



Caspian u-25H0-075

Overview

This Caspian u-25H0-075 is based on an inverted and modified Caspian S-25H0-075. Combined with the use of specific extension rings, either for C-Mount or M12, an inexpensive AutoFocus microscope can be built. The module is built-in with an FPC cable, and can be connected to a standard 1 mm pitch FPC connector. This module can be driven by the same drivers as the Arctic 25H0 lens.

Ordering information

- o Caspian u-25H0-075-03: Modified Caspian S-A25H0-075 for microscopy with FPC-A-3 bent cable.

Performance summary

- | | |
|---------------------|--------------------------------|
| o Magnification | X2 to X5
Custom |
| o Working distance | 5.4 to 7.8 mm |
| o Focusing range | ± 0.65 mm to ± 0.85 mm |
| o Back focal length | 15 mm to 37 mm |

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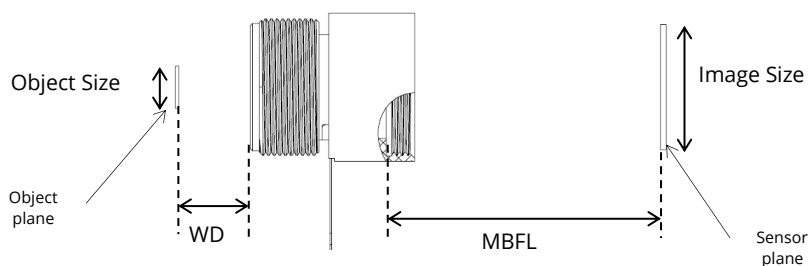
Opto-Electrical performance

Performances described below are for 25°C.

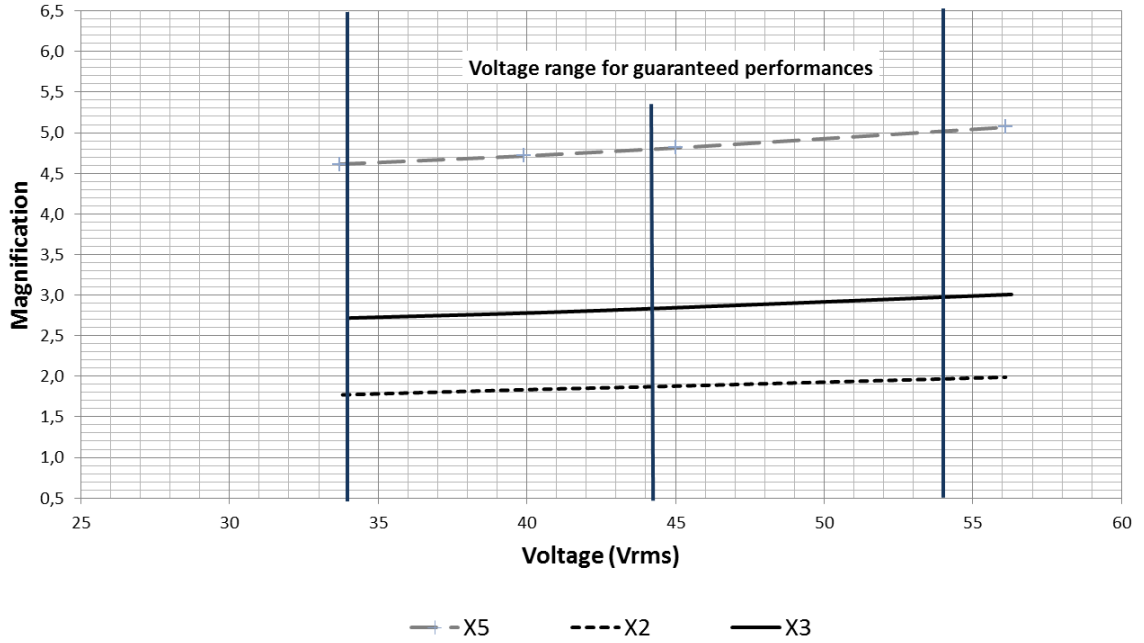
Optical Performances	Symbol	Min	Typ	Max	Unit	Notes
Voltage for nominal magnification	V_N	42.2	44.2	47.7	V	(1)
Nominal recommended magnification	α_N	X2		X5	-	(2)
Mechanical Back Focal Length						
X2	$MBFL_2$		15		mm	(3)
X3	$MBFL_3$		22		mm	
X5	$MBFL_5$		37		mm	
Working Distance						
X2	WD_2		7.8		mm	(3)
X3	WD_3		6.4		mm	
X5	WD_5		5.4		mm	
F- number	F#		2.9		-	
Maximum object diagonal in the field			7.2		mm	
Object resolution for pixel resolution			1.2		μm	
Focus control performances						
Minimum voltage	V_L		34		V	
Maximum voltage	V_H		54		V	
Working distance range						
X2	ΔWD_2		1.85		mm	(3)
X3	ΔWD_3		1.58		mm	
X5	ΔWD_5		1.41		mm	

Notes:

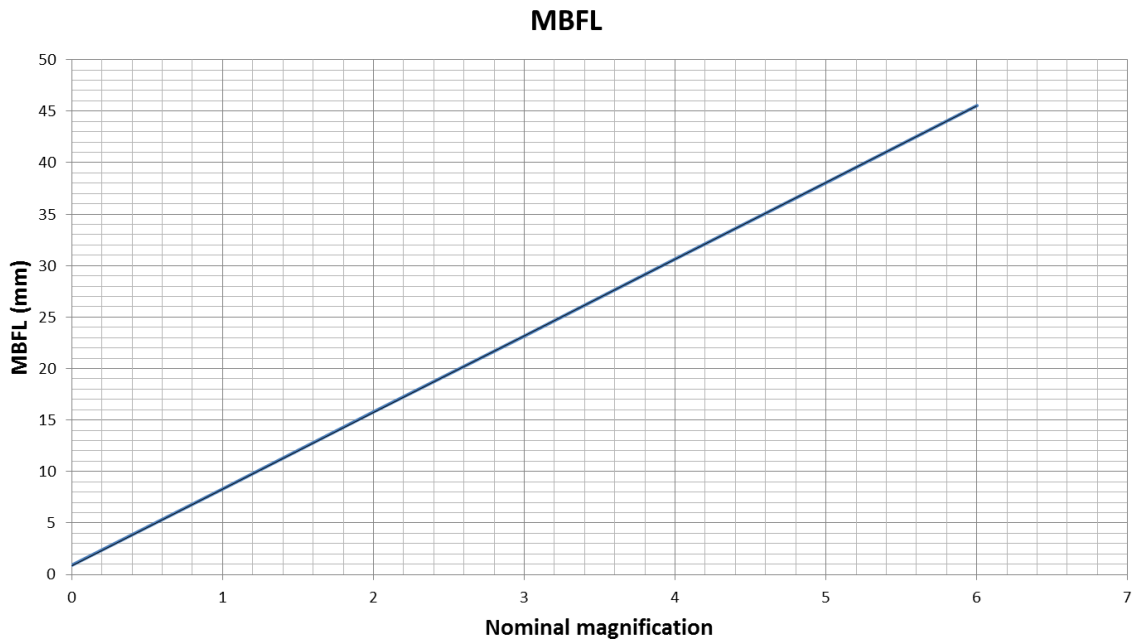
- (1) Voltage for nominal magnification is for an optical power on the liquid lens of 4 diopters, which is in the middle of the optical range [-5D..+13D], however a +/-5% tolerance on the magnification can be observed.
- (2) Magnification is the ratio between the image size and the object size. Magnification changes with focus.
- (3) Definitions of WD, MBFL, magnification :



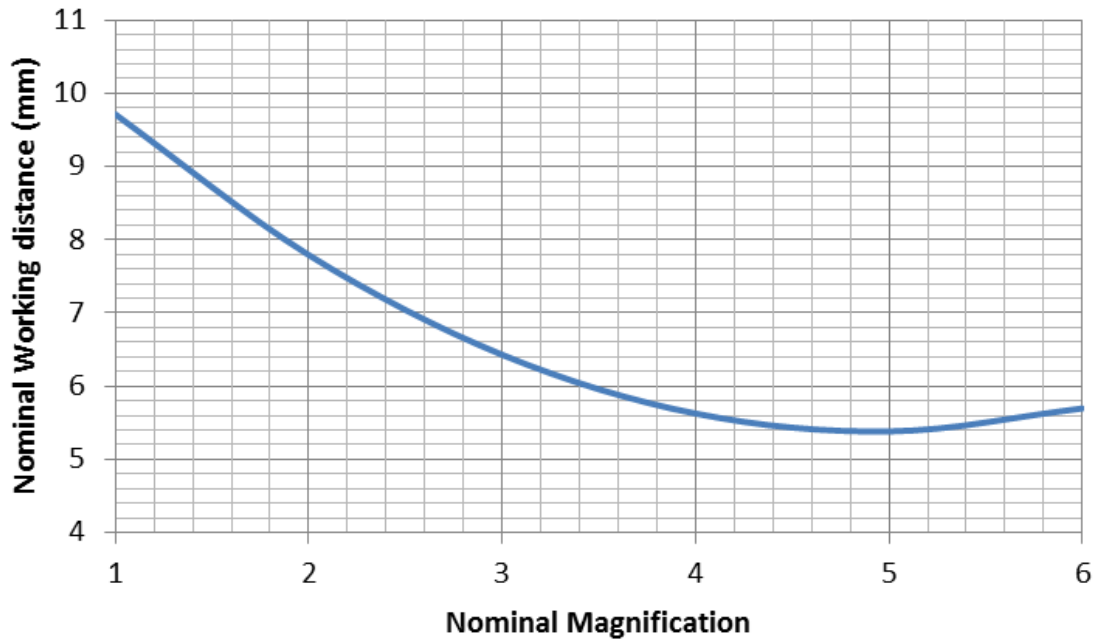
Magnification versus voltage



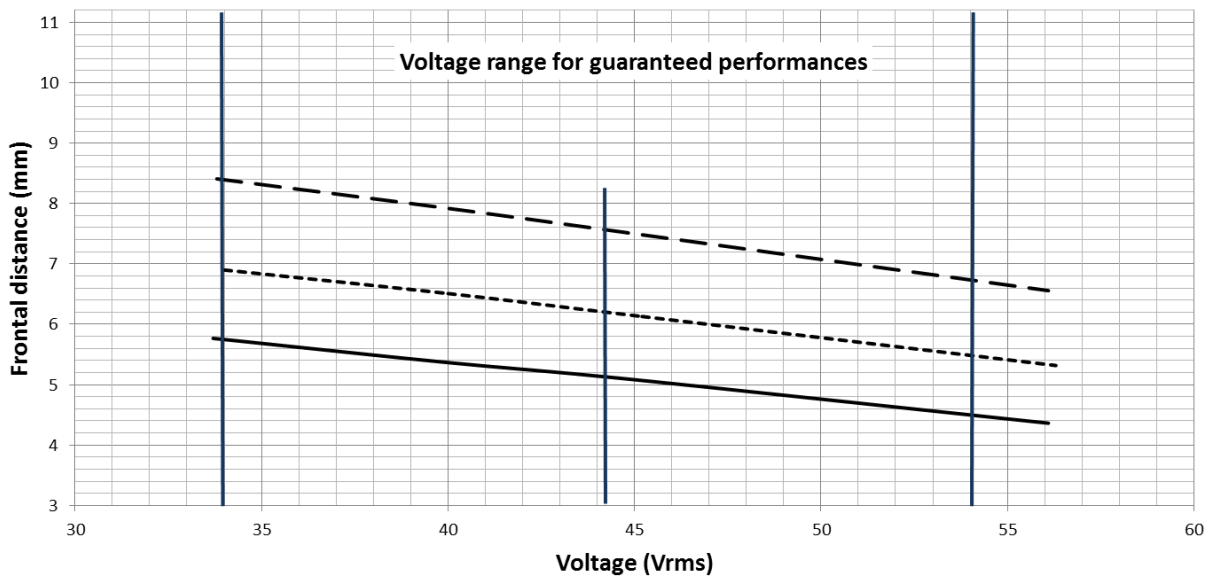
Mechanical Back Focal Length (MBFL) versus Nominal Magnification



Working Distance (WD) versus Nominal Magnification

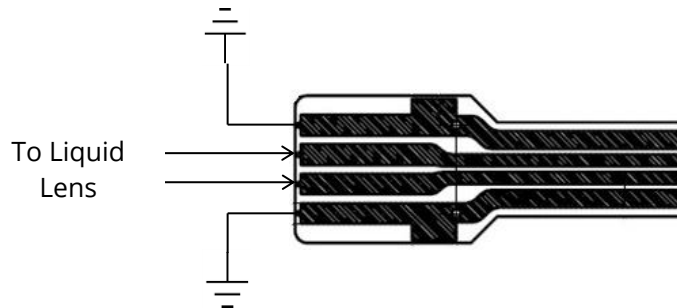


Working Distance (WD) versus Voltage



Electrical Specifications

Electrical connection



The following FPC connectors are compatible with the FPC tip:

- SFW4S-2STE9LF from FCI
- 04FMN-BTK-A (LF)(SN) from JST

Driver

Varioptic has qualified several drivers for variable focus liquid lenses (see Arctic 25H0 Data Sheet). The customer should choose the driver depending on its application. One important item to be checked is the resolution of the driver, compared to the depth of field of the system. See driver datasheets for more details.

Absolute Maximum Ratings

<i>Parameter</i>	<i>Symbol</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>	<i>Notes</i>
Operating Temperature	T	-30	..	85	°C	
Storage Temperature	T _{stg}	-40	..	85	°C	
AC Input RMS Voltage	V _{max}			60	V	(1)
Input Voltage Frequency	f		1		kHz	(1)

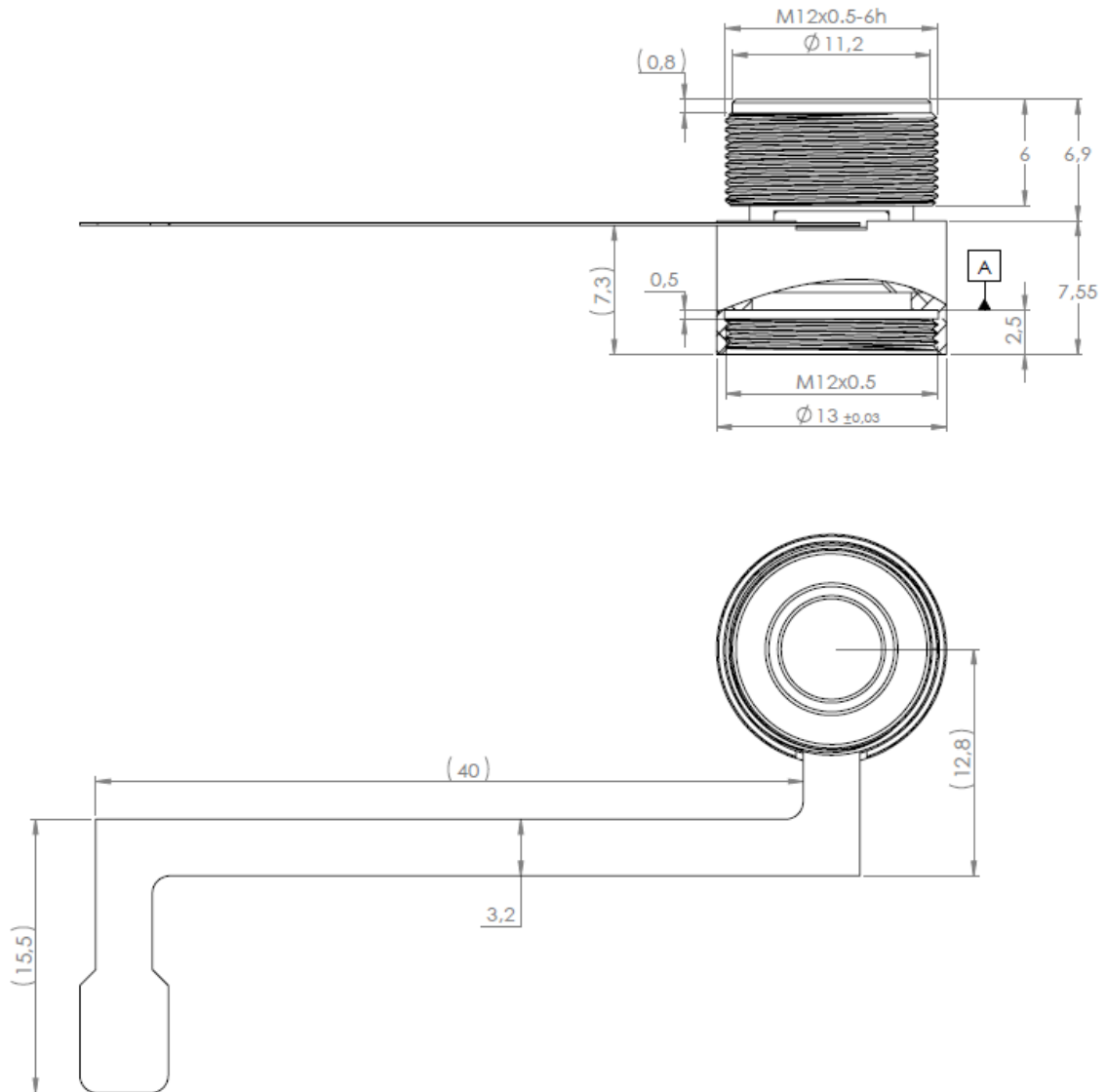
Notes:

- (1) For more information on Caspian u-25H0 electrical driving, please refer to Arctic 25H0 Technical Data Sheet.



Mechanical dimensions

Datum A is the mechanical reference.



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