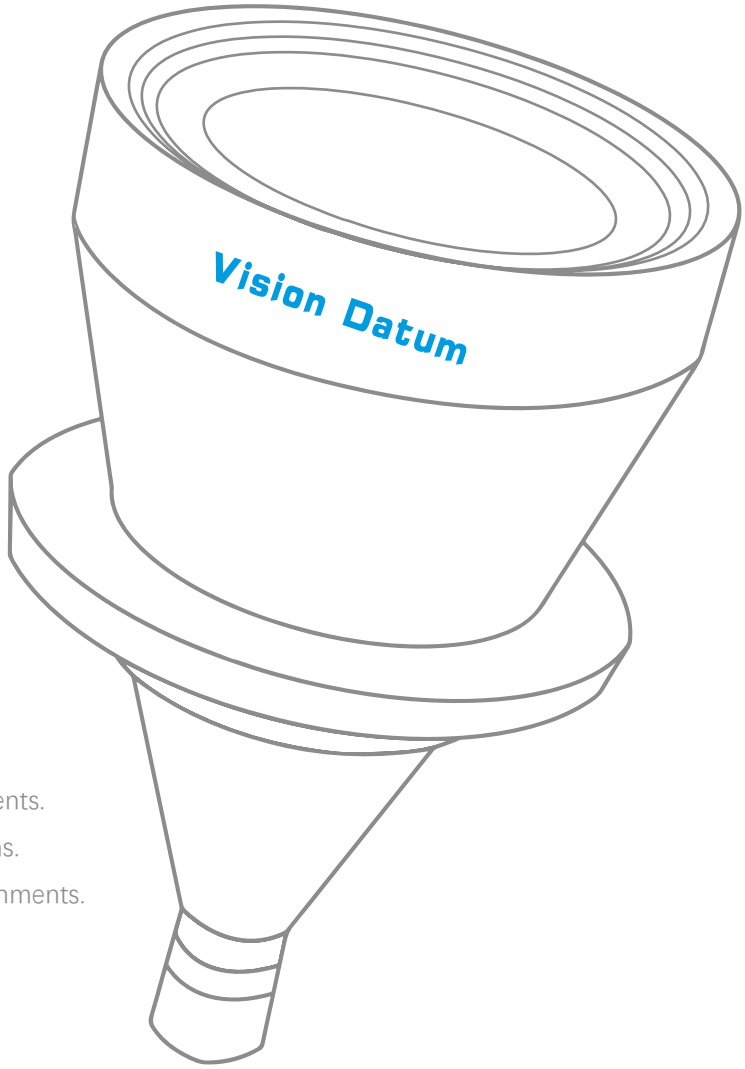
TELECENTRIC LENSES
BTL-150M SERIES



MAIN FEATURES

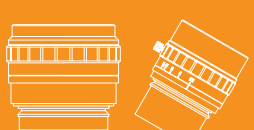
- **High telecentricity** for thick object imaging.
- **Nearly zero distortion** for accurate measurements.
- **Excellent resolution** for high resolution cameras.
- **Simple and robust design** for industrial environments.

ABOUT US

Hangzhou Vision Datum Technology Co.,Ltd. is China top leading professional machine vision products manufacturer and supplier, who have been specializing in design, development and producing machine vision products, software and systems.

With advanced technology and creative power of image acquisition and processing, Vision Datum major products have included industrial camera, scientific standard camera, industrial FA lens, telecentric lens, machine vision lights and image processing software. All products comply with international quality standards and we have more than 20 years industry experience in the fields of machine vision image acquisition and processing, optical imaging and automation.

Vision Datum provides free of charge consultation for imaging solution. With excellent pre-sales, quality control and after-sales service team, we are able to respond rapidly in 24 hours and ensure to create best value for customers. Vision Datum will innovate constantly and shall make more brilliant achievements together with our customers in the era of Industry 4.0.



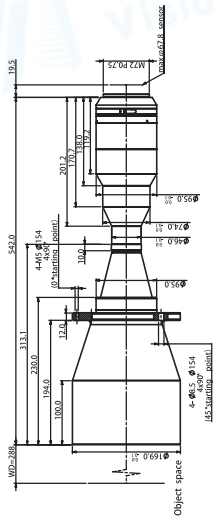
BTL-150M SERIES

Model No.	Optical specs										Mechanical specs	
	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
BTL-0.497X-288-150M(LM) (FBL=19.5mm)	136	0.497	288±5	67.8	12.2	>70	±3.2@F12.2	<0.1	<0.1	850±5	542	M72
BTL-0.398X-318-150M(LM) (FBL=19.5mm)	170	0.398	318±5	67.6	9.4	>88	±2.4@F9.4	<0.05	<0.05	911±5	573.4	M72
BTL-0.398X-318-150M(LM) (FBL=12mm)	170	0.398	318±5	67.6	9.4	>88	±2.4@F9.4	<0.05	<0.05	911±5	580.9	M72
BTL-0.497X-288-150M-L(LM)	170	0.398	318±5	67.6	9.4	>88	±2.4@F9.4	<0.05	<0.05	-	411.4	M72
BTL-0.356X-330-150M(LM) (FBL=19.5mm)	190	0.356	330±5	67.6	9.4	>95	±3.0@F9.4	<0.05	<0.05	950.2±5	600.7	M72
BTL-0.356X-330-150M(LM) (FBL=12mm)	190	0.356	330±5	67.6	9.4	>95	±3.0@F9.4	<0.05	<0.05	950.2±5	608.2	M72
BTL-0.356X-330-150M-L(LM)	190	0.356	330±5	67.6	9.4	>95	±3.0@F9.4	<0.05	<0.05	-	-	M72
BTL-0.313X-372-150M(LM) (FBL=12mm)	216	0.313	372±5	67.6	7.9	>100	±3.2@F16	<0.1	<0.1	1087.6	703.6	M72
BTL-0.313X-372-150M-L(LM)	216	0.313	372±5	67.6	7.9	>100	±3.2@F16	<0.1	<0.1	-	-	M72
BTL-0.282X-410-150M(LM) (FBL=19.5mm)	240	0.282	410±6	67.6	9.2	>100	±8.0@F16	<0.1	<0.1	1171.5	742.0	M72
BTL-0.282X-410-150M(LM) (FBL=12mm)	240	0.282	410±6	67.6	9.2	>100	±8.0@F16	<0.1	<0.1	1171.5	749.5	M72
BTL-0.262X-338-150M(LM) (FBL=19.5mm)	258	0.262	338±5	67.6	8.8	>95	±5.1@F8.8	<0.1	<0.04	977±5	619.4	M72
BTL-0.262X-338-150M(LM) (FBL=12mm)	258	0.262	338±5	67.6	8.8	>95	±5.1@F8.8	<0.1	<0.04	977±5	626.9	M72
BTL-0.262X-338-150M-L(LM)	258	0.262	338±5	67.6	8.8	>95	±5.1@F8.8	<0.1	<0.04	-	-	M72
BTL-0.225X-465-150M(LM) (FBL=19.5mm)	300	0.225	465±6	67.6	6.6	>98	±5.2@F6.6	<0.1	<0.1	1305±6	820.5	M72
BTL-0.225X-465-150M(LM) (FBL=12mm)	300	0.225	465±6	67.6	6.6	>98	±5.2@F6.6	<0.1	<0.1	1305±6	828.0	M72
BTL-0.225X-465-150M-L(LM)	300	0.225	465±6	67.6	6.6	>98	±5.2@F6.6	<0.1	<0.1	-	-	M72

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

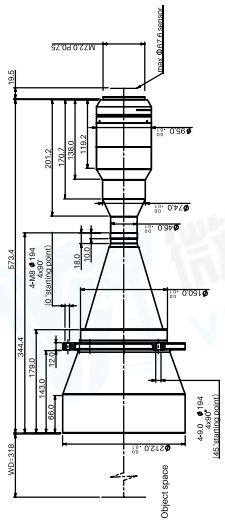
2. Warm tips: The above DOF is just theoretical value at the ideal aperture (eg. ±763@F11). Actual DOF or the DOF what you need, please check with our sales engineer before order cfm.

BTL-0.497X-288-150M(LM) (FBL=19.5mm)



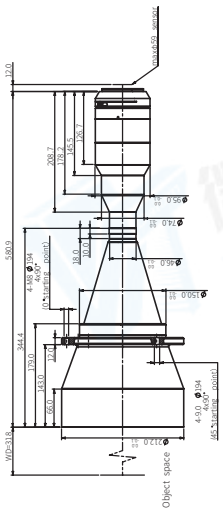
FOV(Φmm)	136
Mag.(x)	0.497
WD(mm)	288±5
Max Sensor Size(Φmm)	67.8
F/#	12.2
MTF30(lp/mm)	>70
DoF(mm)	±3.2@F12.2
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	850±5
Length(mm)	542
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	107.5x80.5

BTL-0.398X-318-150M(LM) (FBL=19.5mm)



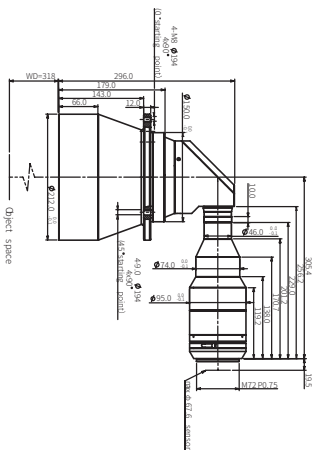
FOV(Φmm)	170
Mag.(x)	0.398
WD(mm)	318±5
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>88
DoF(mm)	±2.4@F9.4
Distortion(% max)	<0.05
Telecentricity(° max)	<0.05
I/O(mm)	911±5
Length(mm)	573.4
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	134.2x100.5

BTL-0.398X-318-150M(LM) (FBL=12mm)



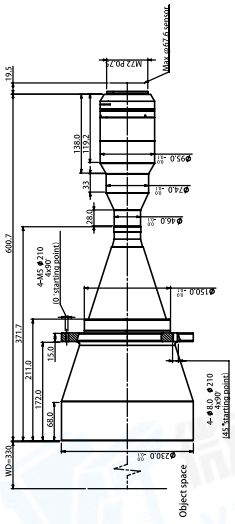
FOV(Φmm)	170
Mag.(x)	0.398
WD(mm)	318±5
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>88
DoF(mm)	±2.4@F9.4
Distortion(% max)	<0.05
Telecentricity(° max)	<0.05
I/O(mm)	911±5
Length(mm)	580.9
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	134.2x100.5

BTL-0.398X-318-150M(LM) (FBL=12mm)



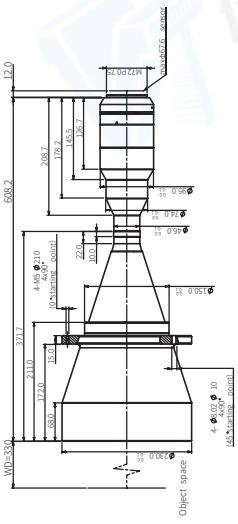
FOV(Φmm)	170
Mag.(x)	0.398
WD(mm)	318±5
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>88
DoF(mm)	±2.4@F9.4
Distortion(% max)	<0.05
Telecentricity(° max)	<0.05
I/O(mm)	-
Length(mm)	411.4
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	134.2x100.5

BTL-0.356X-330-150M(LM) (FBL=19.5mm)



FOV(Φmm)	190
Mag.(x)	0.356
WD(mm)	330±5
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>95
DoF(mm)	±3.0@F9.4
Distortion(% max)	<0.05
Telecentricity(° max)	<0.05
I/O(mm)	950.2±5
Length(mm)	600.7
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	150.1x112.4

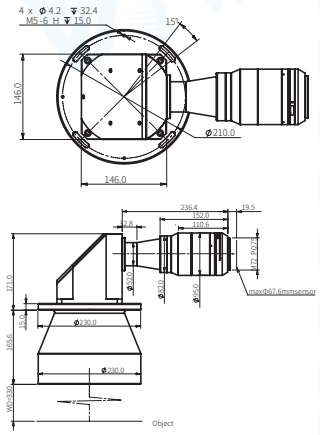
BTL-0.356X-330-150M(LM) (FBL=12mm)



FOV(Φmm)	190
Mag.(x)	0.356
WD(mm)	330±5
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>95
DoF(mm)	±3.0@F9.4
Distortion(% max)	<0.05
Telecentricity(° max)	<0.05
I/O(mm)	950.2±5
Length(mm)	608.2
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	150.1x112.4

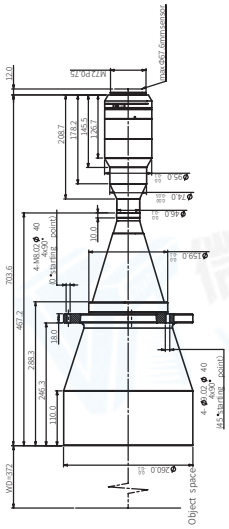
Warm tips: The above DOF is just theoretical value at the ideal aperture (eg. ±763@F11). Actual DOF or the DOF what you need, please check with our sales engineer before order cfm.

BTL-0.356X-330-150M(LM) (FBL=12mm)



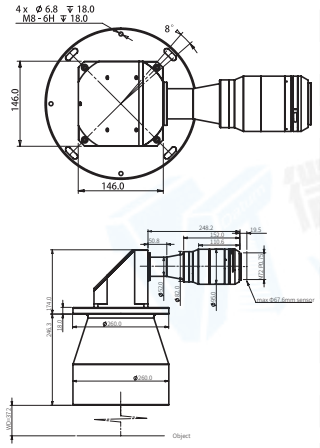
FOV(Φmm)	190
Mag.(x)	0.356
WD(mm)	330±5
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>95
DoF(mm)	±3.0@F9.4
Distortion(% max)	<0.05
Telecentricity(° max)	<0.05
I/O(mm)	-
Length(mm)	-
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	150.1x112.4

BTL-0.313X-372-150M(LM) (FBL=12mm)



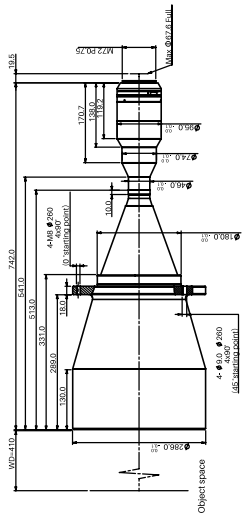
FOV(Φmm)	216
Mag.(x)	0.313
WD(mm)	372±5
Max Sensor Size(Φmm)	67.6
F/#	7.9
MTF30(lp/mm)	>100
DoF(mm)	±3.2@F16
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	1087.6
Length(mm)	703.6
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	170.6x127.8

BTL-0.313X-372-150M-L(LM)



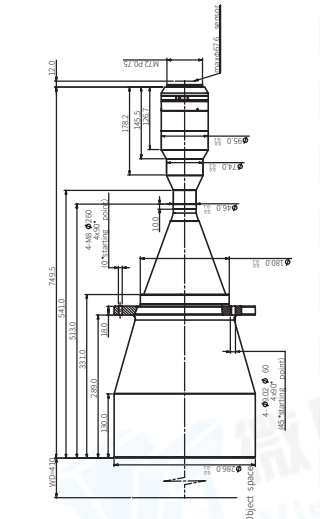
FOV(Φmm)	216
Mag.(x)	0.313
WD(mm)	372±5
Max Sensor Size(Φmm)	67.6
F/#	7.9
MTF30(lp/mm)	>100
DoF(mm)	±3.2@F16
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	1087.6
Length(mm)	-
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	170.6x127.8

BTL-0.282X-410-150M(LM) (FBL=19.5mm)



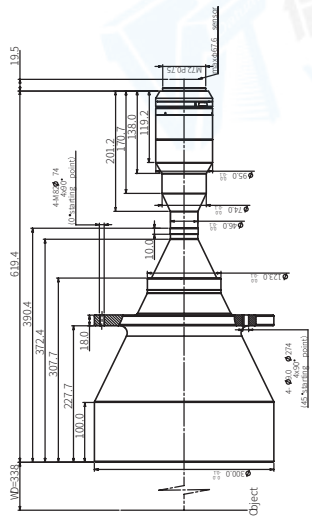
FOV(Φmm)	240
Mag.(x)	0.282
WD(mm)	410±6
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>88
DoF(mm)	±8.0@F16
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	1171.5
Length(mm)	742.0
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	189.4x141.8

BTL-0.282X-410-150M(LM) (FBL=12mm)



FOV(Φmm)	240
Mag.(x)	0.282
WD(mm)	410±6
Max Sensor Size(Φmm)	67.6
F/#	9.4
MTF30(lp/mm)	>88
DoF(mm)	±8.0@F16
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	1171.5
Length(mm)	749.5
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	189.4x141.8

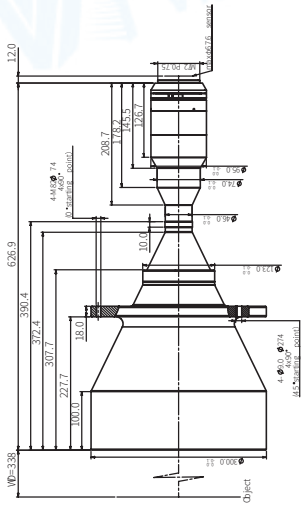
BTL-0.262X-338-150M(LM) (FBL=19.5mm)



FOV(Φmm)	258
Mag.(x)	0.262
WD(mm)	338±5
Max Sensor Size(Φmm)	67.6
F/#	8.8
MTF30(lp/mm)	>95
DoF(mm)	±5.1@F8.8
Distortion(% max)	<0.1
Telecentricity(° max)	<0.04
I/O(mm)	977±5
Length(mm)	619.4
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	203.9x152.6

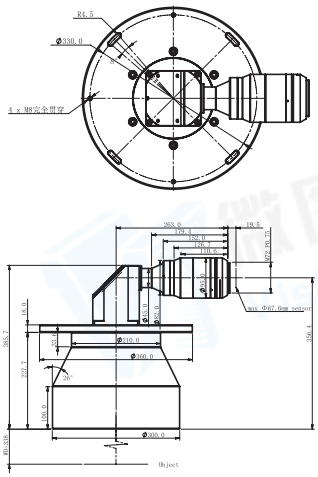
Warm tips: The above DOF is just theoretical value at the ideal aperture (eg. ±763@F11). Actual DOF or the DOF what you need, please check with our sales engineer before order cfm.

BTL-0.262X-338-150M(LM) (FBL=12mm)



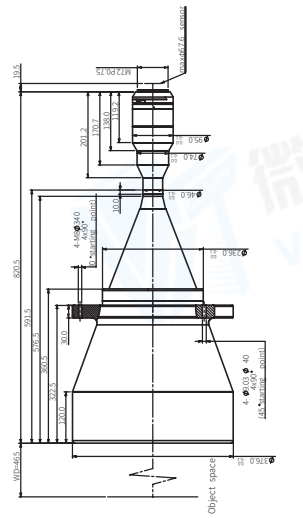
FOV(Φmm)	258
Mag.(x)	0.262
WD(mm)	338±5
Max Sensor Size(Φmm)	67.6
F/#	8.8
MTF30(lp/mm)	>95
DoF(mm)	±5.1@F8.8
Distortion(% max)	<0.1
Telecentricity(° max)	<0.04
I/O(mm)	977±5
Length(mm)	626.9
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	203.9x152.6

BTL-0.262X-338-150M-L(LM)



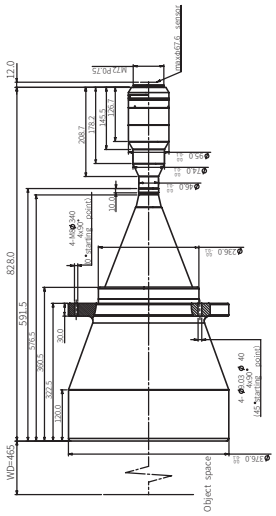
FOV(Φmm)	258
Mag.(x)	0.262
WD(mm)	338±5
Max Sensor Size(Φmm)	67.6
F/#	8.8
MTF30(lp/mm)	>95
DoF(mm)	±5.1@F8.8
Distortion(% max)	<0.1
Telecentricity(° max)	<0.04
I/O(mm)	-
Length(mm)	-
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	203.9x152.6

BTL-0.225X-465-150M(LM) (FBL=19.5mm)



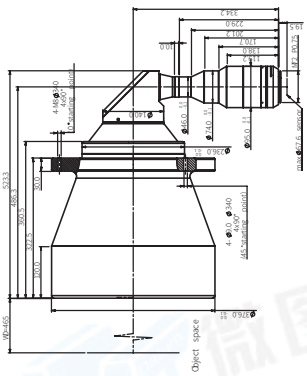
FOV(Φmm)	300
Mag.(x)	0.225
WD(mm)	465±6
Max Sensor Size(Φmm)	67.6
F/#	6.6
MTF30(lp/mm)	>98
DoF(mm)	±5.2@F6.6
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	1305±6
Length(mm)	820.5
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	237.4x177.8

BTL-0.225X-465-150M(LM) (FBL=19.5mm)



FOV(Φmm)	300
Mag.(x)	0.225
WD(mm)	465±6
Max Sensor Size(Φmm)	67.6
F/#	6.6
MTF30(lp/mm)	>98
DoF(mm)	±5.2@F6.6
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	1305±6
Length(mm)	828.0
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	237.4x177.8

BTL-0.225X-465-150M(LM) (FBL=19.5mm)



FOV(Φmm)	300
Mag.(x)	0.225
WD(mm)	465±6
Max Sensor Size(Φmm)	67.6
F/#	6.6
MTF30(lp/mm)	>98
DoF(mm)	±5.2@F6.6
Distortion(% max)	<0.1
Telecentricity(° max)	<0.1
I/O(mm)	-
Length(mm)	-
Mount	M72
Weight(kg)	-
Field of View(mmxmm)	
150MP CMOS CoaXPress IMX411(53.42x40mm)	237.4x177.8

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.

Vision And More Available

让工业更智能，让视觉更简单!

SWIR Camera
Industrial Camera

Macro Lens
Industrial Lens

+

Microscope

System Solution
No-programming Software

微图视觉
Vision Datum

Hangzhou Vision Datum Technology Co., Ltd. No. 8 Xiyuan 9th Road, West Lake District Hangzhou Zhejiang 310030 China
Tel: 86-571-86888309
www.visiondatum.com

VER 25.01