

TZM0325 Series 0.3-2.5X Monocular Zoom Objective (MZO)



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1 The Basic Characteristic of TZM0325 Series MZO

1.1 Introduction of TZM0325 Series MZO

TZM0325 series MZO (Monocular Zoom Objective) is an ideal choice for machine vision, industrial inspection, scientific research and education. The design is based on the bilateral parallel light path principle and the modular design concept, with superior optical performance and strong compatibility.



Figure 1 TZM0325 with different module

1.2 The Basic Characteristics of TZM0325 Series MZO

The basic module of **TZM0325** series monocular zoom object is **TZM0325-W5100-TV5100-A50**. Its main features are shown below:

- With 0.3X~2.5X zoom range, 8X zoom ratio
- Larger NA: 0.011-0.062 (When using 1.00x **Auxiliary Lens**)
- Higher resolution: 25um-4.43um (When using 1.00x **Auxiliary Lens**)
- Larger sensor size: 2/3" (When using 1.00x **TV Lens**)
- Working distance range: 100mm (When using 1.00x **Auxiliary Lens**)
- With adjustable BFL, parfocal in zoom range
- With adjustable center, the image center remains unchanged from 2.5x to 0.3x
- Compact size: 183 mm (Length) × 40 mm (Diameter)
- **Auxiliary Lens** with 1.00x magnification (Customizable)
- **TV Lens** with 1.00x magnification (Customizable)
- Brightness adjustable **LED Direct Ring Light** (Optional)
- **LED Transmissive Light** (Optional)
- 45mm or 50mm **Bracket Adapter** (Optional)

1.3 The Optical Specifications of TZM0325

The optical specifications of **TZM0325** are shown in Table 1.

Table 1 TQM0325-W5100-TV5100

Model	WD/mm	PMAG	NA	Camera Size	FOV/mm	Resolution/um
TQM0325-W5100-TV5100	100	0.3x-2.5x	0.011-0.062	1/3"	2.4-20.0	25.0-4.4
				1/2"	3.2-26.7	25.0-4.4
				2/3"	4.4-36.7	25.0-4.4
TQM0325-W5050-TV5100(TBD)	200	0.15x-1.25x	0.006-0.031	1/3"	4.8-40.0	45.8-8.9
				1/2"	6.4-53.4	45.8-8.9
				2/3"	8.8-73.4	45.8-8.9
TQM0325-W5075-TV5100(TBD)	133	0.225x-1.875x	0.008-0.047	1/3"	3.2-26.7	34.0-5.9
				1/2"	4.3-35.6	34.0-5.9
				2/3"	5.9-48.9	34.0-5.9
TQM0325-W5150-TV5100(TBD)	67	0.45x-3.75x	0.017-0.093	1/3"	1.6-13.3	16.1-3.0
				1/2"	2.1-17.8	16.1-3.0
				2/3"	2.9-24.5	16.1-3.0
TQM0325-W5200-TV5100(TBD)	50	0.6x-5.0x	0.022-0.124	1/3"	1.2-10.0	12.5-2.2
				1/2"	1.6-13.4	12.5-2.2
				2/3"	2.2-18.4	12.5-2.2

WD: Working Distance;

PMAG: Primary Magnification;

FOV: Field of View in the object side;

NA: Numerical Aperture;

1.4 The Dimension of TQM0325 Series MZO

The dimension of TQM0325-W5100-TV5100 are shown in Figure 2.

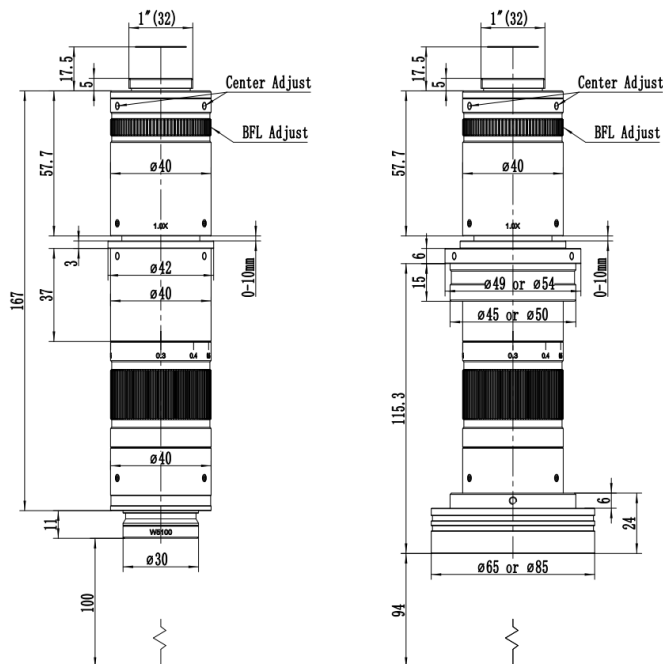


Figure 2 Dimension of TQM0325-W5100-TV5100 (Left)
Dimension of TQM0325-W5100-TV5100-A50+TQM0756DRL light (Right)

2 The Connection of TZM0325 Series MZO and Camera



Figure 3 TZM0325-W4100- TV4100+TZM0756DRL-85+HDMI Camera+TPS-210A+SCRN

3 Pictures Taken with TZM0325 Series MZO

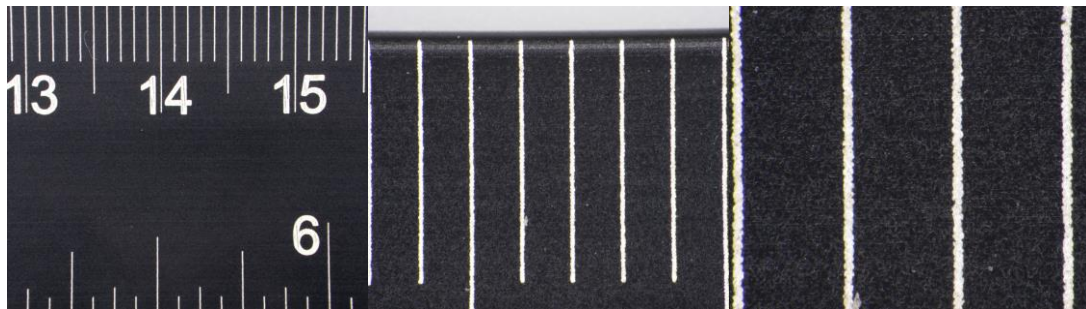


Figure 4 Pictures of ruler taken with TZM0325-W5100-TV5100 under LED Direct Ring Light illumination
left) 0.3X, middle) 1.2X, right) 2.5X



Figure 5 Pictures of Tea taken with TZM0325-W5100-TV5100
left) 0.3X, middle) 1.2X, right) 2.5X

4 TZM0325 Series MZO Packing List

The packing information of the [TZM0325](#) series MZO is as follows:



Figure 6 The TZM0325 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The packing information of [TZM0756DRL](#) is as follows:



Figure 7 TZM0756DRL, including LED Direct Ring Light and Power Adapter

The packing information of [TZM0756DRPL](#) is as follows:



Figure 8 TZM0756DRPL, including LED Direct Ring Polarization Light and Power Adapter

The packing information of [TZM0756DRL-85](#) is as follows:



Figure 9 TZM0756DRL-85, including LED Direct Ring Light and Power Adapter

5 Order List of TZM0325 Series MZO

TZM0325 Order List of Other Accessories

Module	Order number	Quantity	Remarks	Description
Auxiliary Lens Module	W5100			1.0X Object Lens
	W5050			0.5X Object Lens
	W5075			0.75X Object Lens
	W5150			1.5X Object Lens
	W5200			2.0X Object Lens
TV Lens	TV4100			For 2/3" Sensor
Bracket Adapter	A45			45mm Bracket Adapter
	A50			50mm Bracket Adapter
LED Direct Ring Light Module	TZM0756DRL			LED Direct Ring Light (65mm outer diameter)
	TZM0756DRL-85			LED Direct Ring Light (85mm outer diameter)
	TZM0756DRPL			LED Direct Ring Polarization Light
Transmissive Light Module	TZM0756TL			LED Transmissive Light
Power of light source	40600014			POWER-U-12V1A(MSA-C1000IC12.0-12H-US), Power Adapter American Standard
	40600015			POWER-E-12V1A(MSA-C1000IC12.0-12W-DE), Power Adapter European standard

TZM0325 Function Module Optional Order List

Module	Order number	Quantity	Remarks	Description
Middle Zoom Module	TZM0325			Ordinary Middle Zoom Module
	TZM0325D			Middle Zoom Module with detent
Auxiliary Lens Module	W5100			1.0X Object Lens
	W5050			0.5X Object Lens
	W5075			0.75X Object Lens
	W5150			1.5X Object Lens
	W5200			2.0X Object Lens
TV Lens	TV4100			For 2/3" Sensor
Bracket Adapter	A45			45mm Bracket Adapter
	A50			50mm Bracket Adapter
LED Direct Ring Light Module	TZM0756DRL			LED Direct Ring Light (65mm outer diameter)
	TZM0756DRL-85			LED Direct Ring Light (85mm outer diameter)
	TZM0756DRPL			LED Direct Ring Polarization Light
Transmissive Light Module	TZM0756TL			LED Transmissive Light
Power of Light Source	40600014			POWER-U-12V1A(American Standard)
	40600015			POWER-E-12V1A(European standard)

6 Service

For customers who purchase MZO from local dealer, please contact your dealer for more information.

For technical support, please contact e-mail address: tpzh@touptek.com.