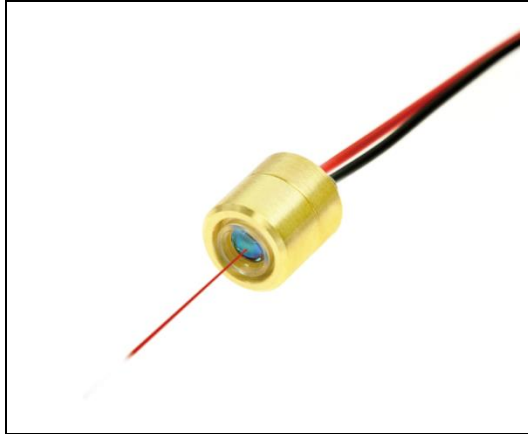


## Mini Dot Size Red Laser Module

### VLM-635-63-Series



#### FEATURES:

- $\mu$  Dot Size Laser Module.
- Small-Spot Laser module for use with high-precision devices.
- This module has integrated optic, laser diode, and APC driver circuit.
- APC Driver Circuit enables the Laser output power safe and constant.

Dimensions :  $\varnothing$ 10.6 x 12.2 mm ( $\varnothing$ 0.417" x 0.48")

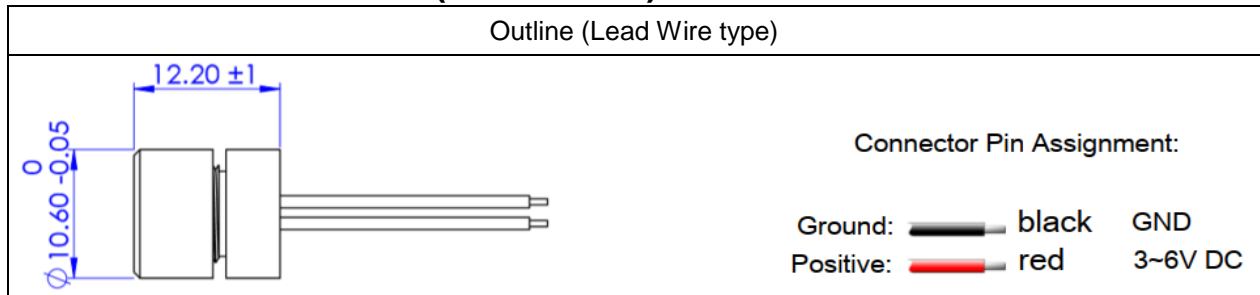
- Wavelength : 630~645 nm
- Output power : LPT - Class II - less than 1mW.  
LPO - Class I - less than 0.39mW.
- 3~6 VDC operation.
- Connection type : Lead wire

#### APPLICATIONS:

- Mini Dot Size Red Laser Module.
- Medical science application.
- Bio-tech.
- Precision measurement.

## VLM-635-63-Series

### OUTLINE DIMENSIONS (UNITS: mm)



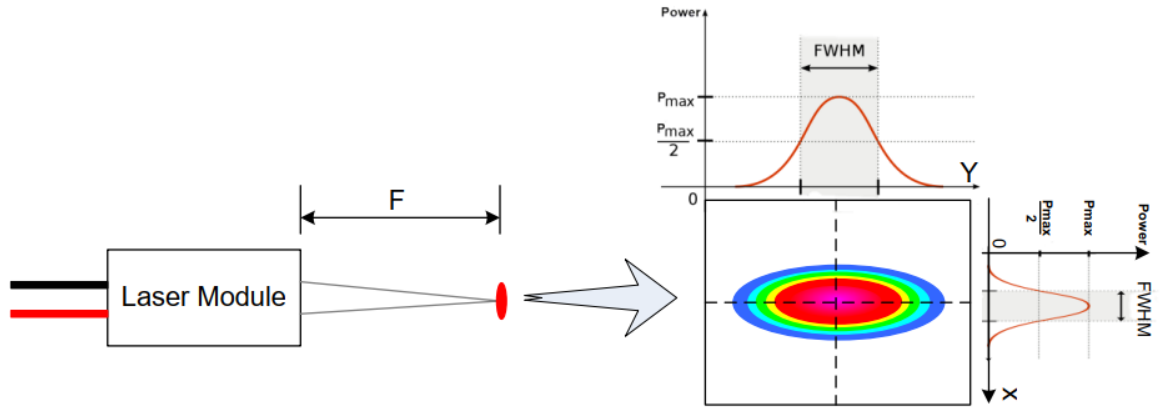
### SPECIFICATIONS

SPECIFICATIONS		VLM-635-63-		
		LPO-		LPT-
		50	100	200
1	Dimensions	Ø10.6 x 12.2 mm (Ø0.417" x 0.48")		
2	Weight	5.2g±0.5g (0.18±0.017 oz)		
3	Operating voltage (Vop)	3~6 VDC		
4	Operating current (Iop)	< 40mA	< 40mA	
5	Continuous wave output power (Po)	< 0.39mW	< 1mW	
6	Wavelength at peak emission (λp)	635nm		
7	Collimating lens	Aspherical plastic lens		
8	Output aperture	5mm		
9	Beam shape	Dot		
10	Beam Size (FWHM) at 25°C	As the below TABLE A		
11	Beam Size (1/e <sup>2</sup> ) at 25°C	As the below TABLE A		
12	Depth of field	As the below TABLE B		
13	Operating temp. range	-10°C ~+50°C		
14	Storage temp. range	-20°C ~+65°C		
15	Housing material	Bronze		
16	Housing color	Brass		
17	Potential of housing	VDD(+)		
18	Wire type	1007-26AWG		
19	Cable length	115±15mm		
20	Mean time to failure (MTTF) 25°C	10000hrs		

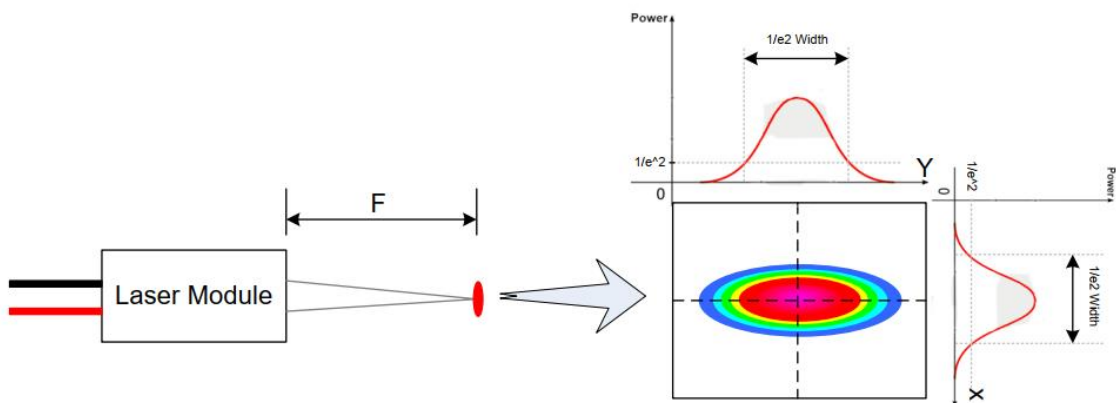
**Note :** Laser module housing is an electrical positive surface, it is imperative that contact between the laser module and the machine be avoided. This is to prevent damage from the machine electrical leakage. Surge protected power supply to the laser module is strongly recommended.

## TO DEFINED BEAM SIZE

**FWHM: Full Width at Half Maximum** the diameter obtained is the full width of the beam at half its maximum intensity (FWHM).



**1/e<sup>2</sup> Width** the diameter obtained is where the intensity falls to  $1/e^2 = 0.135$  times the maximum value.



**TABLE A**

SPOT SIZE F(Distance (mm))	FWHM (at 25°C)		1/e <sup>2</sup> Width (at 25°C)	
	X	Y	X	Y
50 mm	<0.04mm	<0.02mm	<0.05mm	<0.04mm
100 mm	<0.03mm	<0.03mm	<0.09mm	<0.09mm
200 mm	<0.13mm	<0.05mm	<0.2mm	<0.09mm

## TO DEFINED DEPTH OF FIELD

Depth of Field (DOF) what is the length of the beam in the area where the beam is less than 140% of the spot size. We listed the depth of field for both FWHM and  $1/e^2$ .

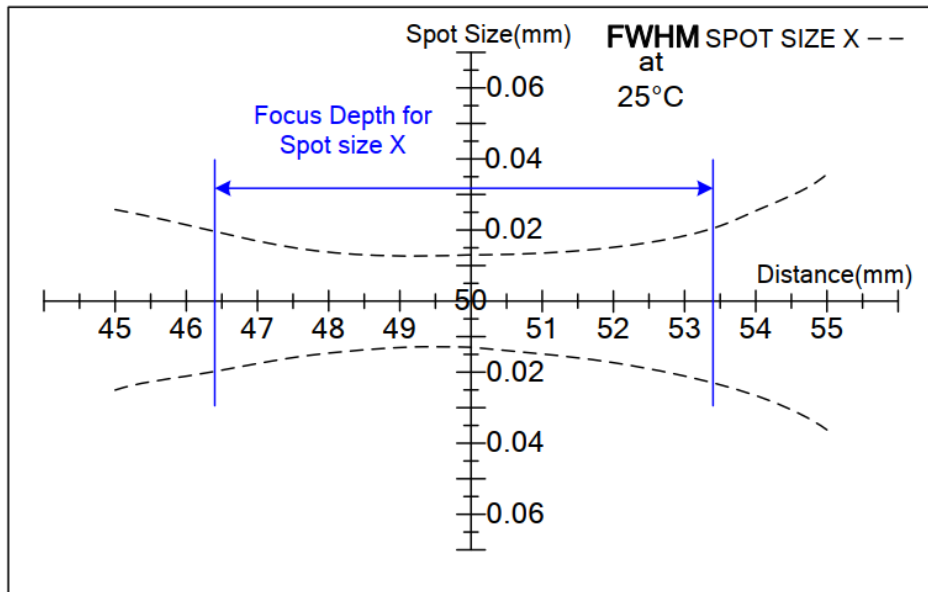


Figure A DOF for **FWHM SPOT SIZE X** (Focus at 50mm)

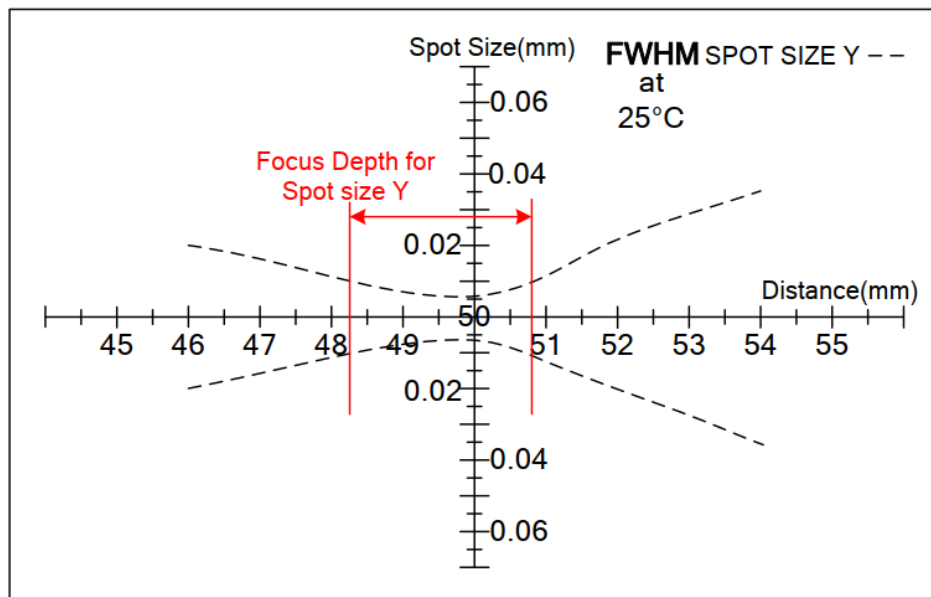


Figure B DOF for **FWHM SPOT SIZE Y** (Focus at 50mm)

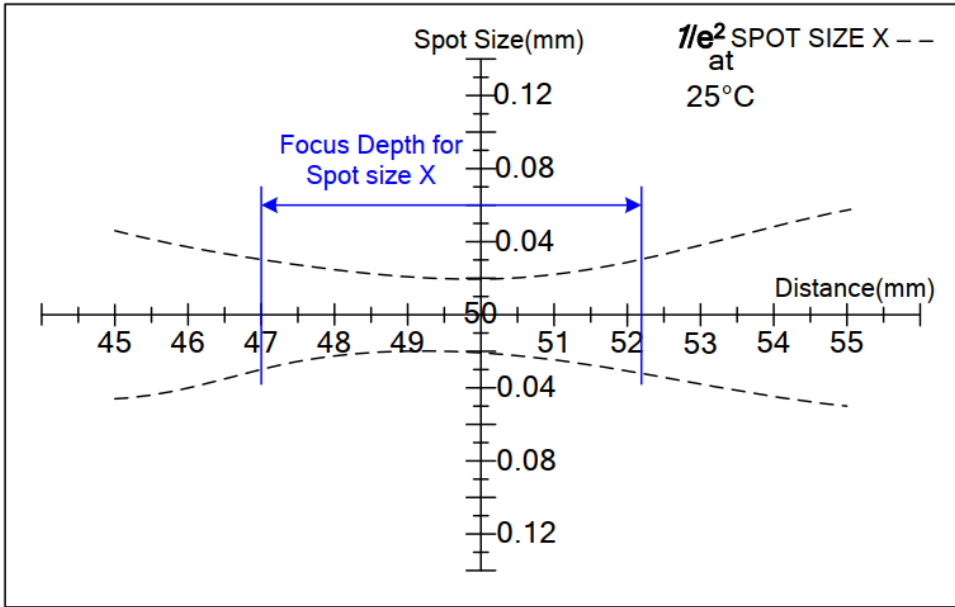


Figure C DOF for  $1/e^2$  SPOT SIZE X (Focus at 50mm)

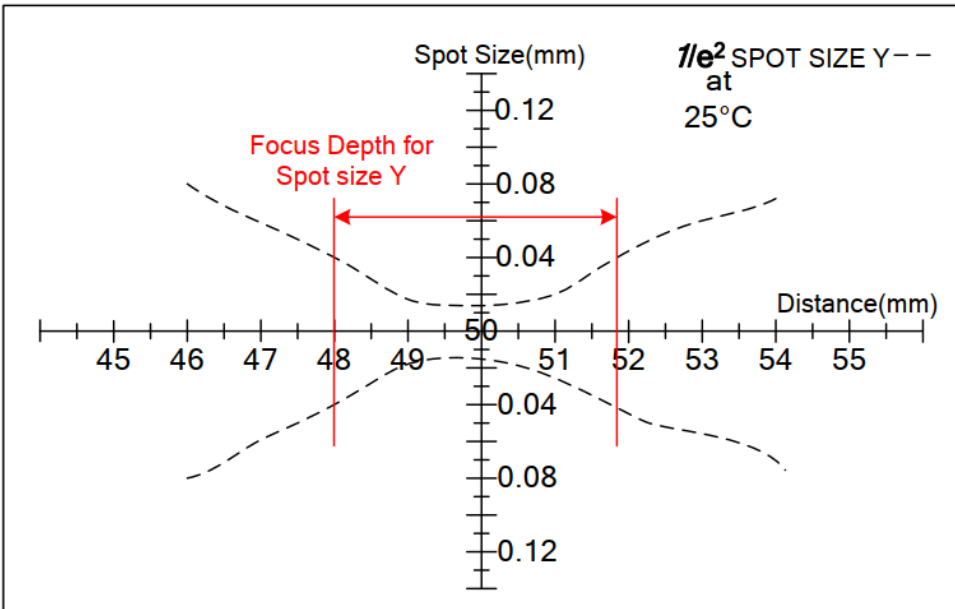


Figure D DOF for  $1/e^2$  SPOT SIZE Y (Focus at 50mm)

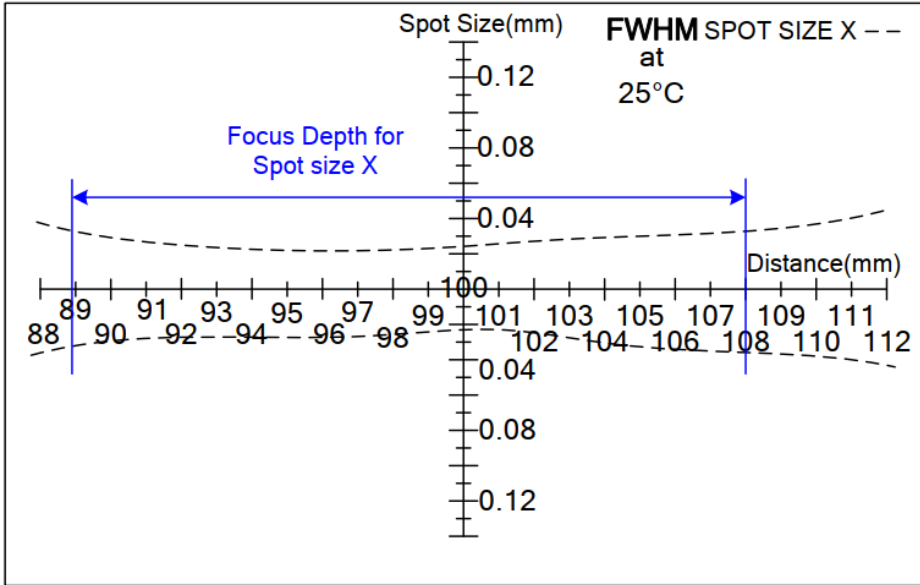


Figure E DOF for **FWHM SPOT SIZE X** (Focus at 100mm)

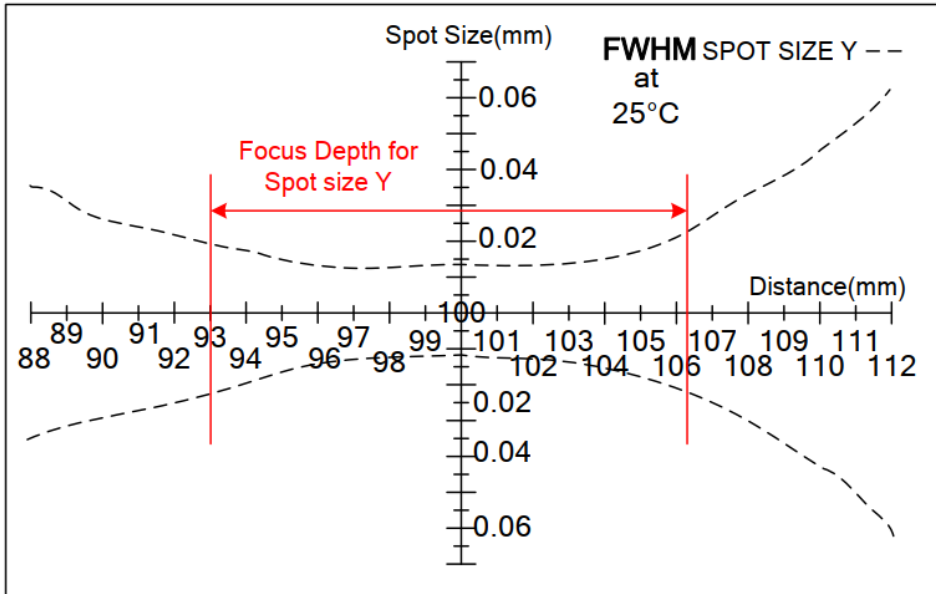


Figure F DOF for **FWHM SPOT SIZE Y** (Focus at 100mm)

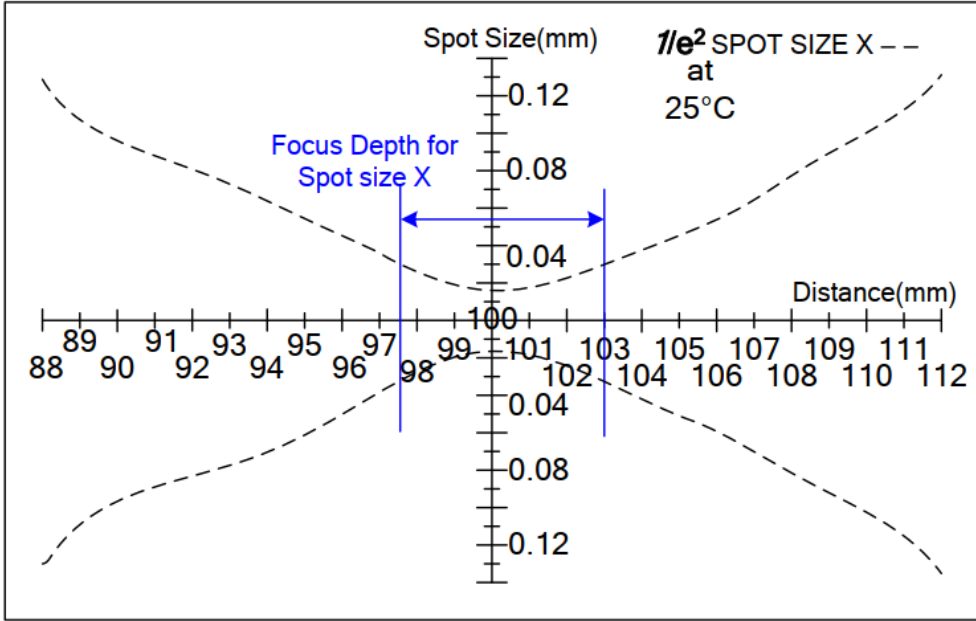


Figure G DOF for  $1/e^2$  SPOT SIZE X (Focus at 100mm)

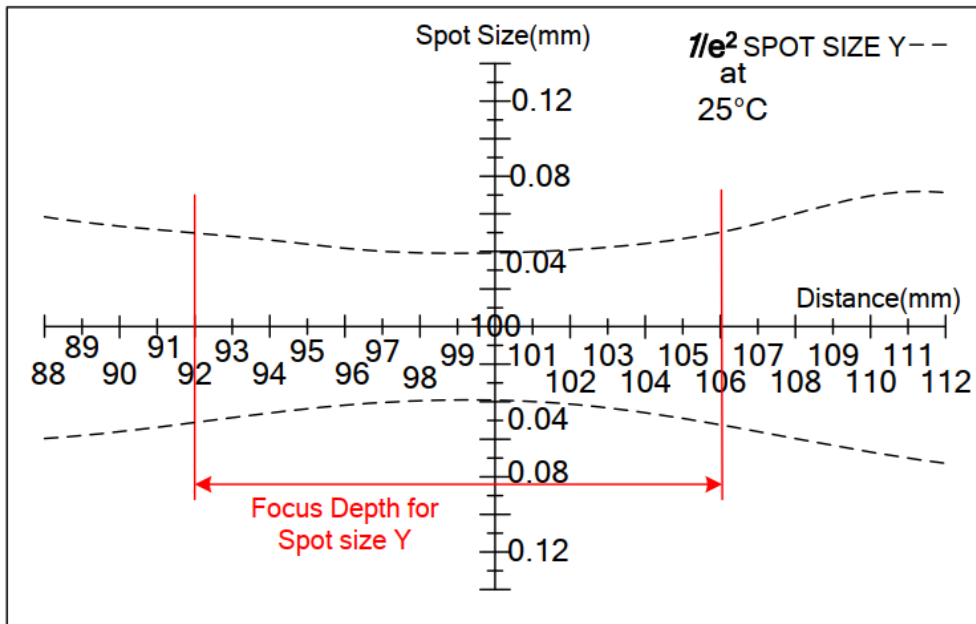


Figure H DOF for  $1/e^2$  SPOT SIZE Y (Focus at 100mm)

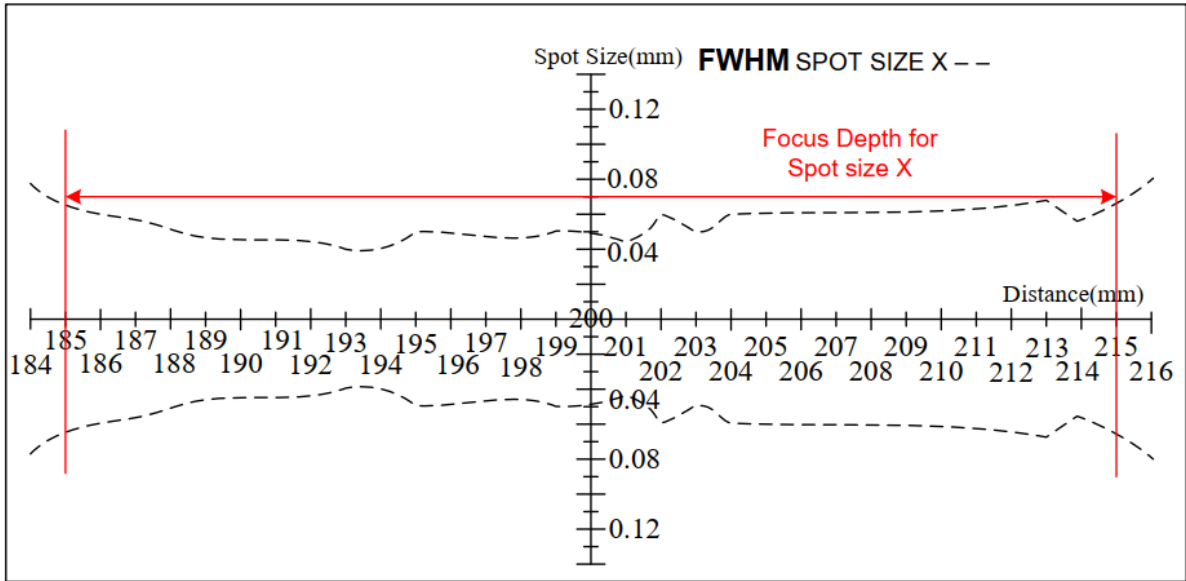


Figure I DOF for **FWHM SPOT SIZE X** (Focus at 200mm)

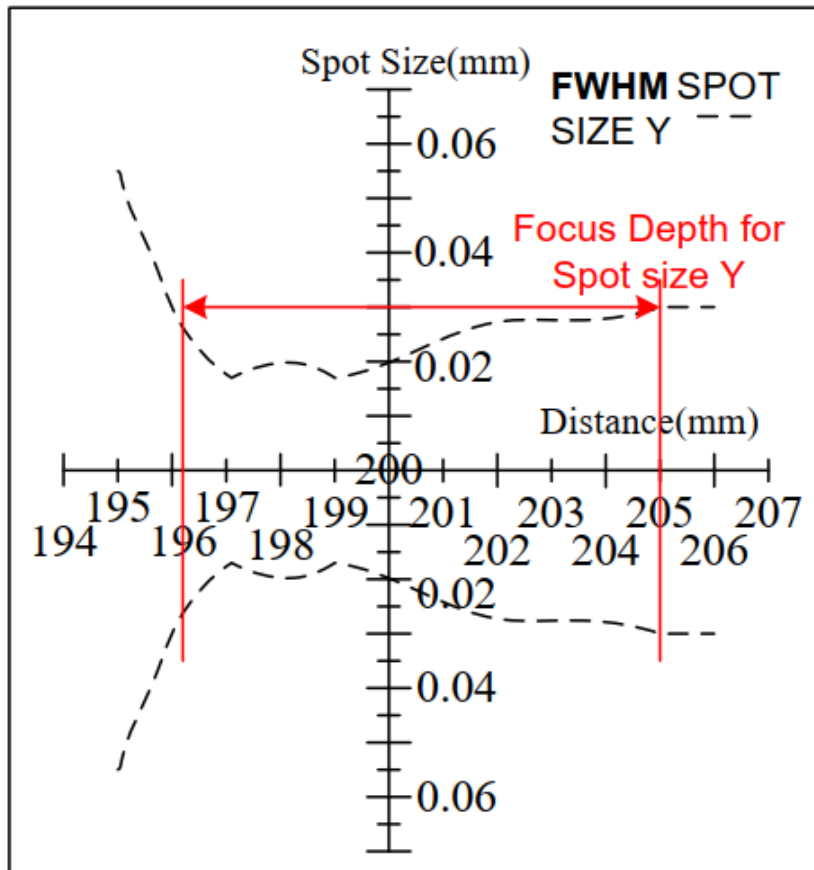


Figure J DOF for **FWHM SPOT SIZE Y** (Focus at 200mm)



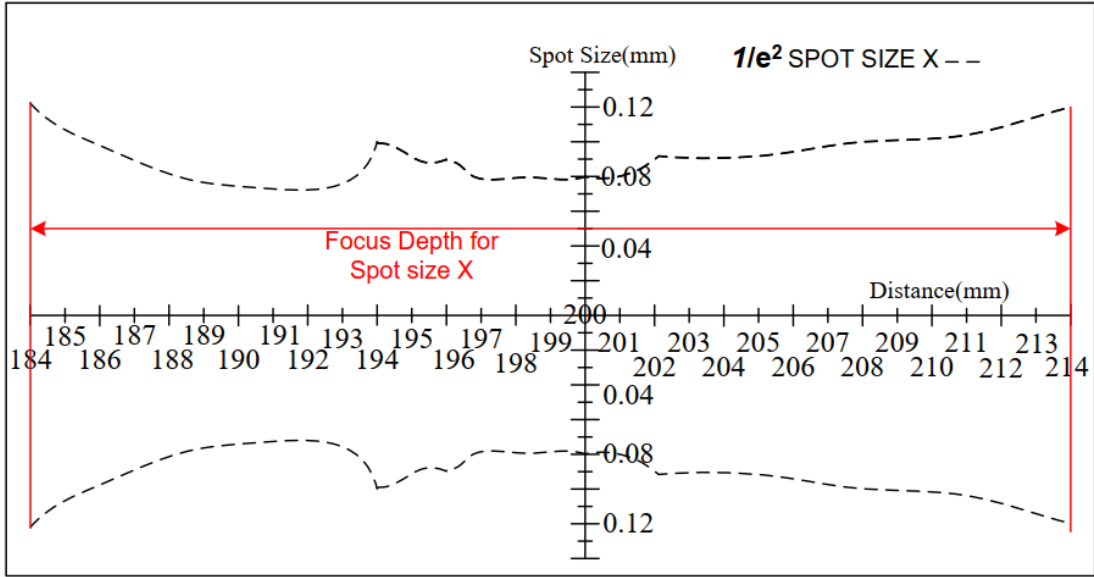


Figure K DOF for  $1/e^2$  SPOT SIZE X (Focus at 200mm)

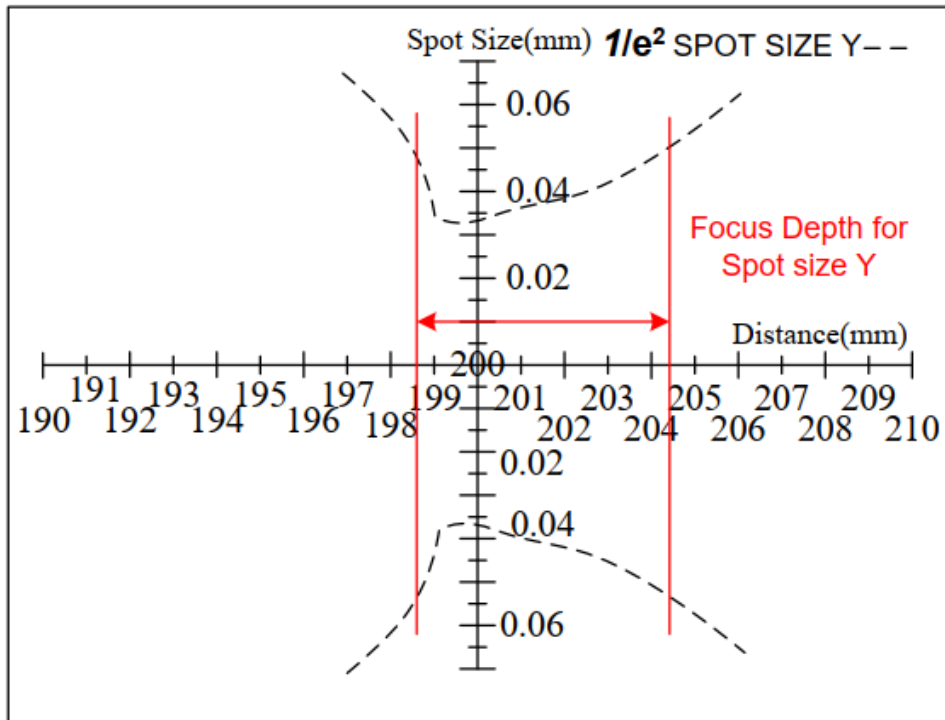


Figure L DOF for  $1/e^2$  SPOT SIZE Y (Focus at 200mm)

## VLM-635-63-Series

**Table B**

F(Distance (mm)) \ DOF	FWHM (at 25°C)		1/e <sup>2</sup> (at 25°C)	
	X	Y	X	Y
50 mm	47 to 53 mm	49 to 50 mm	47 to 52mm	48 to 51mm
100 mm	89 to 108 mm	93 to 106 mm	98 to 103mm	92 to 106mm
200 mm	185 to 215 mm	196 to 205 mm	184 to 214mm	199 to 204mm

### ORDER CODE

Order Code	Wavelength	Output Power	Connection Type
VLM-635-63 LPT-50	635 nm	<1mW	Lead Wire
VLM-635-63 LPT-100	635 nm	<1mW	Lead Wire
VLM-635-63 LPT-200	635 nm	<1mW	Lead Wire
VLM-635-63 LPO-50	635 nm	<0.39mW	Lead Wire
VLM-635-63 LPO-100	635 nm	<0.39mW	Lead Wire
VLM-635-63 LPO-200	635 nm	<0.39mW	Lead Wire

### SAFETY LABEL

**LPT:**



**LPO:**

