

# Achrovid™

## *Video-Dedicated* Microscope Objectives



**INFINITY** Photo-Optical Company • *Manufacturers of precision optical instruments.*

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## Achrovid™ Objectives

**General Description:** Although video inspection microscopes play an essential role in high magnification process monitoring and machine vision, they have invariably been equipped with objectives primarily designed for visual purposes. In video terms, such objectives have stated numerical aperture (N.A.) ratings that are more *theoretical* than practical. This is because “visually-dedicated” objectives “presume” that an end-user will constantly monitor each image to obtain a proper balance between contrast and resolution—through either an adjustment of condensing optics, a variation in aperture—or both. Unfortunately, it is impractical to monitor each image and adjust this balance on an individual basis in automated video applications or where many objects are being constantly examined. Moreover, the cross-over point between resolution and contrast occurs at less than full aperture (full N.A.).

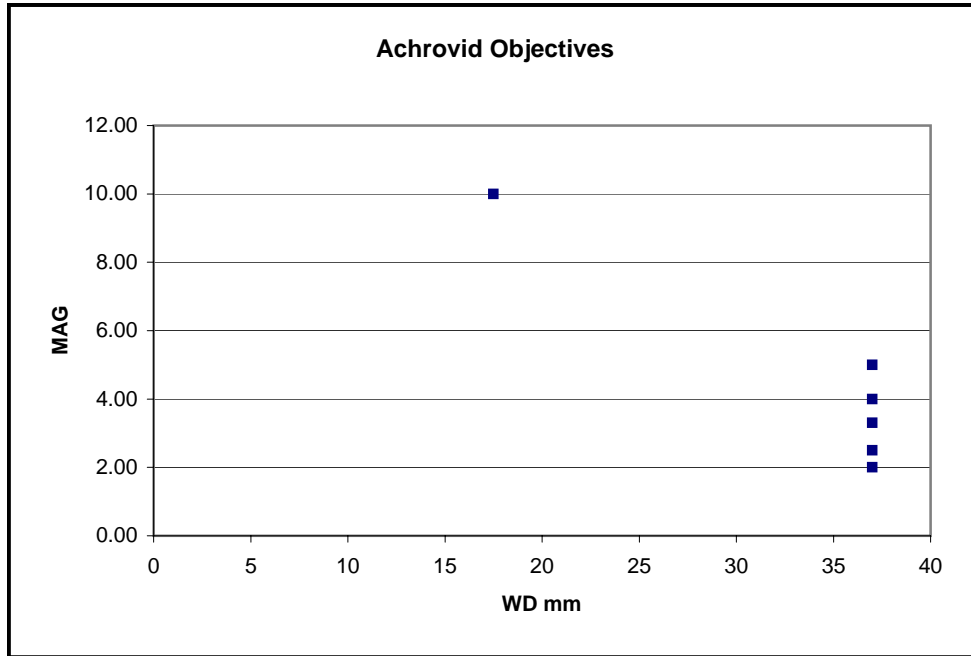
The Achrovid Series—which presently consists of six objectives ranging from 2x, 2.5x, 3.3x, 4x, 5x to 10x—were developed to overcome these limitations. To do so, the Achrovid objectives were designed upon criteria originally developed by E.M. Nelson. This assures the best possible maximization of contrast and resolution for video applications. As a result, Infinity-Photo-Optical Company has developed the first range of specifically “video-dedicated” microscope objectives. Even though their stated N.A. ratings are somewhat lower than traditional “visually-dedicated” objectives, the Achrovids achieve what is considered to be a more usable and pleasing image without complication or any need to individually monitor each successive image for best results.

All Achrovid objectives are mounted via the common “M” thread (26mm/Whitworth) and are therefore compatible with all “M”-thread instruments. They were specifically designed for all Infinity-Photo-Optical Company products that accept external microscope objectives (InfiniTube™, Model KC/S™, CentriMax/S™ and Model K2/SC) by means of an M26 to M27 Adapter. All have 37mm working distances—except the 10x which has a working distance of 17.3mm.

The Achrovid Series represents a breakthrough in consistent, trouble free use coupled with high performance image quality. In addition, they are priced below most—if not all—of their “visual-dedicated” counterparts.

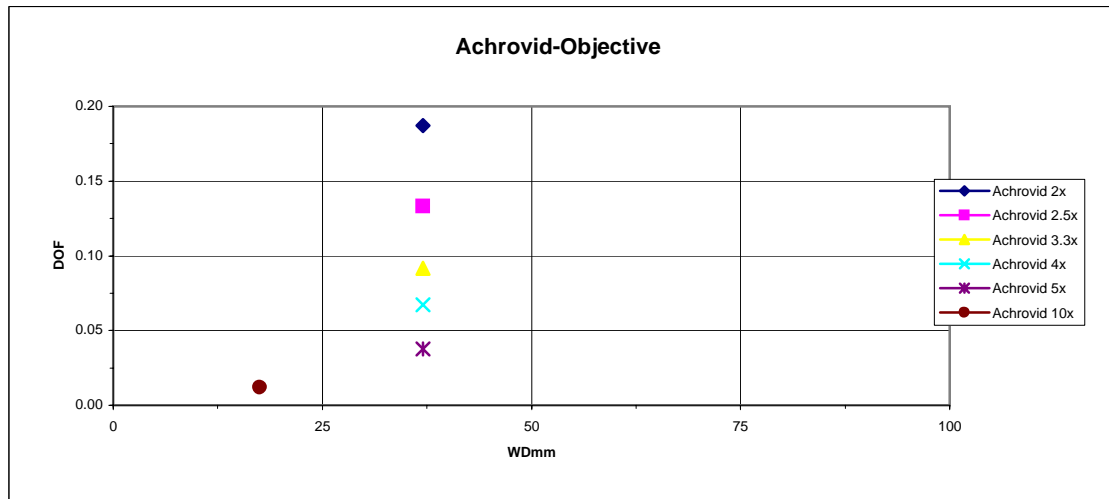
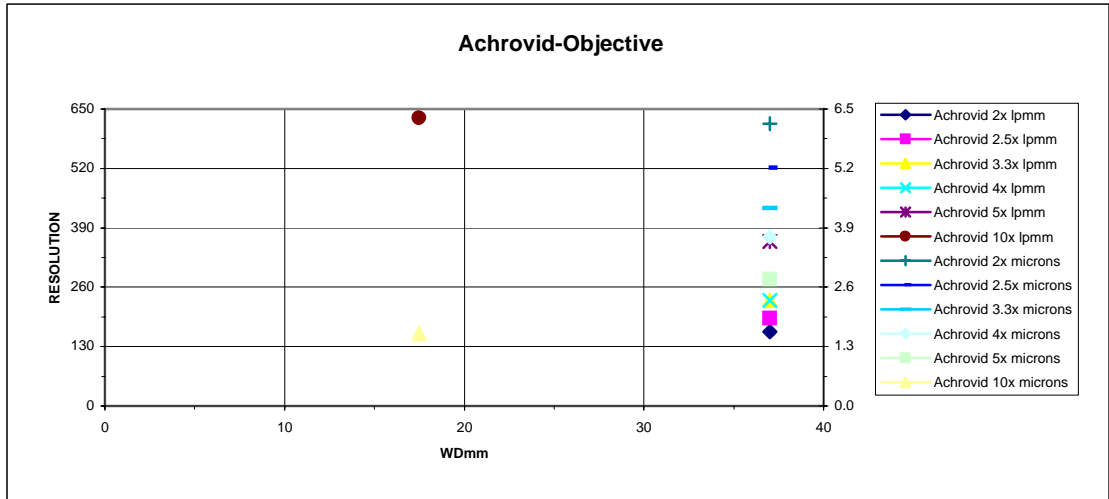
## ACHROID OBJECTIVES

Achroid		Achroid 2x	Achroid 2.5x	Achroid 3.3x	Achroid 4x	Achroid 5x	Achroid 10x
Direct	WD mm	37	37	37	37	37	17.5
	Mag	2.00	2.50	3.30	4.00	5.00	10.00
	FOV 1/2"	3.20	2.56	1.94	1.60	1.28	0.64
	FOV 1/3"	2.40	1.92	1.45	1.20	0.96	0.48



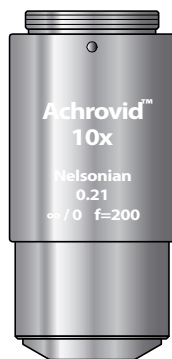
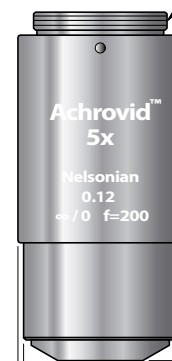
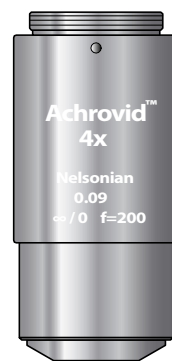
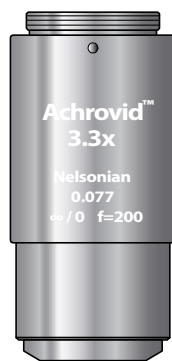
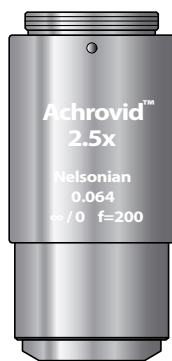
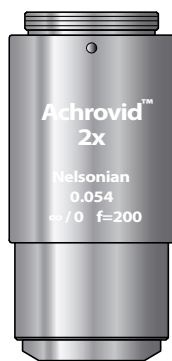
# Achrovid-Objectives OPTICAL RESOLUTION DATA

Achrovid-Objectives	2x	2.5x	3.3x	4x	5x	10x
WDmm	37	37	37	37	37	17.5
MAG	2.00	2.50	3.30	4.00	5.00	10.00
NA	0.054	0.064	0.077	0.09	0.12	0.21
Resolution (lpmm)	162	192	231	270	360	630
Resolution (microns)	6.2	5.2	4.3	3.7	2.8	1.6
DOFmm	0.19	0.13	0.09	0.07	0.04	0.01



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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



“M” Thread

63.50 [2.502”]

Ø30.00 [1.182”]

Ø32.20 [1.269”]

**Note:**  
Achrovids 2x, 2.5x, 3.3x, 4x and 5x  
have working distances of 37mm.  
Achrovid 10x has a working distance  
of 14mm.

ALL DIM ARE mm  
[inches] AND ARE FOR  
REFERENCE ONLY AND  
ARE SUBJECT TO  
CHANGE.

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**ACHROVID RANGE**

Date: 09/28/00 MB

SIZE  
B

FSCM NO.

DWG NO.

REV

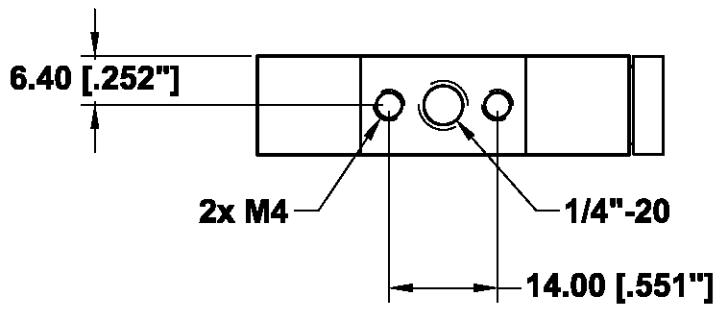
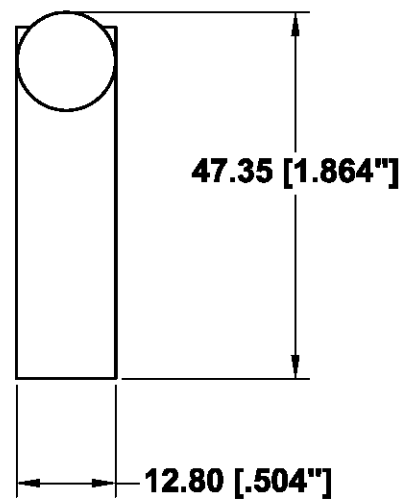
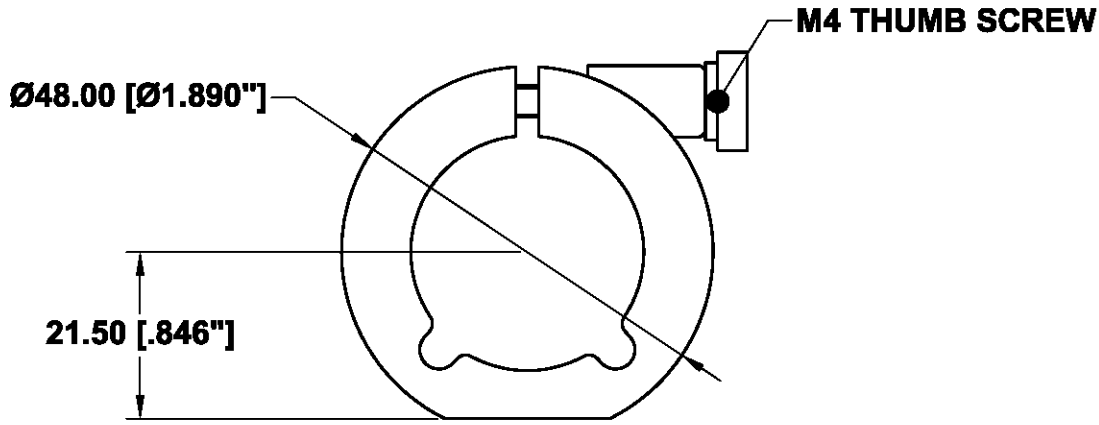
Modified:

SCALE NONE

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SHEET 1 OF 1

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



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**SMALL MOUNTING CLAMP**

Date: 03/19/01 MB		SIZE A	FSCM NO.	DWG NO. 990 170	REV A
Modified: 04/06/01 MB		SCALE NONE	SHEET 1 of 1		

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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.

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