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| <b>Frederick National Laboratory<br/>for Cancer Research</b><br><small>sponsored by the National Cancer Institute</small> | HPV Serology Laboratory<br>Standard Operating Procedure |             |
| Use and Maintenance of the Inverted Microscope                                                                            |                                                         |             |
| <b>Document ID: HSL_EQ_018</b>                                                                                            | Version 2.0                                             | Page 1 of 6 |

Released by/Date Effective:

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| Author Name | Title | Signature/Date |
|-------------|-------|----------------|
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| Approver Name | Title | Signature/Date |
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| <p>Document ID: HSL_EQ_018</p>                                                                                            | <p>Version 2.0</p>                                              | <p>Page 2 of 6</p> |

**1. PURPOSE**

- 1.1. The purpose of this procedure is to describe the proper use and maintenance of the inverted microscope.

**2. SCOPE**

- 2.1. This procedure applies to the HPV Serology Laboratory located at the Advanced Technology Research Facility, Room C2007.

**3. REFERENCES**

- 3.1. Nikon Inverted Microscope User Manual
- 3.2. HSL\_EQ\_018.01: Inverted Microscope Use and Maintenance
- 3.3. HSL\_GL\_001: Waste Disposal at the Advanced Technology Research Facility
- 3.4. HSL\_GL\_002: Equipment Qualification and Calibration in the HPV Serology Laboratory
- 3.5. HSL\_GL\_003: Good Documentation Practices for the HPV Serology Laboratory
- 3.6. HSL\_GL\_007: Reagent and Chemical Expiry in the HPV Serology Laboratory
- 3.7. HSL\_GL\_008: Laboratory Flow and Gowning Procedures for the HPV Serology Laboratory
- 3.8. HSL\_GL\_009: HPV Serology Laboratory BSL-2 Procedures
- 3.9. HSL\_GL\_010: Control and Request of Documents in the HPV Serology Laboratory

**4. RESPONSIBILITIES**

- 4.1. The Research Associate, hereafter referred to as analyst, is responsible for reviewing and following this procedure.
- 4.2. The Scientific Manager or designee is responsible for training personnel in this procedure and reviewing associated documentation.
- 4.3. The Quality Assurance Specialist is responsible for quality oversight and approval of this procedure.

**5. REAGENTS, CHEMICALS AND EQUIPMENT**

- 5.1. Nikon TMS Inverted Microscope
- 5.2. Kimwipes (VWR, Cat # 21905-026 or equivalent)

|                                                                                                                           |                                                         |             |
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| <b>Document ID: HSL_EQ_018</b>                                                                                            | Version 2.0                                             | Page 3 of 6 |

- 5.3. Ethanol, 200% proof (Sigma, Cat # E-7023-500 mL or equivalent)
- 5.4. 12V/20W Halogen Bulb (Amazon, Cat # 54261\_3or equivalent)

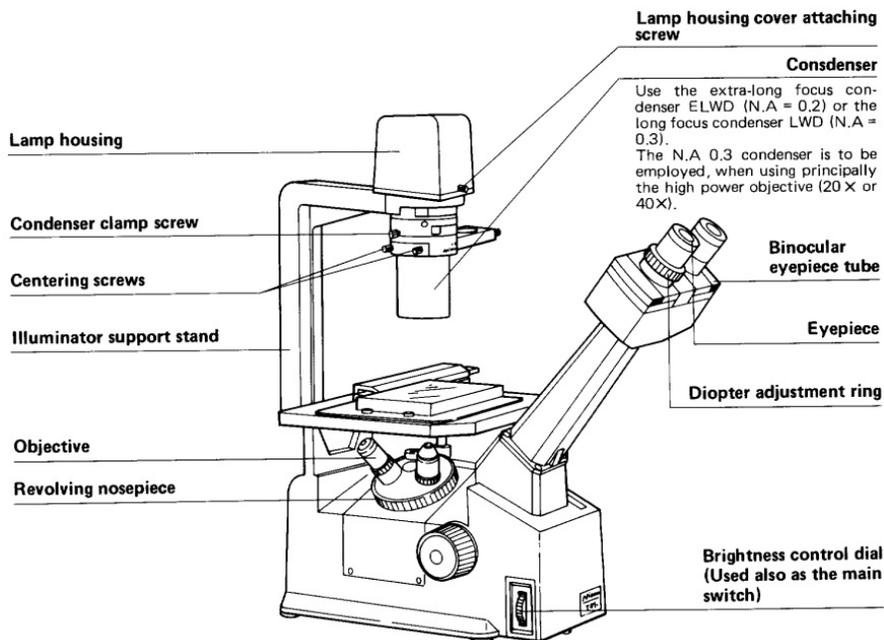
## 6. HEALTH AND SAFETY CONSIDERATIONS

- 6.1. Proper safety precautions should be taken while working in a laboratory setting. This includes, but is not limited to, proper protective equipment such as lab coats, safety glasses, closed-toe shoes, and non-latex gloves.
- 6.2. Refer to the respective SDS when working with any chemicals.
- 6.3. Refer to “HSL\_GL\_001: Waste Disposal at the Advanced Technology Research Facility” regarding waste disposal processes at the ATRF.

## 7. DEFINITIONS

| Term | Definition                              |
|------|-----------------------------------------|
| ATRF | Advanced Technology Research Facility   |
| FME  | Facilities, Maintenance and Engineering |
| HPV  | Human Papillomavirus                    |
| HSL  | HPV Serology Laboratory                 |
| SDS  | Safety Data Sheets                      |
| SOP  | Standard Operating Procedure            |

## 8. MICROSCOPE OVERVIEW

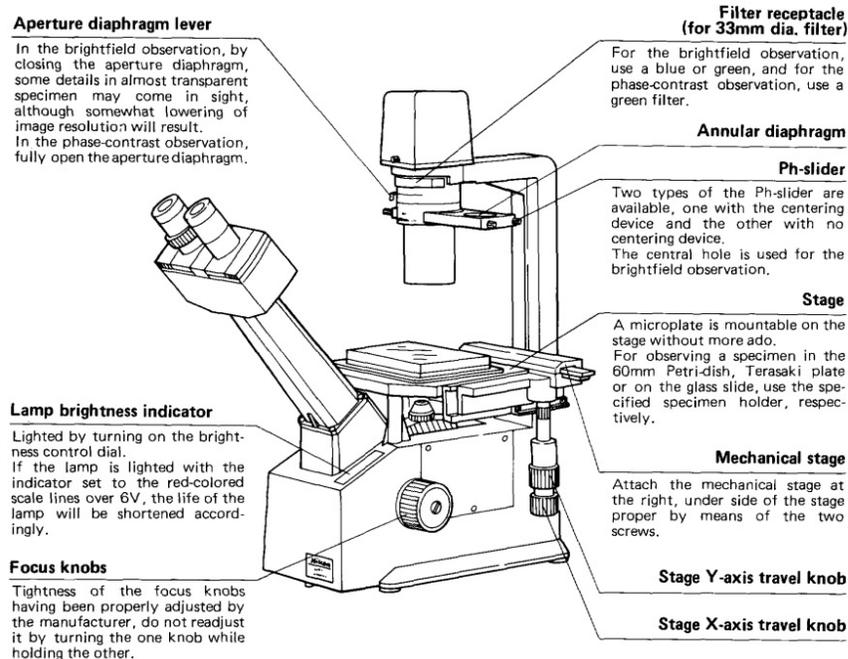


Use and Maintenance of the Inverted Microscope

Document ID: HSL\_EQ\_018

Version 2.0

Page 4 of 6



## 9. OPERATION

- 9.1. Turn the brightness control dial located on the left front side of the microscope upward to turn on the lamp.
- 9.2. Select the desired lamp brightness level by running the dial up and down. The lamp brightness indicator is in the front of the microscope.
- 9.3. Rotate the revolving nosepiece to choose the desired objective magnification.
- 9.4. Place the object/specimen being observed on the stage.
- 9.5. Observe through the binocular eyepiece tube and use the focus knobs, Y-axis and X-axis travel knob to focus and adjust the stage.
- 9.6. When done, turn the brightness control down to turn off the lamp.

## 10. MAINTENANCE

- 10.1. Monthly Lens Cleaning
  - 10.1.1. Lightly moisten a kimwipe with 200 proof ethanol and wipe the lens surface of the objective lenses.

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|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------|
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| <p><b>Document ID: HSL_EQ_018</b></p>                                                                                     | <p>Version 2.0</p>                                              | <p>Page 5 of 6</p> |

10.1.2. Document maintenance performed and applicable chemical/reagents used when applicable, on HSL\_EQ\_018.01: Inverted Microscope Use and Maintenance Form.

10.2. Annual Calibration

10.2.1. Facilities, Maintenance and Engineering (FME) or a contracted vendor will calibrate the microscopes every year as required, for routine use.

10.2.2. Document maintenance performed on HSL\_EQ\_018.01: Inverted Microscope Use and Maintenance Form.

**11. ATTACHMENTS**

11.1. Not applicable

|                                                                                                                           |                                                                 |                    |
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| <p>Document ID: HSL_EQ_018</p>                                                                                            | <p>Version 2.0</p>                                              | <p>Page 6 of 6</p> |

**12. REVISION HISTORY**

| Revision Start Date | Version # | Changes                                                        | Reasons                       |
|---------------------|-----------|----------------------------------------------------------------|-------------------------------|
| 17Apr17             | New       | Create new SOP for use and maintenance of inverted microscope. | New SOP.                      |
| 10Aug17             | 1.0       | Correct bulb information: Amazon, Catalog # 54261_3            | Part number in SOP incorrect. |

