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The logo for VanGuard Microscopes. It features the word "VAN" in a bold, sans-serif font inside an oval shape, and "GUARD" in a larger, bold, sans-serif font to its right. Below this, the word "Microscopes" is written in a smaller, bold, sans-serif font.



**Operation Manual**

**1300SL Series**

Covering Models  
1353SL, 1354SL, 1363SL, & 1364SL

nted in the USA

No. VGMNL031022-1300SL





## Warranty

### 5 Year Limited Warranty

VanGuard Microscopes are warranted by VEE GEE Scientific, Inc. to be free from defects in material and workmanship for a period of five (5) years from the date of purchase, except for electrical components which have a one (1) year limited warranty. During this period, VEE GEE Scientific, or its authorized service station, will at their option and without charge, either repair or replace any part found to be defective in materials or workmanship.

Please take the time to fill out and return a registration form; this is important so that we have your information on file should the instrument require maintenance or service. The form can be found at the following web address:

[www.veegee.com/technical-support-service](http://www.veegee.com/technical-support-service)

This warranty is subject to the following limitations and exceptions and will not apply if:

- 1) There is lack of proof of date and place of purchase. The purchase invoice must accompany the unit when sent in for repair. The warranty extends to the original consumer purchaser only and is not assignable or transferable.
- 2) The damage is due to normal wear and tear, misuse, abuse, negligence, accident, inadequate maintenance, disregard for operating instructions, or to any other cause not due to the manufacture of the microscope (i.e. objective failure because of oil penetration due to lack of timely cleaning).
- 3) The serial numbers, names, and/or functions are altered or obliterated; or unauthorized repair or replacement of parts by the End-User or an unauthorized third party while under warranty.
- 4) Consumable items (such as, but not limited to bulbs) have failed.

This warranty expressly excludes transportation damage and adjustment or readjustment. In no case shall VEE GEE Scientific be liable to the Buyer or any person for any special, indirect, incidental, or consequential damage whether claims are based in contract or otherwise with respect to or arising out of product furnished hereunder. For goods manufactured by any third party, VEE GEE Scientific's liability under warranty is limited to the terms of the warranty by the supplier for the goods. All warranty work shall be performed at the authorized service center. Contact your distributor or VEE GEE Scientific to discuss the problem and obtain instructions for the return of your microscope for repair. The original purchaser returning this product must prepay all postage, shipping, transportation, packaging, and delivery costs to the service center.



## Included Parts

### Model 1353SL

Binocular 1X & 3X Head (1 ea.)  
Dual LED Stand (1 ea.)  
10X Eyepieces (2 ea.)  
Eyepiece Eyecups (2 ea.)  
Frosted Stage Plate (1 ea.)  
Objective Grip Ring (1 ea.)  
Power Cord (1 ea.)  
Dust Cover (1 ea.)

### Model 1363SL

Trinocular 1X & 3X Head (1 ea.)  
Dual LED Stand (1 ea.)  
10X Eyepieces (2 ea.)  
Eyepiece Eyecups (2 ea.)  
Frosted Stage Plate (1 ea.)  
Objective Grip Ring (1 ea.)  
Power Cord (1 ea.)  
Dust Cover (1 ea.)

### Model 1354SL

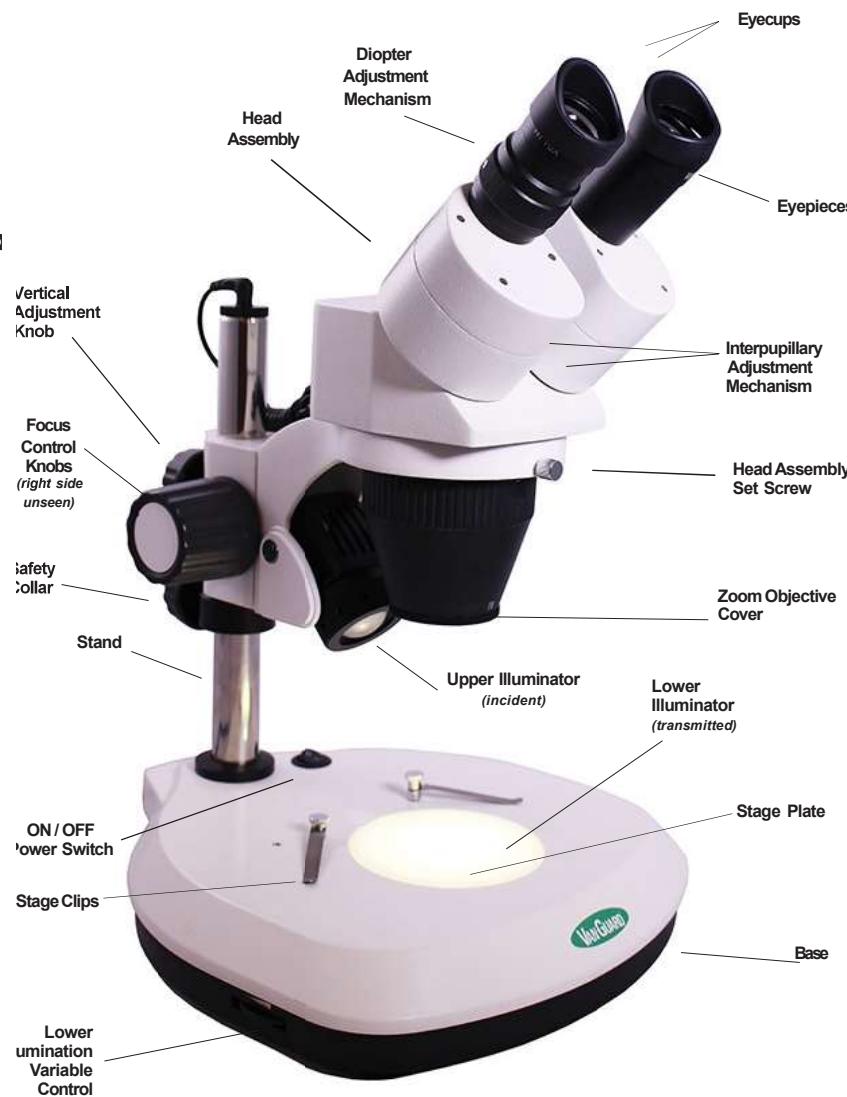
Binocular 2X & 4X Head (1 ea.)  
Dual LED Stand (1 ea.)  
10X Eyepieces (2 ea.)  
Eyepiece Eyecups (2 ea.)  
Frosted Stage Plate (1 ea.)  
Objective Grip Ring (1 ea.)  
Power Cord (1 ea.)  
Dust Cover (1 ea.)

### Model 1364SL

Trinocular 2X & 4X Head (1 ea.)  
Dual LED Stand (1 ea.)  
10X Eyepieces (2 ea.)  
Eyepiece Eyecups (2 ea.)  
Frosted Stage Plate (1 ea.)  
Objective Grip Ring (1 ea.)  
Power Cord (1 ea.)  
Dust Cover (1 ea.)



## Parts & Accessories



## Specifications

### 1300SL Series Microscopes

Viewing Head:	Binocular or Trinocular
Head Rotation:	360°
Head Inclination:	45°
Interpupillary Adjustment:	53-83mm
Dioptric Adjustment:	-5 to +5
Eyepiece Magnification:	10X Extra Widefield
Eyepiece Field Diameter:	20mm
Objective Magnifications:	1353SL - 1X & 3X (10X & 30X total magnification) 1354SL - 2X & 4X (20X & 40X total magnification) 1363SL - 1X & 3X (10X & 30X total magnification) 1364SL - 2X & 4X (20X & 40X total magnification)
Working Distance:	90mm
Stage Plate:	Frosted
Stage Clips:	Stainless Steel, Spring-loaded, Locked-on
Focusing Movement:	Dual-knobs; Rack & Pinion Assembly, Tension Control
Vertical Travel:	125mm
Upper/Lower Illumination:	Variable LED
Voltage:	110V [Standard], 220V [Switchable]
Base Dimensions: Overall	290mm x 260mm
Dimensions:	290mm (L) x 260mm (W) x 500mm (H)
Weight:	4.5kg



# Maintenance

## LED Illumination

The VanGuard 1300SL Series microscopes utilize LED illumination for both the incident and transmitted illuminators. One of the many advantages that LED illumination has over traditional incandescent, halogen, and fluorescent lamps is a long life expectancy. Due to their long life, the LED's are not considered 'consumable' and therefore are not user replaceable. If your microscope should require servicing please contact your dealer or VanGuard microscopes directly.



Figure 13

## Maintenance

The eyepieces and objectives on VanGuard Microscopes are coated. They should never be wiped while dry as any dirt or dust will scratch the coating. The surfaces should either be blown off with an air canister, or blown and cleaned with an air-bulb and camel-hair brush. It is recommended to then use a lens cleaner. Apply with a cotton swab for a minimum of wetting, then wipe the surface clean with a quality lens tissue. Xylene, since it breaks down the bonding material holding the lenses, should never be used as a cleaner. Periodically your VanGuard Microscope should be fully serviced by a qualified service technician.



# Setup

## Assembly

- 1 After removing the microscope parts from the protective foam packaging and checking it over for all components and (see list on page 3), you can begin assembly.
- 2 Place the *stand* on a stable counter top.
- 3 Loosen the *head assembly set screw* and place *head assembly* into *stand* (figure 1). Retighten set screw.
- 4 Remove the dust cap from the bottom of the *zoom objective cover* (figure 1) and screw on the objective grip ring which makes it easier to turn the objective housing when switching magnification.
- 5 Install the eyepieces in the eyetubes and place the eyecups onto the eyepieces (figure 2).



Figure 1

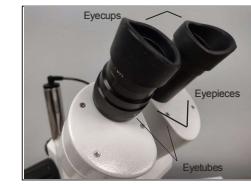


Figure 2

- 6 Install the frosted stage plate by placing it into the stage recess (figure 3).



Figure 3

- 7 Plug the coiled cord from the back of the microscope head into the top of the stage base post (figure 4).



Figure 4

- 8 Connect the power cord to the jack located on the rear of the microscope base (figure 5), plugging the male end into a suitable power supply.

Turn the main power switch on with the *ON/OFF power switch* located on the base near the post. If the lights do not come on, check to see that both the *upper illumination variable control* (located on the right side of the base) and the *lower illumination variable control* (located on the left side of the base) are on their highest settings.

Once in operation, light intensity is adjusted by turning the *upper illumination variable control* and the *lower illumination variable control*.



Figure 5



# Using your 1300SL Series Microscope

## Focusing Mechanism

- Focusing adjustment is achieved by turning the *focus control* knobs located on both sides of the microscope (figure 6). The focusing mechanism is limited by travel stops on both the top and bottom of the rack gear. This prevents the pinion from disengaging from the rack gear.



Figure 6

## Interpupillary Adjustment

- Interpupillary adjustment (the distance between eyepieces) is made by first grasping, and then looking through the eyepieces (figure 8). If two separate fields are seen, move the eyepieces closer together. If two overlapping fields are seen, move the eyepieces apart.



Figure 8

## Diopter Adjustment

Diopter adjustment allows for proper optical correction based on each individual's eyesight. This adjustment is easily made and is recommended prior to use.

- Place a sample on the stage plate.
- Turn the *diopter adjustment mechanism* (located on the left eyetube) clockwise as far as it will go (figure 9).

**Note:** When making adjustments to the diopter adjustment mechanism, turn slowly and evenly to avoid unscrewing the eyetube.



Figure 9



# Using your 1300SL Series Microscope

## Diopter Adjustment (continued)

- Turn the objective housing to the highest magnification power setting.
- Look through the eyepieces while keeping your left eye closed. Turn the *focus control knobs* until the image is in sharp focus in the right eyepiece (figure 10).



Figure 10

- Close your right eye and focus the left eyepiece image using the *diopter adjustment mechanism* (figure 11).
- Open both eyes and check to see that the image is focused.



Figure 11

- Turn the objective housing to the lowest power setting (figure 12). If the image is not clear, repeat the process to obtain the best diopter setting.



Figure 12