" IMX252/265 (7.1x5.3)	33.2x24.8

BTL-0.188X-128-118



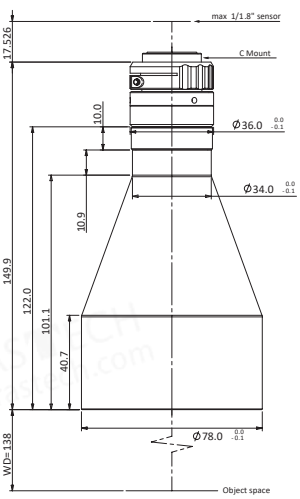
FOV(Φmm)	48
Mag.(x)	0.188
WD(mm)	128±3
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>190
DoF(mm)	±12.4@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	273±3
Length(mm)	127.3
Mount	C-Mount
Weight(kg)	0.4
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	39.5x26.1
1/1.8" IMX252/265 (7.1x5.3)	37.8x28.2

BTL-0.188X-138-118(LM)



FOV(Φmm)	48
Mag.(x)	0.188
WD(mm)	138±3
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>165
DoF(mm)	±12.4@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	268±3
Length(mm)	112.4
Mount	C-Mount
Weight(kg)	0.4
Field of View(mmxmm)	
1/1.8" ICX274/687(7.16x5.44)	38.1x29.0
1/1.8" EV76C570(7.2x5.4)	38.3x28.7

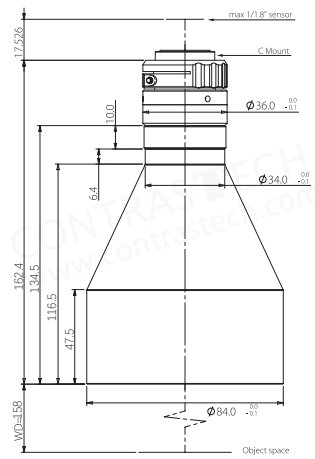
BTL-0.161X-138-118(LM)



FOV(Φmm)	56
Mag.(x)	0.161
WD(mm)	138±3
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>190
DoF(mm)	±17.0@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	306±3
Length(mm)	149.9
Mount	C-Mount
Weight(kg)	0.7
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	46.1x30.4
1/1.8" IMX252/265 (7.1x5.3)	44.1x32.9

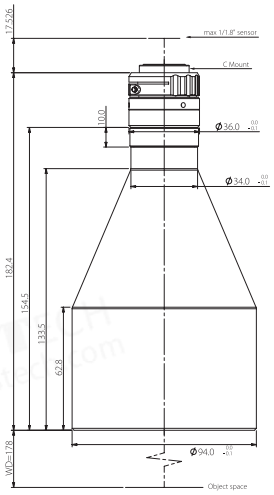
BTL-118 Series

BTL-0.141X-158-118(LM)



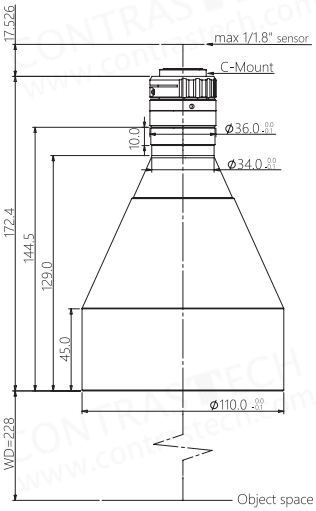
FOV(Φmm)	64
Mag.(x)	0.141
WD(mm)	158±3
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>195
DoF(mm)	±22.3@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	338±3
Length(mm)	162.4
Mount	C-Mount
Weight(kg)	0.8
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	52.7x34.8
1/1.8" IMX252/265 (7.1x5.3)	50.4x37.6

BTL-0.125X-178-118(LM)



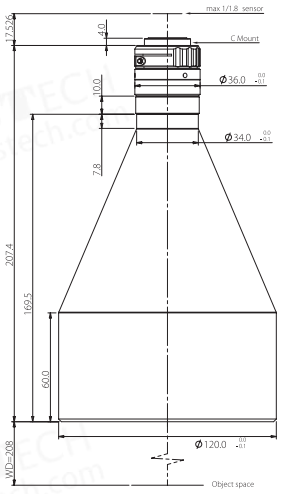
FOV(Φmm)	72
Mag.(x)	0.125
WD(mm)	178±3
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>195
DoF(mm)	±28.1@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	378±3
Length(mm)	182.4
Mount	C-Mount
Weight(kg)	1.1
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	59.4x39.2
1/1.8" IMX252/265 (7.1x5.3)	56.8x42.4

BTL-0.113XH-228-118(LM)



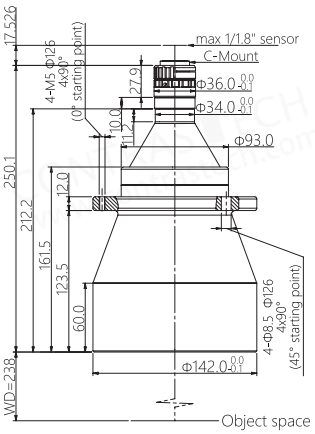
FOV(Φmm)	80
Mag.(x)	0.113
WD(mm)	228±4
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>195
DoF(mm)	±34.8@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	418±4
Length(mm)	172.4
Mount	C-Mount
Weight(kg)	1.9
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	65.8x43.4
1/1.8" IMX252/265 (7.1x5.3)	62.8x46.9

BTL-0.1X-208-118(LM)



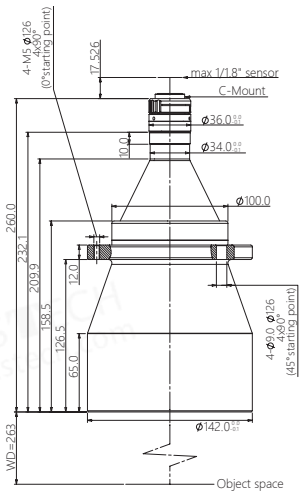
FOV(Φmm)	90
Mag.(x)	0.100
WD(mm)	208±3
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>195
DoF(mm)	±44.0@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	433±3
Length(mm)	207.4
Mount	C-Mount
Weight(kg)	1.7
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	74.3x49.0
1/1.8" IMX252/265 (7.1x5.3)	71.0x53.0

BTL-0.09X-238-118(LM)



FOV(Φmm)	100
Mag.(x)	0.090
WD(mm)	238±4
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±54.3@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	506±4
Length(mm)	250.1
Mount	C-Mount
Weight(kg)	3.1
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	82.6x54.4
1/1.8" IMX252/265 (7.1x5.3)	78.9x58.9

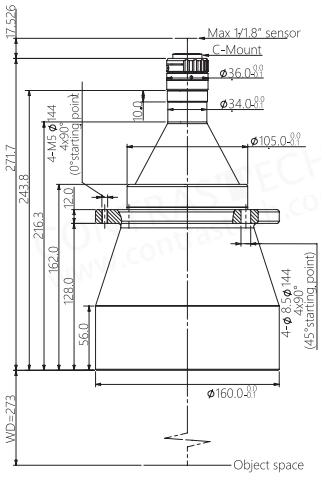
BTL-0.082X-263-118(LM)



FOV(Φmm)	110
Mag.(x)	0.082
WD(mm)	263±4
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±65.4@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	541±4
Length(mm)	260.0
Mount	C-Mount
Weight(kg)	2.7
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	90.6x59.8
1/1.8" IMX252/265 (7.1x5.3)	86.6x64.6

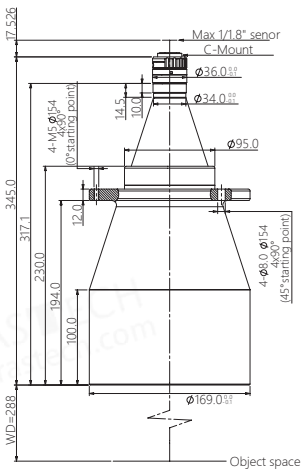
BTL-118 Series

BTL-0.075X-273-118(LM)



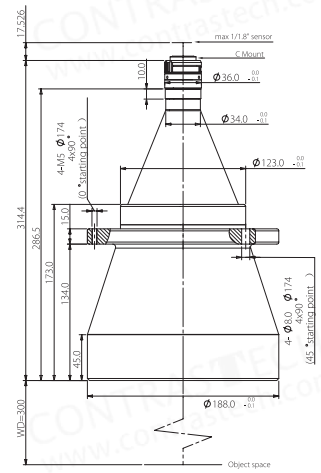
FOV(Φmm)	120
Mag.(x)	0.075
WD(mm)	273±5
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.5
MTF30(lp/mm)	>200
DoF(mm)	±78.2@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	562±5
Length(mm)	271.7
Mount	C-Mount
Weight(kg)	4.2
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	99.1x65.3
1/1.8" IMX252/265 (7.1x5.3)	94.7x70.7

BTL-0.066X-288-118(LM)



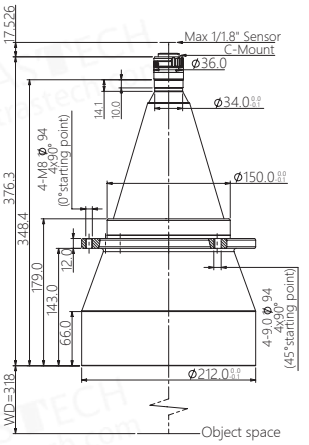
FOV(Φmm)	136
Mag.(x)	0.066
WD(mm)	288±5
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±101@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	651±5
Length(mm)	345.0
Mount	C-Mount
Weight(kg)	4.2
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	112.6x74.2
1/1.8" IMX252/265 (7.1x5.3)	107.6x80.3

BTL-0.06X-300-118(LM)



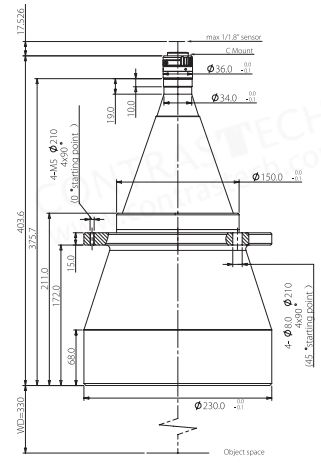
FOV(Φmm)	150
Mag.(x)	0.060
WD(mm)	300±5
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±122@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	632±5
Length(mm)	314.4
Mount	C-Mount
Weight(kg)	5.7
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	123.8x81.7
1/1.8" IMX252/265 (7.1x5.3)	118.3x88.3

BTL-0.053X-318-118(LM)



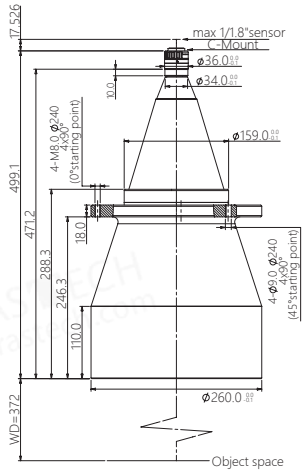
FOV(Φmm)	170
Mag.(x)	0.053
WD(mm)	318±5
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±157@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	712±5
Length(mm)	376.3
Mount	C-Mount
Weight(kg)	6.5
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	140.2x92.5
1/1.8" IMX252/265 (7.1x5.3)	134.0x100.0

BTL-0.047X-330-118(LM)



FOV(Φmm)	190
Mag.(x)	0.047
WD(mm)	330±5
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±199@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	751±5
Length(mm)	403.6
Mount	C-Mount
Weight(kg)	9.6
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	158.1x104.3
1/1.8" IMX252/265 (7.1x5.3)	151.1x112.8

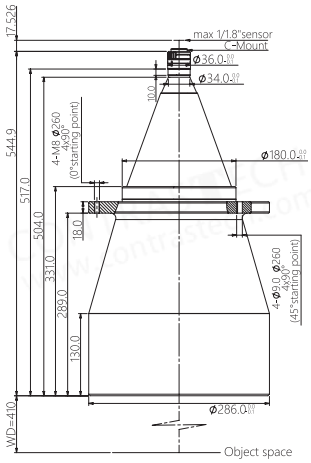
BTL-0.042X-372-118(LM)



FOV(Φmm)	216
Mag.(x)	0.042
WD(mm)	372±5
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±249@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	889±5
Length(mm)	499.1
Mount	C-Mount
Weight(kg)	13.7
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	176.9x116.7
1/1.8" IMX252/265 (7.1x5.3)	169.0x126.2

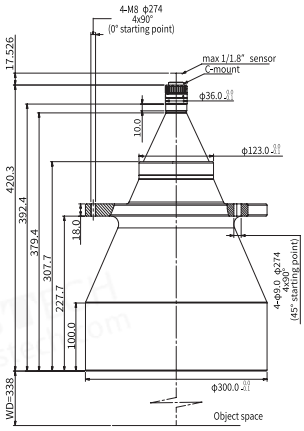
BTL-118 Series

BTL-0.038XH-410-118(LM)



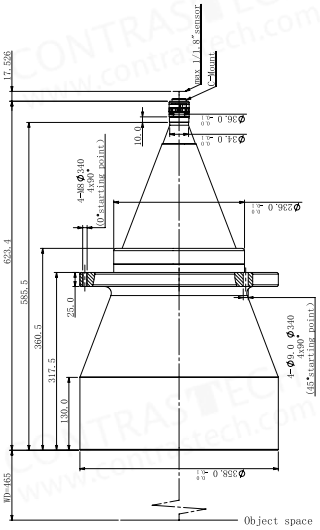
FOV(Φmm)	240
Mag.(x)	0.038
WD(mm)	410±6
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±313@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	972±6
Length(mm)	544.9
Mount	C-Mount
Weight(kg)	19.1
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	195.5x128.9
1/1.8" IMX252/265 (7.1x5.3)	186.8x139.5

BTL-0.035X-338-118(LM)



FOV(Φmm)	258
Mag.(x)	0.035
WD(mm)	338±5
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>200
DoF(mm)	±362@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	776±5
Length(mm)	420.3
Mount	C-Mount
Weight(kg)	24.3
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	212.3x140.0
1/1.8" IMX252/265 (7.1x5.3)	202.9x151.4

BTL-0.03X-465-118(LM)



FOV(Φmm)	300
Mag.(x)	0.030
WD(mm)	465±6
Max Sensor Size(Φmm)	9.0(1/1.8")
F/#	4.6
MTF30(lp/mm)	>190
DoF(mm)	±488@F11
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	1106±6
Length(mm)	623.4
Mount	C-Mount
Weight(kg)	46.6
Field of View(mmxmm)	
1/1.8" IMX178 (7.43x4.9)	247.7x163.3
1/1.8" IMX252/265 (7.1x5.3)	236.7x176.7

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