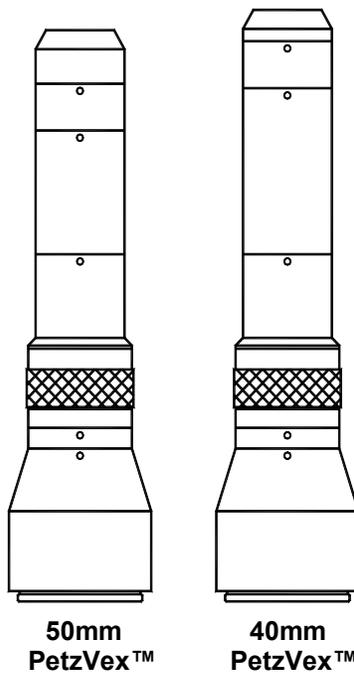
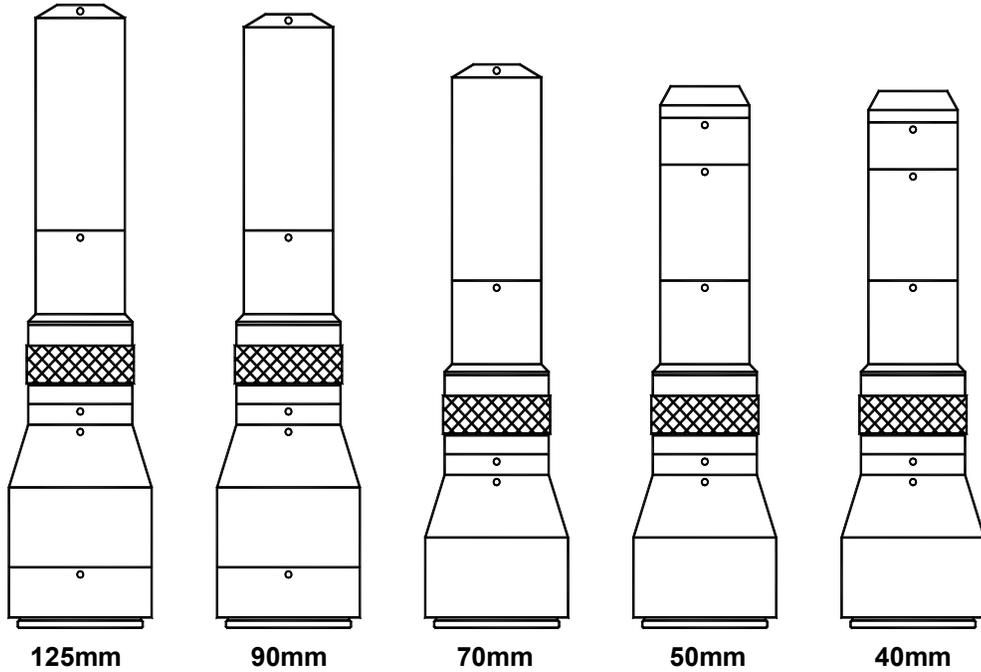


MikroMak™

Prime Probe Lenses



MikroMak™ Prime Probe Lenses Instructions for Use

Thank you for choosing a MikroMak Prime Probe Lens. We have attempted to incorporate many of the characteristics of our multiply-award winning* InfiniProbe TS-160 ROBUSTO into a simplified, easy to use and carry form. By using a MikroMak, you will attain very high performance and creative levels with almost total abandon or attention to any requirements other than minimally turning focus, exposure or adjusting illumination.

As its optical system is supplied as a sealed unit *setscrews are used for intended permanent construction and are not user removeable. Attempted entry will void the warranty.* (The sole exception to this is when the T16 rear tube is to be exchanged with a stereo microscope stand adapter. *Its #2-56 setscrew can be loosened with an Allen wrench for such exchange.*) Consequently, your MikroMak is designed for virtually foolproof, trouble-free use.

MikroMak Characteristics: The MikroMak Prime Probe series all function on principles derived from microscope tech, termed Nelsonian™. Because of this, they all provide an *inverted image*—as all laboratory type microscopes do. This allows their optics to be as “pure” as possible (no additional or unnecessary elements introducing potential image degradation) and their outer dimensions accordingly compact. Most people who are using the MikroMak have had this experience from using laboratory microscopes and we are sure you are among them. But, even so, if the inverted image is desired to be erect instead, set your camera or accessory monitor to *rotate*.

All MikroMaks provide extreme depth of focus combined with high clarity and resolution (many equivalent in power and magnification to just below the 10x objective on laboratory microscopes) in compact, light weight configurations. One unique characteristic common to all (and equally *uncommon* with other lenses) is that they focus slightly *beyond* infinity and *closer* than shown engraved on their scales. This is deliberate in anticipation of future accessorization and does not indicate a defect in any way. Consequently, the engraved information should be read as the *approved* operating ranges.

The 125mm, 90mm and 70mm types all achieve high magnifications equal to the low power objectives on standard laboratory microscopes—and resolution typical of them as well.

The 50mm and 40mm MikroMaks achieve magnifications greater than 1.5x. There are *two kinds* of 50mm and 40mm MikroMaks. The first type is the Aspheric and the second is the PetzVex™.

The Aspherics provide edge to edge sharpness over full frame sensors. In addition, the 40mm accepts an accessory 25mm Field Extender that converts it effectively into a 25mm wide field lens.

The PetzVex types provide on center sharpness with the *deliberate* outer field falloff similar to the effects associated with the classic Petzval design from a new formula that does so. Consequently, outer field bokeh change. The PetzVex are designed specifically for use with full format sensors.

Regardless of type, the 50mm and 40mm are well-suited to high depth of field, forced perspective, tabletop, product and stand-off nature cinematography and can then extend to be specially used in macro.

MikroMak in Use: After mounting the T2 adapter for your specific brand or type of camera onto the rear threads (M42 x 0.75) of the MikroMak, position it in place as you would for any other lens used on it.

A focusing ring sets focus from infinity into the micro/macro range provided. Because once set to infinity almost everything up to a very close proximity is *automatically* in focus, *the markings on the scale are magnifications, not distance settings* (which are now virtually unnecessary). You can focus first and *then* look at what the magnification is, *or*, you can set a magnification and then *move* the entire setup until focus is obtained. The scale is marked in magnifications, *not* in meters or feet, since the focus at infinity is held to very close proximities. Thus, markings such as 0.5x or 3x, etc., reasonably denote the macro and micro enlargements *onto the sensor*.

Illumination: As the MikroMak is progressively focused, the angle of illumination—as with all optics that achieve such magnifications—becomes increasingly in need of intense, directed beaming. Diffuse lighting does not sufficiently “bite” into objects with sufficient angularity to resolve detail. LED or fiber optic light guides are well suited for the MikroMak—even those criticized for concentrating light as they are positioned closer. We have found that cube lights are ideal. They can be mounted on the probe of the MikroMak, used singularly or in tandem, be remotely controlled and, most importantly, concentrate its beam as the MikroMak is moved in ever closer. Provided that they share similar characteristics, other LED lights may prove equally suited.

By means of the *Universal Adapter*, ring lights for low power and other accessories can be mounted on the MikroMak. In addition, lights that are equipped with ¼”-20 taps can be mounted on stands, fixtures or tripods near the MikroMak setup.

Exposure: The MikroMak is preset at its optimum performance level according to micro tech design known as its Nelson Point. Theoretically, above or below this aperture, the image will degrade one way or another, resulting in either too much or too little contrast or too little resolution or too much glare overpowering the system. In calculating the MikroMak’s best operating point, we have removed all guess work to its use. It’s fully-adaptable senior sibling, the InfiniProbe TS-160 ROBUSTO has provision for altering the Nelson Point characteristics, but the MikroMak is ideal for getting results without having to consider variables.

Since MikroMak is set for its Nelson Point, it is not a high-speed lens. Modern camera sensors can easily compensate for this by using their high ISO settings. Today, even used well beyond 16,000 ISO, most cameras exhibit little or no noise. In this respect, MikroMak stands at the forefront of modern technique, especially with dual native ISO sensed cameras. If the *recording medium* is not limited, then an exposure can be selected which allows easy handling and use. Counter-intuitively, set the ISO reasonably high and you will experience results that could not be properly done even a decade ago.

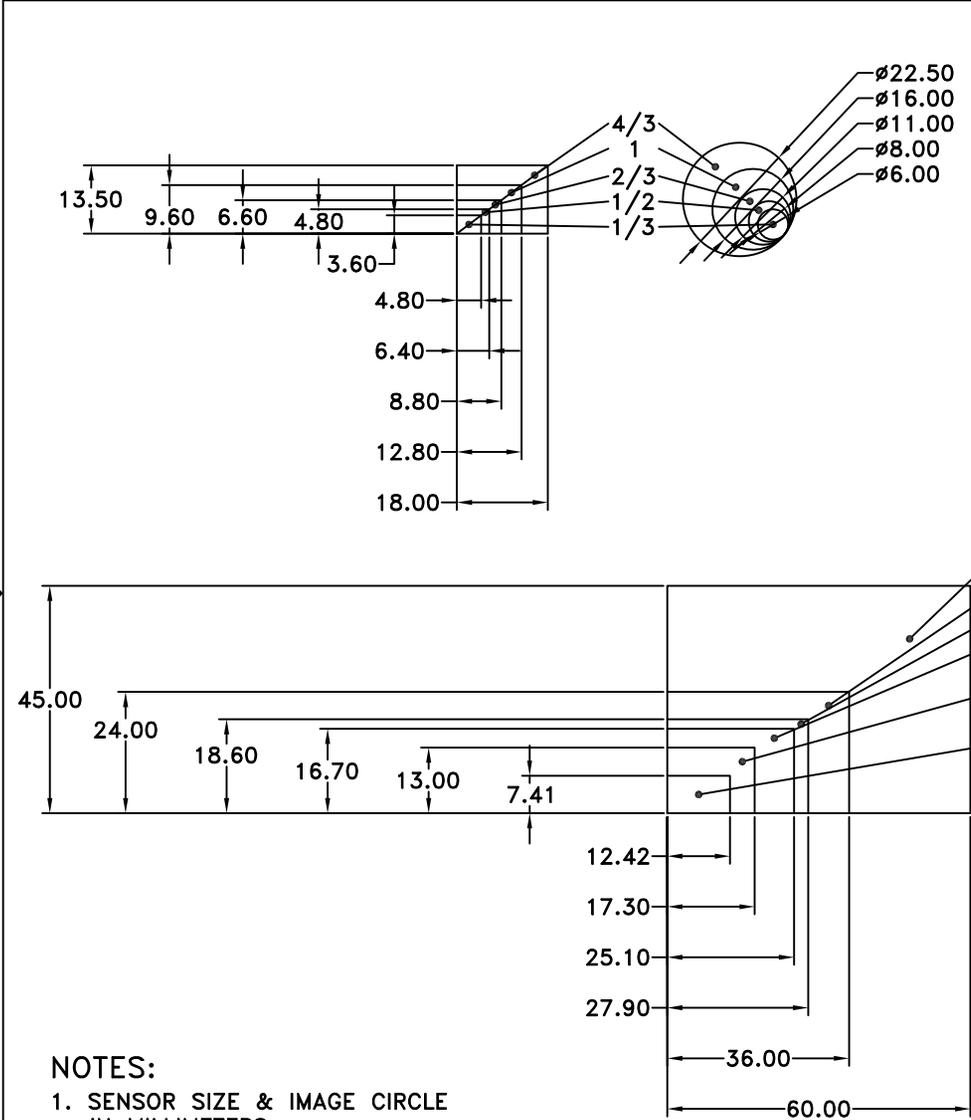
Accessories: MikroMak is more accessorize-able than perhaps any other prime. Although complete simply as-is, we still put a *system* behind it.

The *Universal Adapter* (UA) fits over the front probe and has 49mm threads allowing a vast array of filter holders, filters and lighting units to be attached, commonly available from photo/cine suppliers. A selection of *Stereo Microscope Stand Adapters* permit you to work in the field, come back to your lab or studio and continue use on the microscope stand of your choice. There’s even an 80mm disc for use with the UA and ARRI type light boxes. Further accessories such as mounting clamps, matched 2x multipliers, etc., open even more possible avenues for expression.

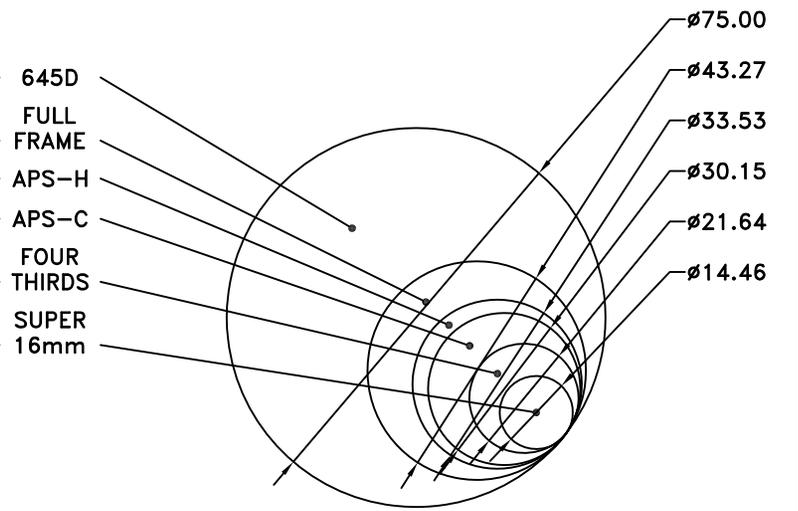
Care and Cleaning. Your MikroMak should be treated as the fine instrument that it is. Care should be taken to keep dust and dirt off the external lens surfaces. The unit can be cleaned (metal parts only) with a cloth moistened with alcohol. The external optical surfaces should be cleaned only when necessary, and then, only by a soft cotton swab moistened by an approved optical glass cleaner. If you have further questions, please contact Infinity Photo-Optical Company or your authorized dealer.

Warranty. Details of the Warranty are contained on the Warranty Page (attached).

*Runner Up to Zeiss Supremes at Cine Gear 2018.
Special Honors with Suffocator™ at CINEC Munich 2018.



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



NOTES:
1. SENSOR SIZE & IMAGE CIRCLE
IN MILLIMETERS.

ALL DIM ARE mm [inches] AND ARE FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.		INFINITY Photo-Optical Company www.infinity-usa.com		
SENSOR SIZE AND IMAGE CIRCLE				
Date: 07/09/18 MB	SIZE B	FSCM NO.	DWG NO. -	REV -
Modified:	SCALE 1:1	-	SHEET 1 OF 1	

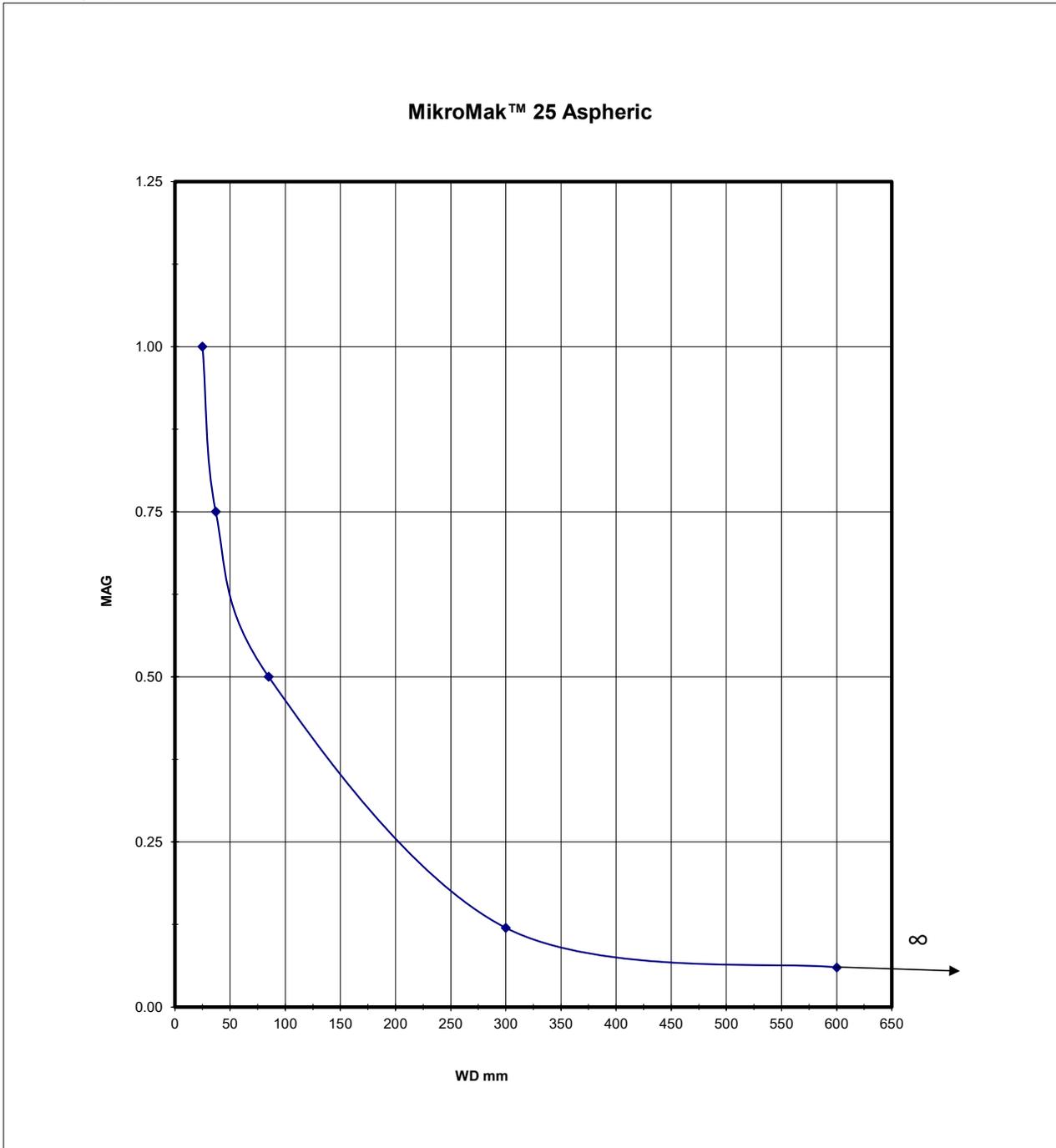
MikroMak™ 25 Aspheric
Full Frame (24mm x 36mm)

WD mm	25	37	85	300	600
Mag	1.00	0.75	0.50	0.12	0.06
FOV mm	36.0	48.0	72.0	300.0	600.0

FOV based on 35mm format (36mm horizontally).

For formats other than 35mm.: Divide magnification into the sensor's horizontal dimension.

For example, 1-in. Sensor: 12.8mm/0.5x = 25.6mm FOV.



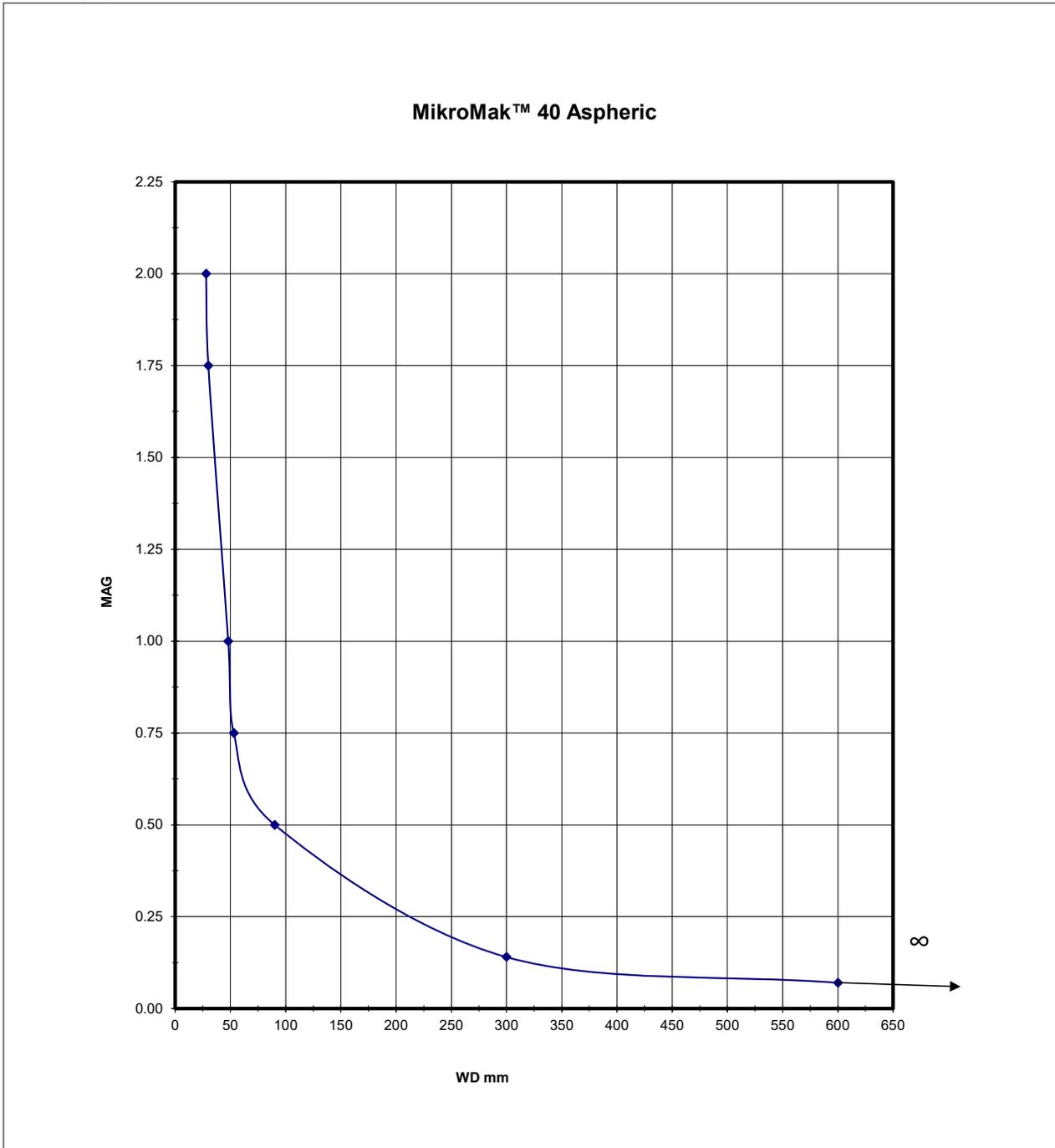
MikroMak™ 40 Aspheric
Full Frame (24mm x 36mm)

WD mm	28	30	48	53	90	300	600
Mag	2.00	1.8	1.00	0.75	0.50	0.14	0.07
FOV mm	18.0	20.6	36.0	48.0	72.0	257.1	514.3

FOV based on 35mm format (36mm horizontally).

For formats other than 35mm.: Divide magnification into the sensor's horizontal dimension.

For example, 1-in. Sensor: 12.8mm/0.5x = 25.6mm FOV.



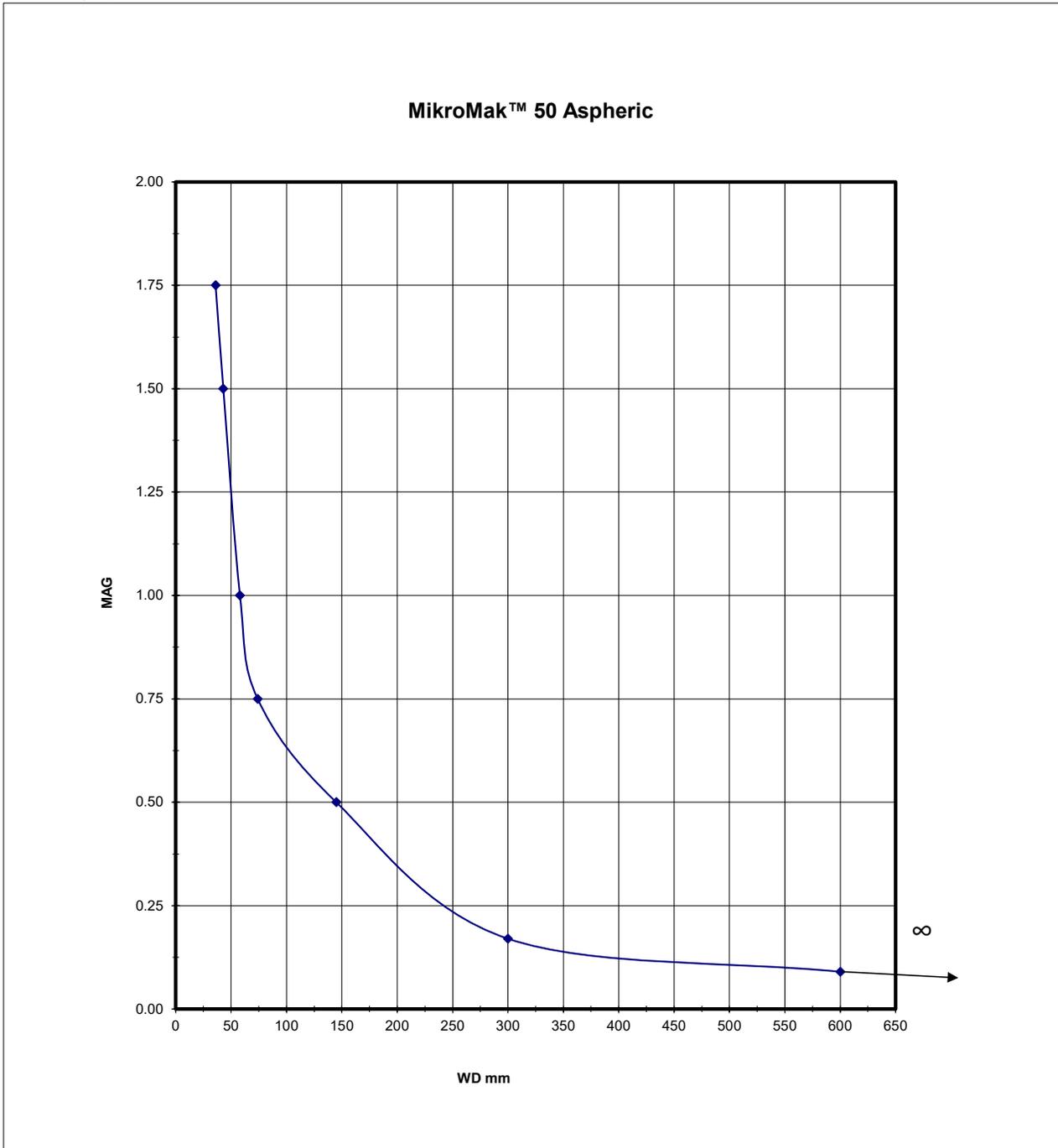
MikroMak™ 50 Aspheric
Full Frame (24mm x 36mm)

WD mm	36	43	58	74	145	300	600
Mag	1.75	1.5	1.0	0.75	0.50	0.17	0.09
FOV mm	20.6	24.0	36.0	48.0	72.0	211.8	400.0

FOV based on 35mm format (36mm horizontally).

For formats other than 35mm.: Divide magnification into the sensor's horizontal dimension.

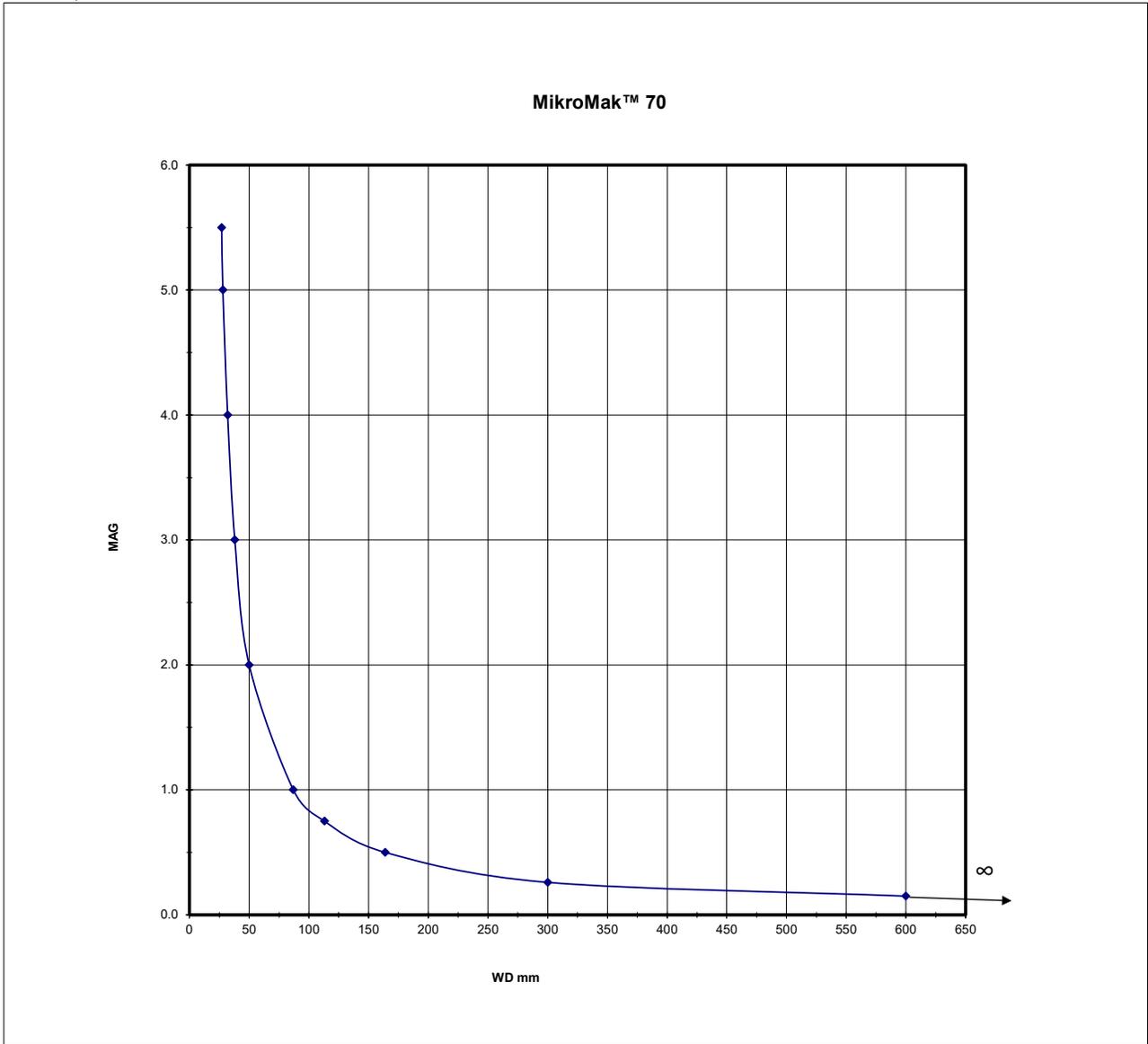
For example, 1-in. Sensor: 12.8mm/0.5x = 25.6mm FOV.



MikroMak™ 70
Full Frame (24mm x 36mm)

WD mm	27	28	32	38	50	87	113	164	300	600
Mag	5.5	5.0	4.0	3.0	2.0	1.0	0.75	0.50	0.26	0.15
FOV mm	6.5	7.2	9.0	12.0	18.0	36.0	48.0	72.0	138.5	240.0

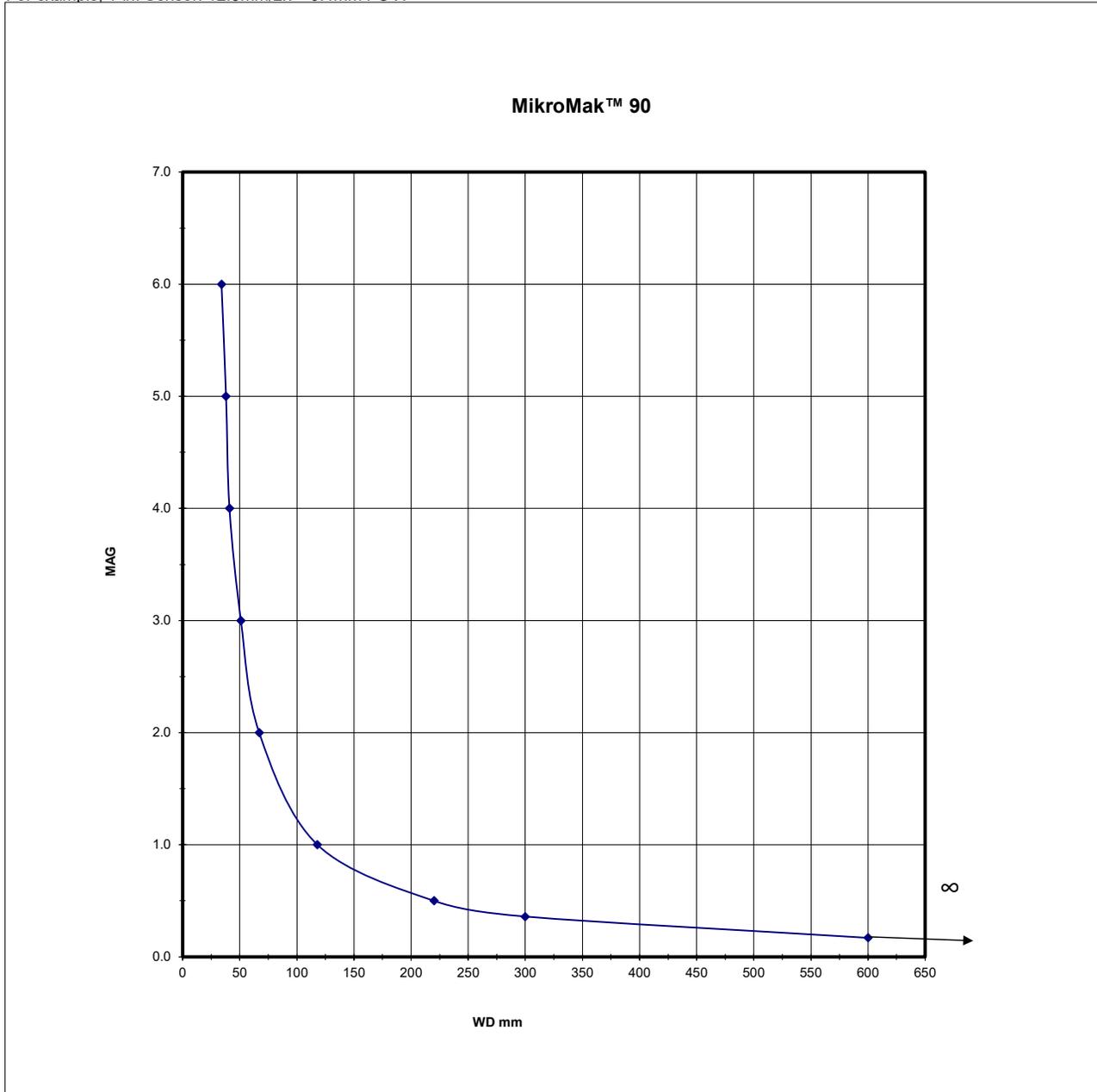
FOV based on 35mm format (36mm horizontally).
 For formats other than Super 35mm: Divide magnification into the sensor's horizontal dimension.
 For example, 1-in. Sensor: 12.8mm/2x = 6.4mm FOV.



MikroMak™ 90
Full Frame (24mm x 36mm)

WD mm	34	38	41	51	67	118	220	300	600
Mag	6.0	5.0	4.0	3.0	2.0	1.00	0.50	0.36	0.17
FOV mm	6.0	7.2	9.0	12.0	18.0	36.0	72.0	100.0	211.8

FOV based on 35mm format (36mm horizontally).
 For formats other than 35mm.: Divide magnification into the sensor's horizontal dimension.
 For example, 1-in. Sensor: 12.8mm/2x = 6.4mm FOV.



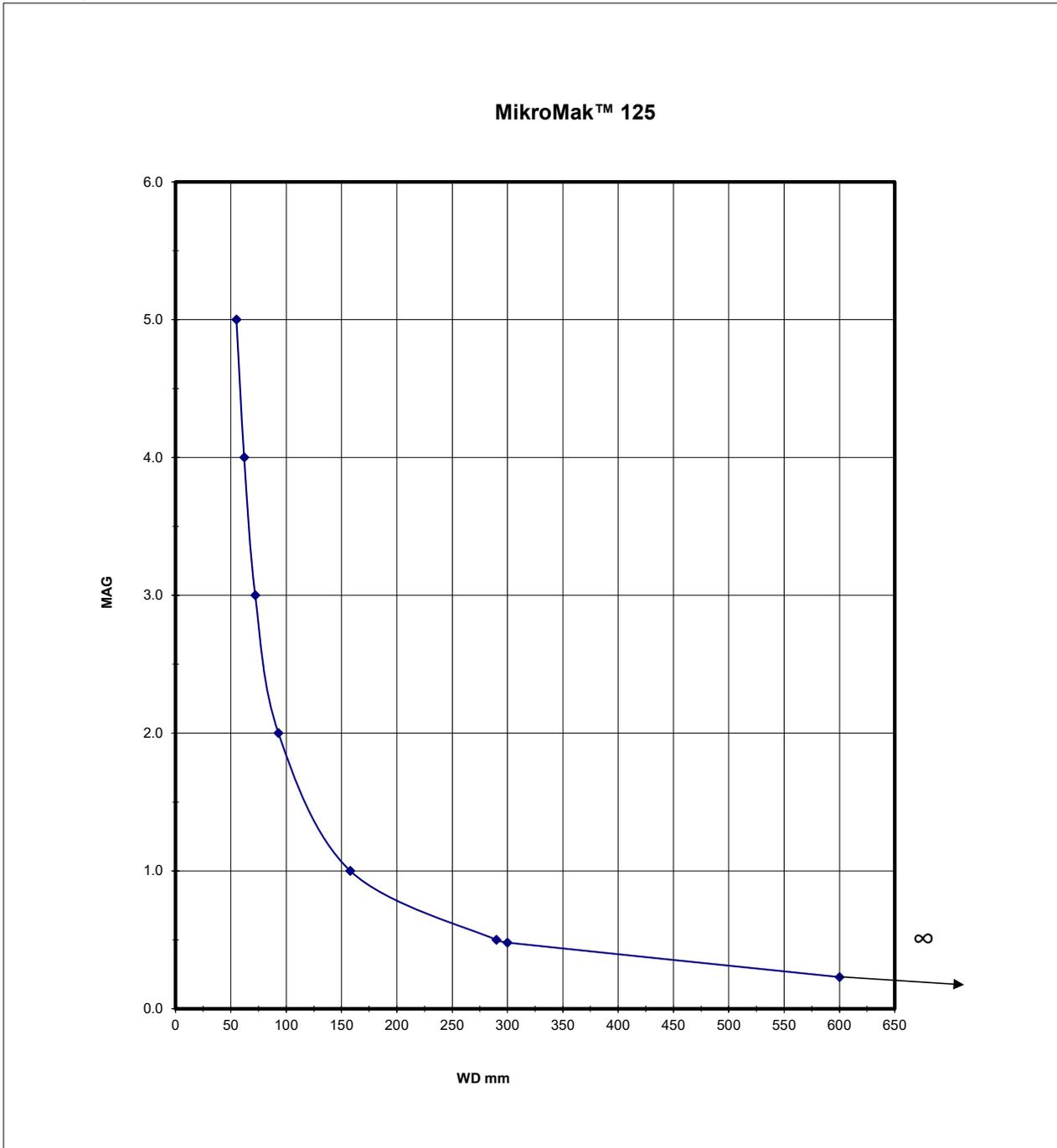
MikroMak™ 125
Full Frame (24mm x 36mm)

WD mm	55	62	72	93	158	290	300	600
Mag	5.0	4.0	3.0	2.0	1.00	0.50	0.48	0.23
FOV mm	7.2	9.0	12.0	18.0	36.0	72.0	75.0	156.5

FOV based on 35mm format (36mm horizontally).

For formats other than 35mm.: Divide magnification into the sensor's horizontal dimension.

For example, 1-in. Sensor: 12.8mm/2x = 6.4mm FOV.



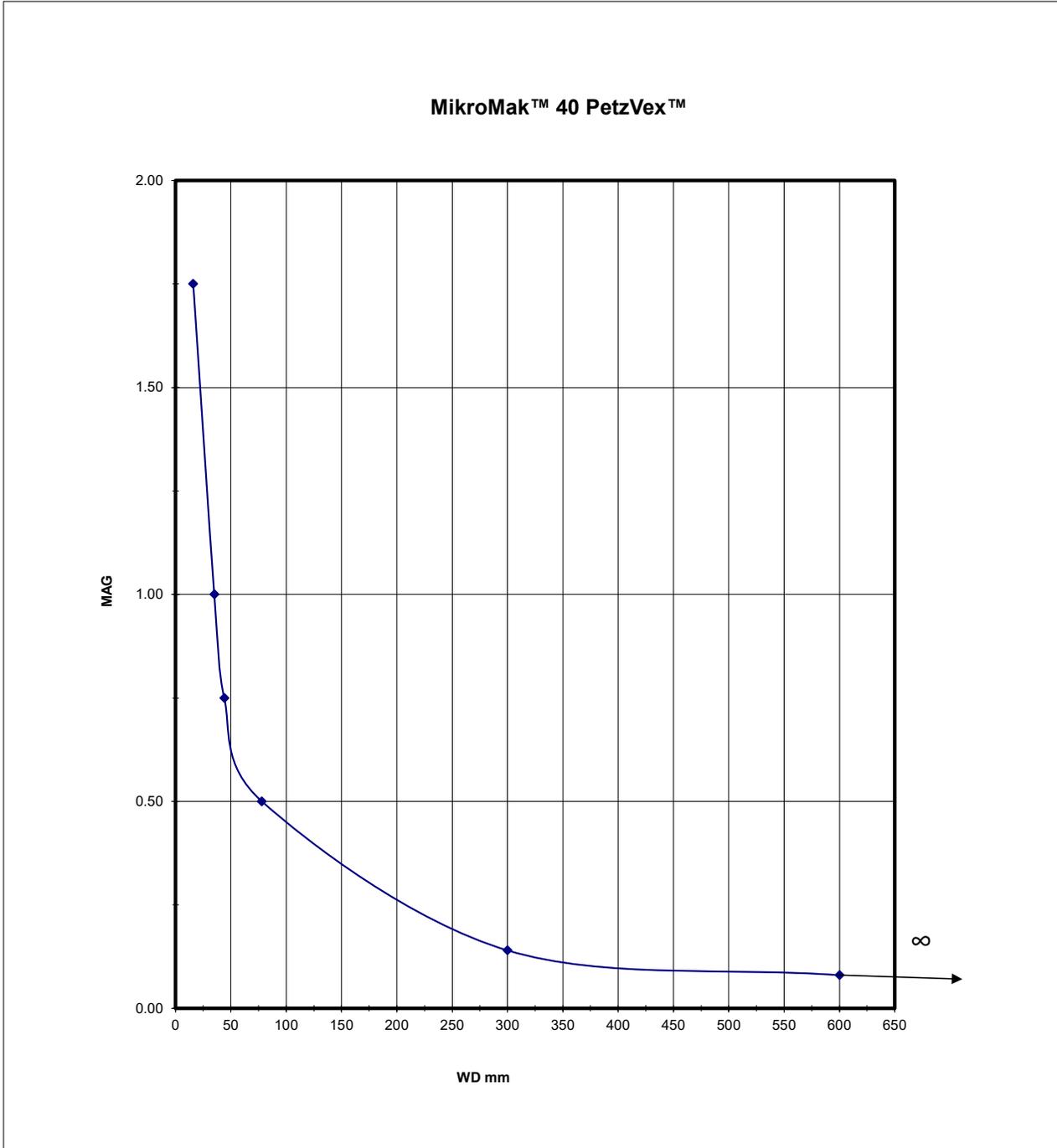
MikroMak™ 40 PetzVex™
Full Frame (24mm x 36mm)

WD mm	16	35	44	78	300	600
Mag	1.75	1.0	0.75	0.50	0.14	0.08
FOV mm	20.6	36.0	48.0	72.0	257.1	450.0

FOV based on 35mm format (36mm horizontally).

For formats other than 35mm.: Divide magnification into the sensor's horizontal dimension.

For example, 1-in. Sensor: 12.8mm/0.5x = 25.6mm FOV.



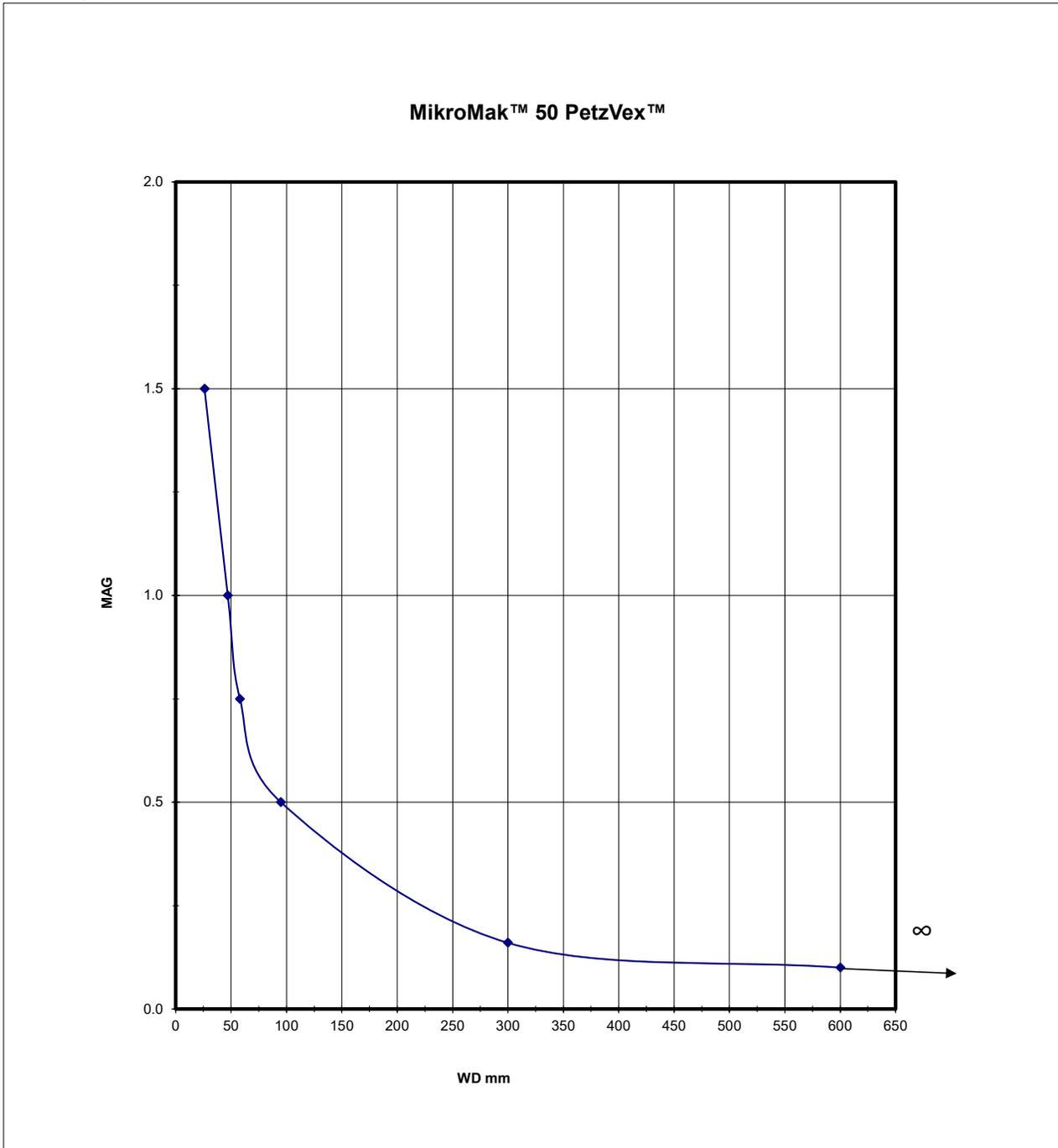
MikroMak™ 50 PetzVex™
Full Frame (24mm x 36mm)

WD mm	26	47	58	95	300	600
Mag	1.5	1.0	0.75	0.50	0.16	0.10
FOV mm	24.0	36.0	48.0	72.0	225.0	360.0

FOV based on 35mm format (36mm horizontally).

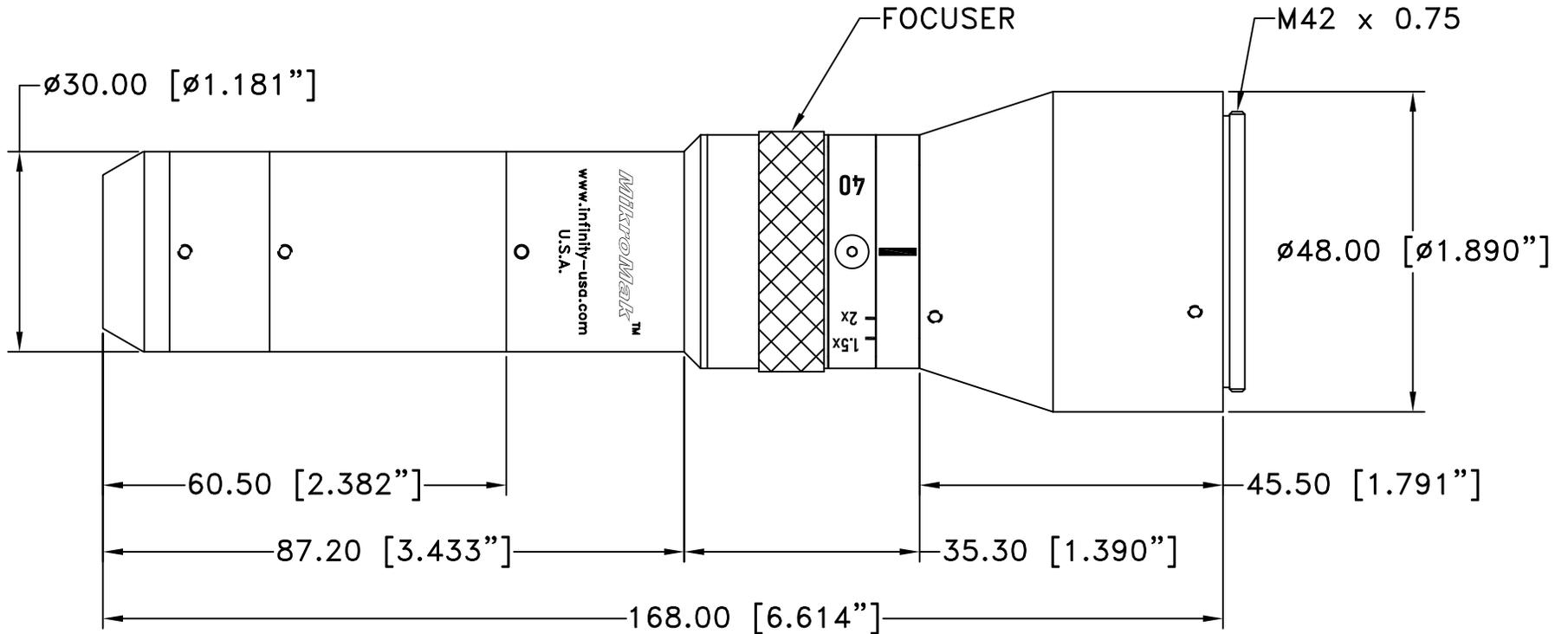
For formats other than 35mm.: Divide magnification into the sensor's horizontal dimension.

For example, 1-in. Sensor: 12.8mm/0.5x = 25.6mm FOV.



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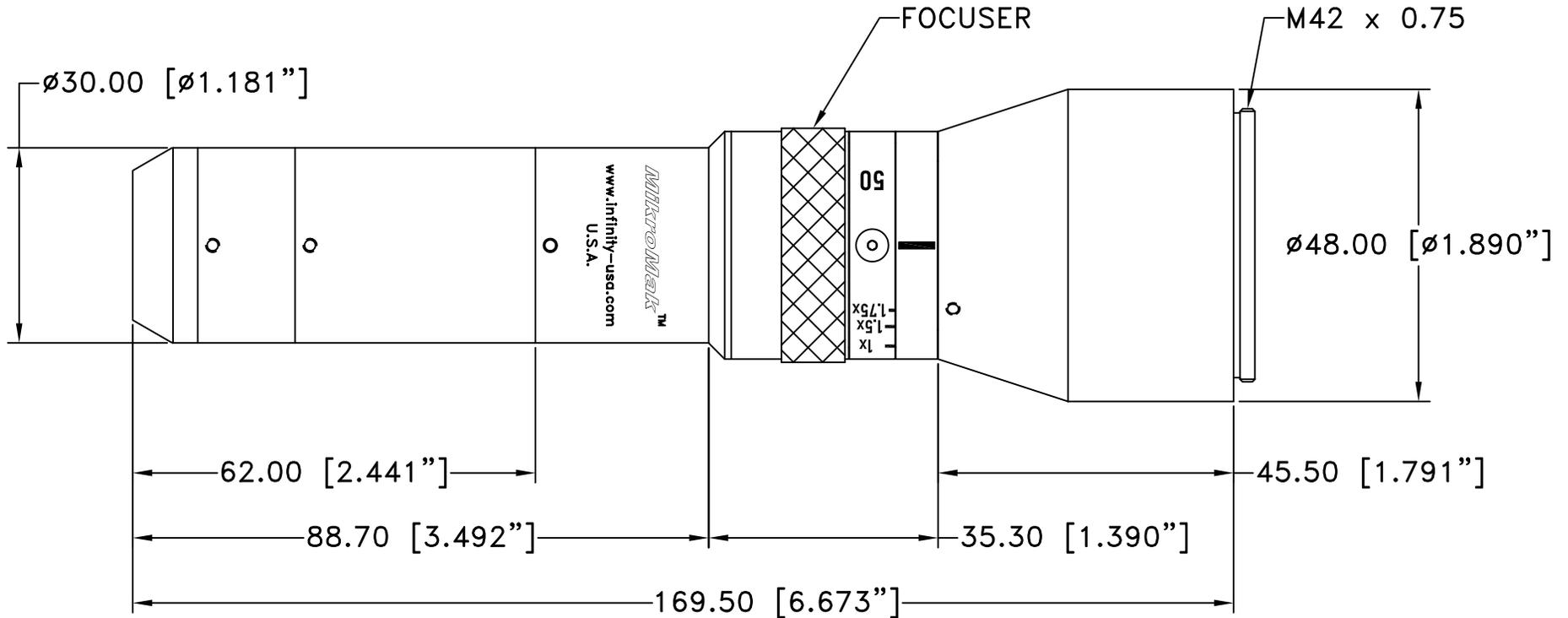
INFINITY Photo-Optical Company
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ASS'Y MIKROMAK 40mm ASPHERIC

Date: 04/18/19 MB	SIZE A	FSCM NO.	DWG NO. 300 040	REV A
Modified: 08/29/19 MB	SCALE NONE	-	SHEET 1 OF 1	

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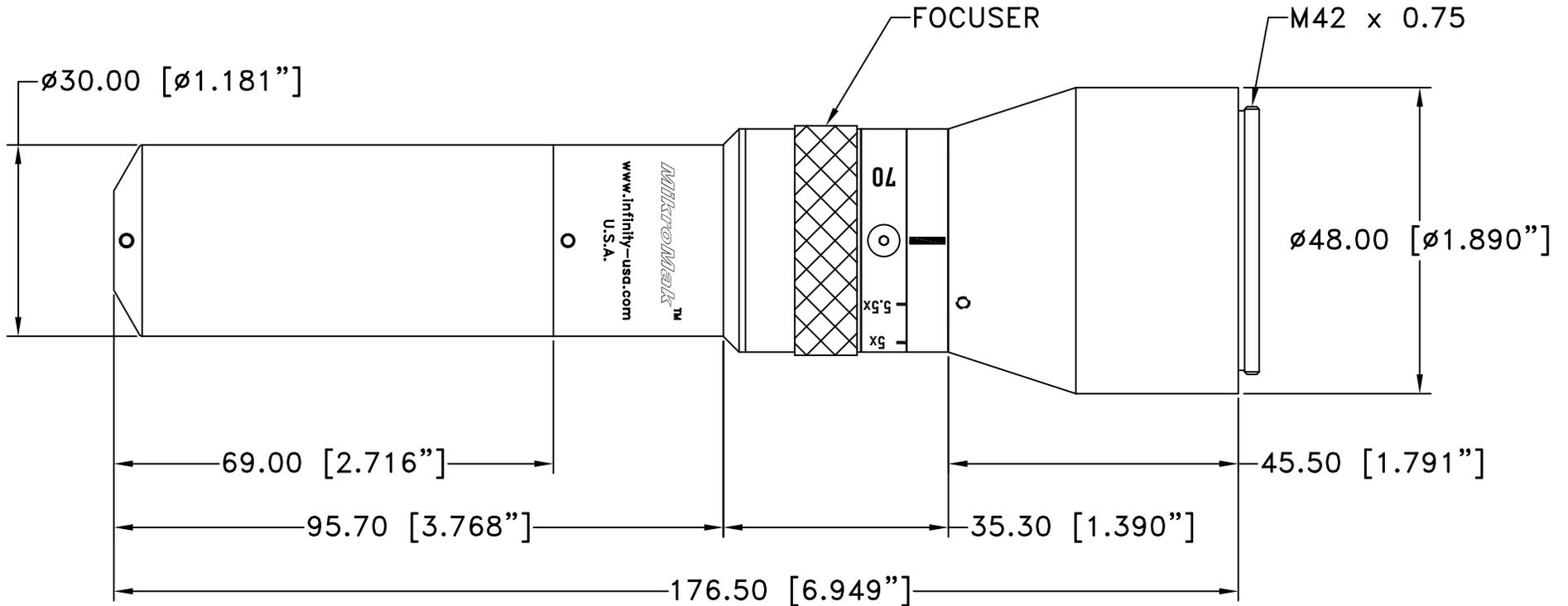
ASS'Y MIKROMAK 50mm ASPHERIC

Date: 04/18/19 MB
Modified: 08/29/19 MB

SIZE A	FSCM NO.	DWG NO. 300 050	REV B
SCALE NONE	-	SHEET 1 OF 1	

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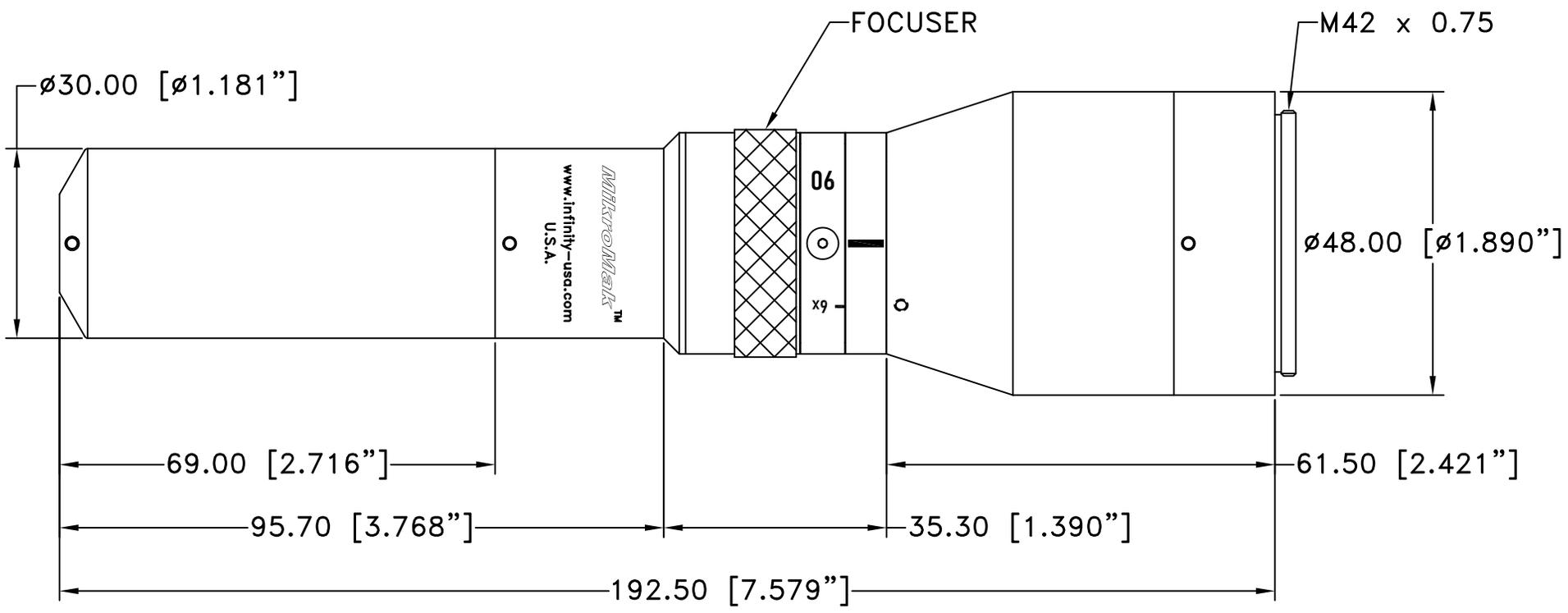
 **INFINITY** Photo-Optical Company
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ASS'Y MIKROMAK 70mm

Date: 04/18/19 MB	SIZE A	FSCM NO.	DWG NO. 300 070	REV -
Modified:	SCALE NONE	-	SHEET 1 OF 1	

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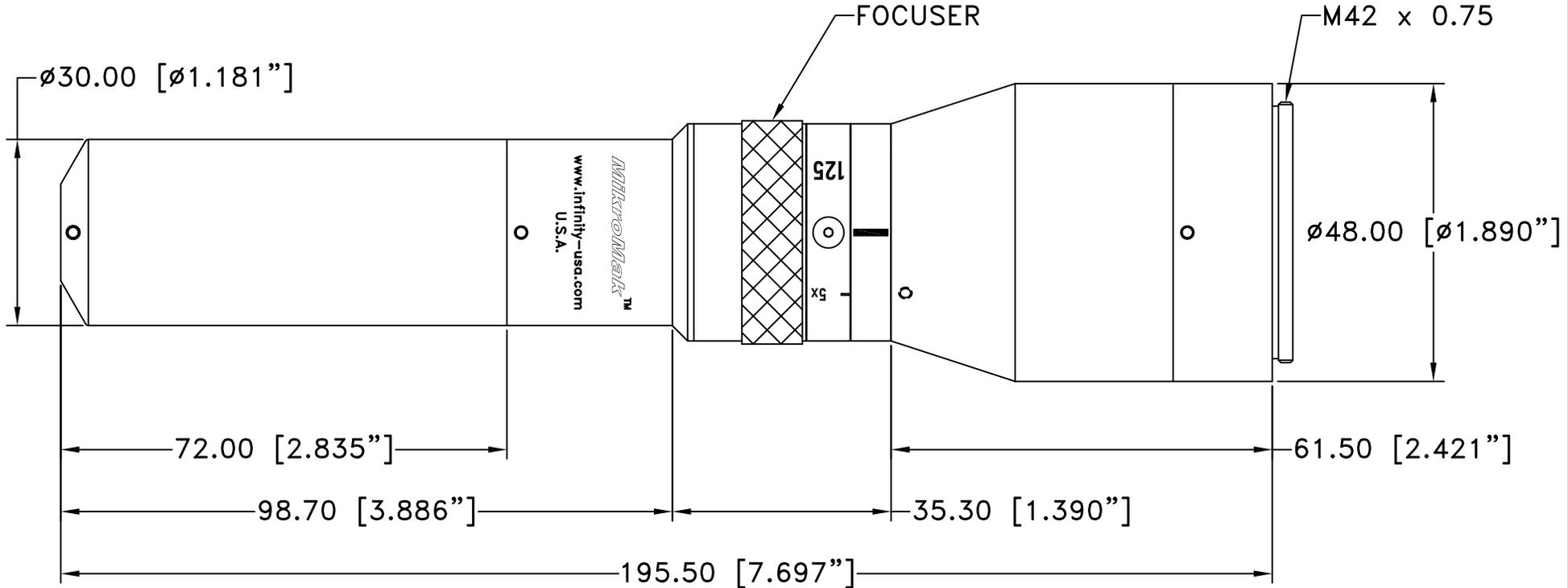
ASS'Y MIKROMAK 90mm

Date: 05/10/19 MB
Modified:

SIZE A	FSCM NO.	DWG NO. 300 090	REV -
SCALE NONE	-	SHEET 1 OF 1	

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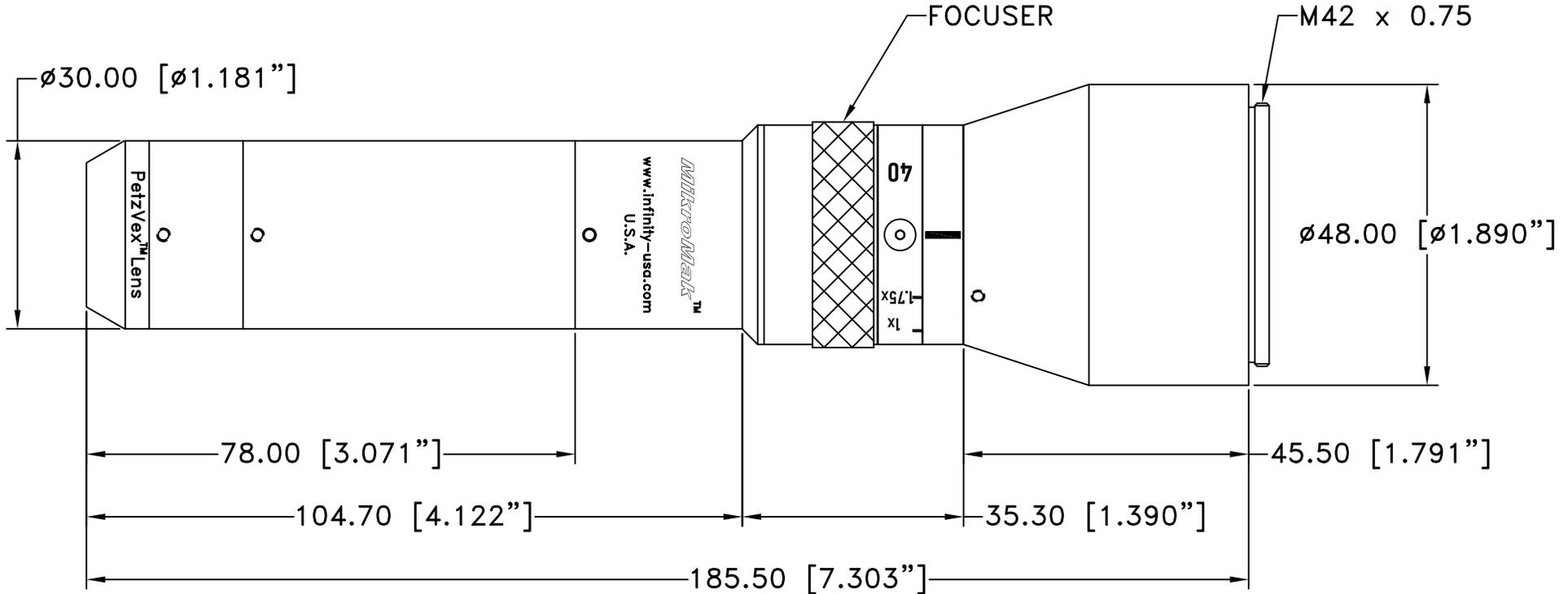
ASS'Y MIKROMAK 125mm

Date: 04/18/19 MB
Modified: 07/11/19 MB

SIZE A	FSCM NO.	DWG NO. 300 125	REV B
SCALE NONE	-		SHEET 1 OF 1

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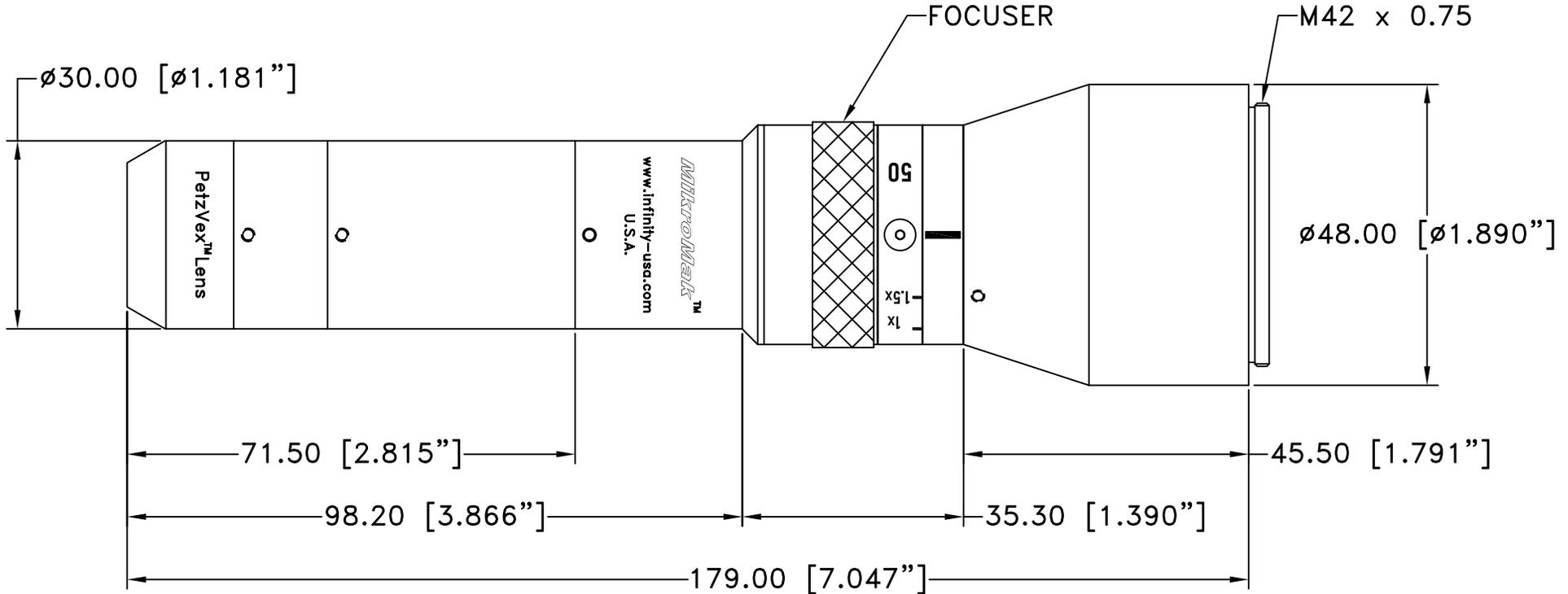
ASS'Y MIKROMAK 40mm PETZVEX™

Date: 08/29/19 MB
Modified:

SIZE A	FSCM NO.	DWG NO. 305 040	REV -
SCALE NONE	-	SHEET 1 OF 1	

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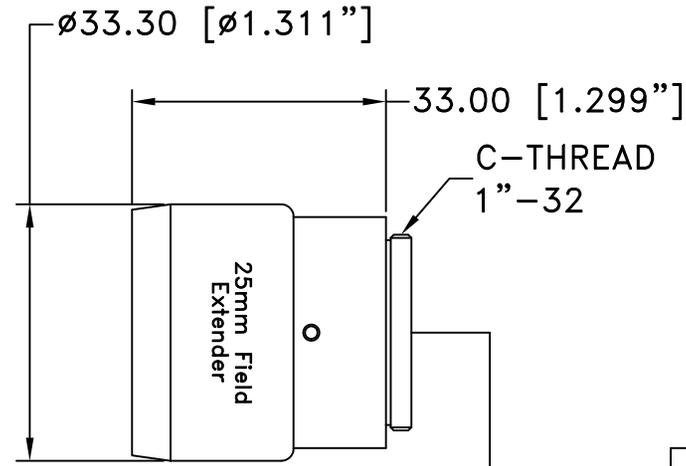
ASS'Y MIKROMAK 50mm PETZVEX™

Date: 08/29/19 MB
Modified:

SIZE A	FSCM NO.	DWG NO. 305 050	REV -
SCALE NONE	-		SHEET 1 OF 1

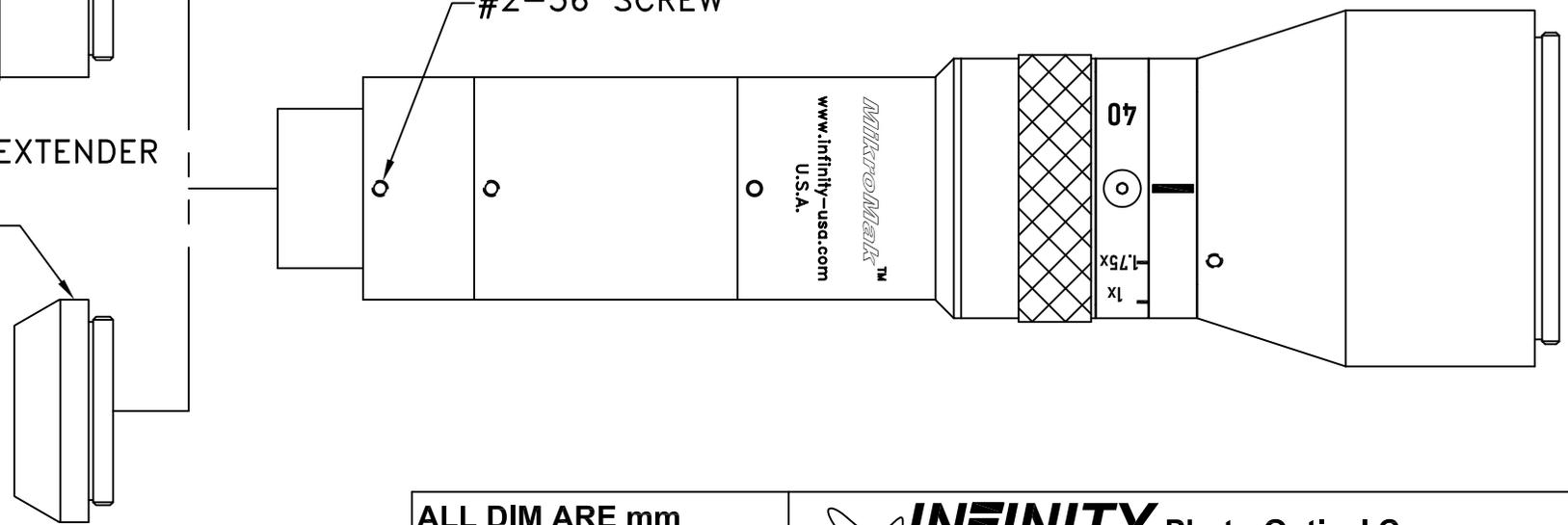
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ZONE	REV	DESCRIPTION	DATE	APPROVED



25mm FIELD EXTENDER

TAPERED FRONT



NOTE:

1. LOOSEN #2-56 SCREW.
2. UNSCREW TAPERED FRONT AND SCREW ON THE 25mm FIELD EXTENDER.

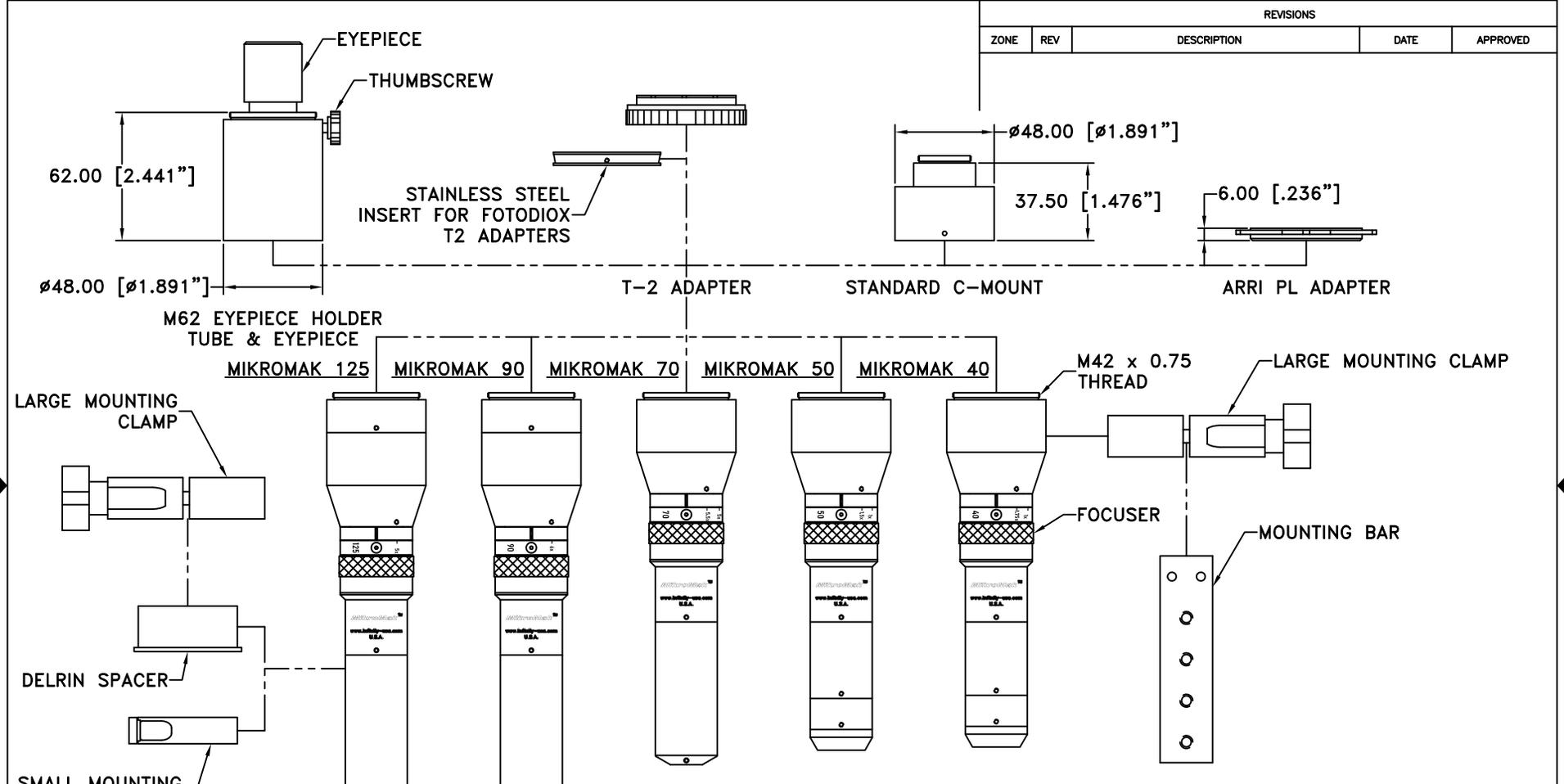
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Date: 09/03/19 MB
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ASS'Y MIKROMAK 40mm ASPHERIC WITH 25mm FIELD EXTENDER

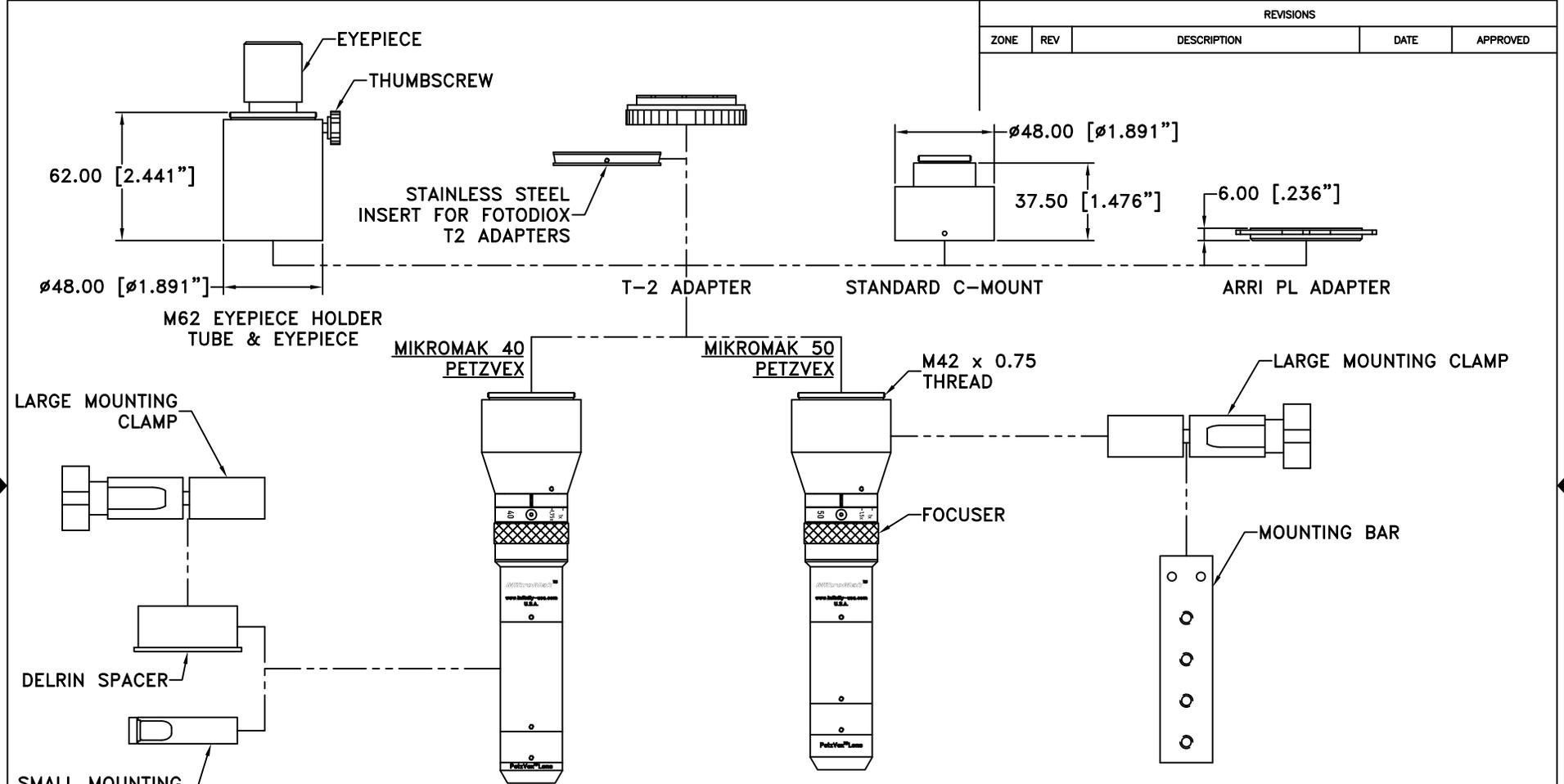
SIZE A	FSCM NO.	DWG NO. -	REV -
SCALE NONE	-		SHEET 1 OF 1



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ZONE	REV	DESCRIPTION	DATE	APPROVED

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MIKROMAK				
Date: 04/26/19 MB	SIZE B	FSCM NO.	DWG NO. -	REV B
Modified: 08/29/19 MB	SCALE NONE	-	SHEET 1 OF 1	



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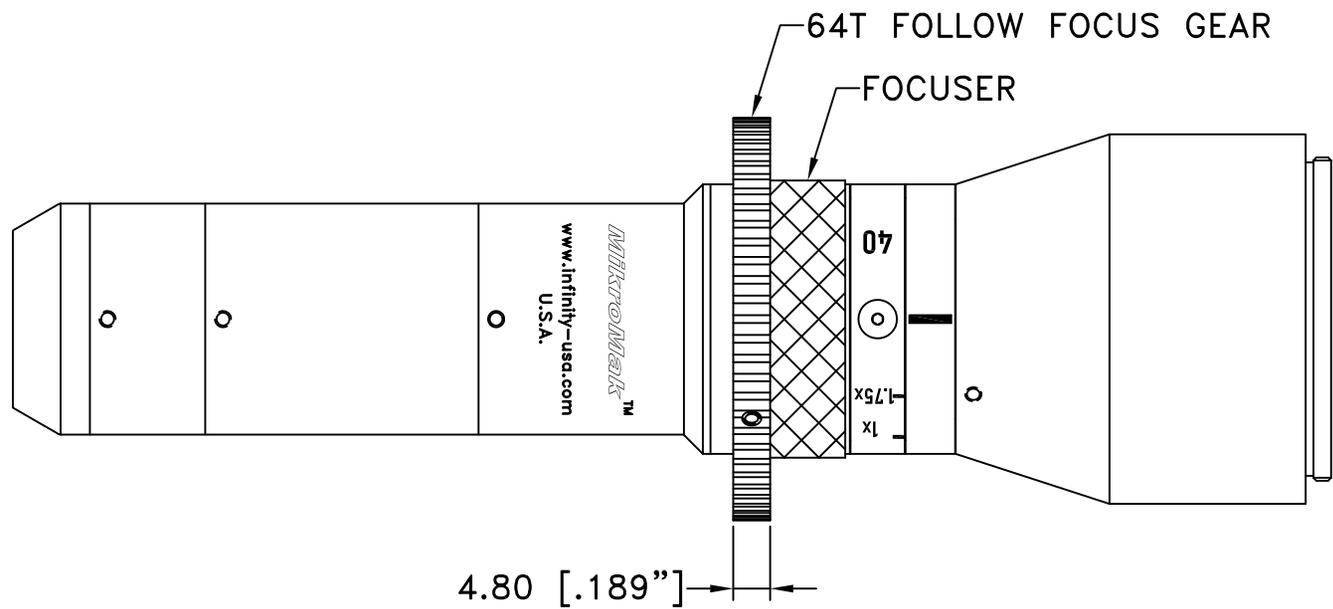
MIKROMAK PETZVEX™

Date: 09/03/19 MB	SIZE B	FSCM NO.	DWG NO. -	REV -
Modified:	SCALE NONE	-	SHEET 1 OF 1	

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NOTE:

1. FOLLOW FOCUS GEAR SHOWN ON MIKROMAK 40.
2. GEAR FITS ON ALL MIKROMAKS.
3. GEAR IS HELD ON BY THREE #2-56 SCREWS.

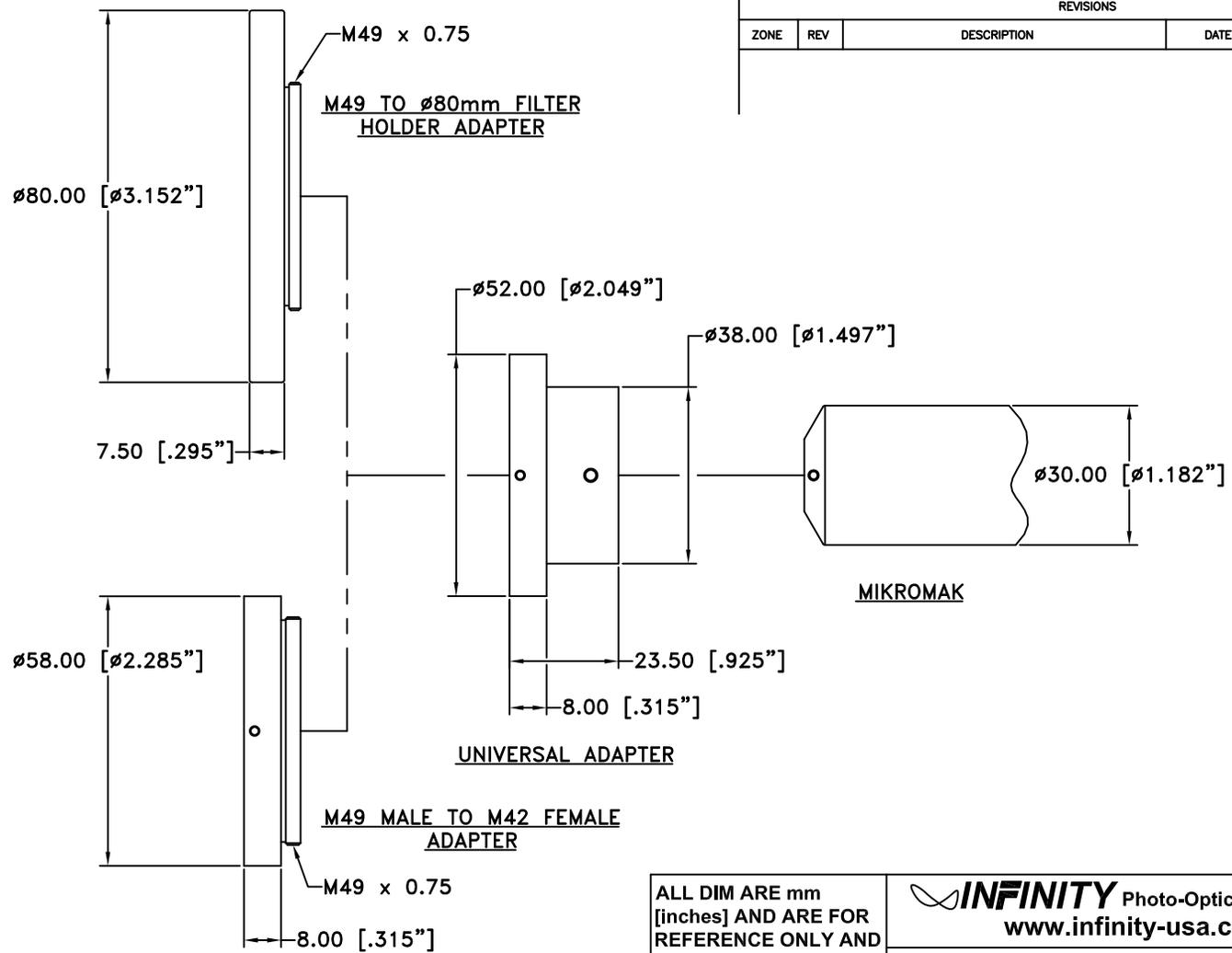
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MIKROMAK 40mm SHOWN WITH 64T FOLLOW FOCUS GEAR

Date: 09/03/19 MB
Modified:

SIZE A	FSCM NO.	DWG NO. -	REV -
SCALE NONE	-	SHEET 1 OF 1	



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MIKROMAK ADAPTERS

Date: 04/26/19 MB	SIZE B	FSCM NO.	DWG NO. -	REV -
Modified:	SCALE NONE	-	SHEET 1 OF 1	

INFINITY PHOTO-OPTICAL COMPANY LIMITED WARRANTY

INFINITY PHOTO-OPTICAL COMPANY hereby warrants its products to be free from defects in workmanship or materials for the warranty period set forth below. INFINITY PHOTO-OPTICAL COMPANY, at its option, shall repair or replace the defective product without cost to the purchaser, and such repair or replacement shall be the full extent of this express limited warranty. INFINITY PHOTO-OPTICAL COMPANY shall not be liable for any other damages either direct or consequential.

This warranty is made to the original purchaser, and is effective only on new equipment purchased from INFINITY PHOTO-OPTICAL COMPANY, or a dealer authorized by INFINITY PHOTO-OPTICAL COMPANY to sell the product.

This warranty is valid only when the product is returned to the authorized dealer from whom it was purchased, or returned directly to INFINITY PHOTO-OPTICAL COMPANY, freight prepaid, with proof of date of purchase.

This warranty does not extend to any defect, malfunction or failure caused by misuse, abuse or the use of the product with equipment for which it may not have been intended. Any unauthorized repair voids this warranty.

The warranty period for all products manufactured by INFINITY PHOTO-OPTICAL COMPANY is five (5) years from date of original purchase. Parts or components made or sourced from other manufacturers shall be solely covered by that manufacturer's warranty.

The warranty contained herein is the only warranty made by INFINITY PHOTO-OPTICAL COMPANY. Any implied warranty of merchantability and/or fitness for a particular purpose is expressly excluded from this warranty. INFINITY PHOTO-OPTICAL COMPANY shall not be liable for any expense, loss, incidental or consequential damages which may arise in connection with the use of this equipment. Recovery under this warranty is limited to repair or replacement of the equipment as provided above.

INFINITY PHOTO-OPTICAL COMPANY reserves the right to modify designs, equipment and accessories without notice.

RETURNING INFINITY PRODUCTS FOR SERVICE

Warranty Repairs:

If you have reason to think something is wrong or functioning improperly with your Infinity Photo-Optical product under the terms of the Warranty, please contact us to explain the problem. We can not accept items sent to us without first discussing the problem and providing you with a return merchandise authorization (RMA). Customer is responsible for delivery charges to us. We will examine the product and inform you whether or not the Warranty applies. If so, we will repair/replace the item to factory specifications free of charge. Return delivery charges will be paid by us. If the item(s) is/are deemed out of Warranty, we will advise if repairs can be made at a quoted charge. If customer refuses to authorize a charged repair, item will be returned at the customer's expense.

Repairs of Out of Warranty Products:

Often, we get requests to fix or repair products which are clearly older models out of Warranty. Before attempting to send such to us, please contact Infinity to go over what is desired. It is helpful to send us photos of the product so that we can see if there is a reasonable basis for a repair. Often, older instruments are "inherited" in a department and may have been tampered with by previous users. Infinity products obtained second-hand may have missing parts. After obtaining an RMA as detailed above for Warranty repairs, we will examine the item(s) and provide you with an estimate of charges for repair and return delivery to a level of performance agreed upon. Sometimes it is not possible to cost-effectively repair a product that has been abused or disassembled. A slight cosmetic defect may not affect performance and if so, we will not repair or replace it unless instructed to do so at additional charges. Upon your authorization for us to perform the repair, you will be charged at the price previously quoted for the service and delivery charges involved.