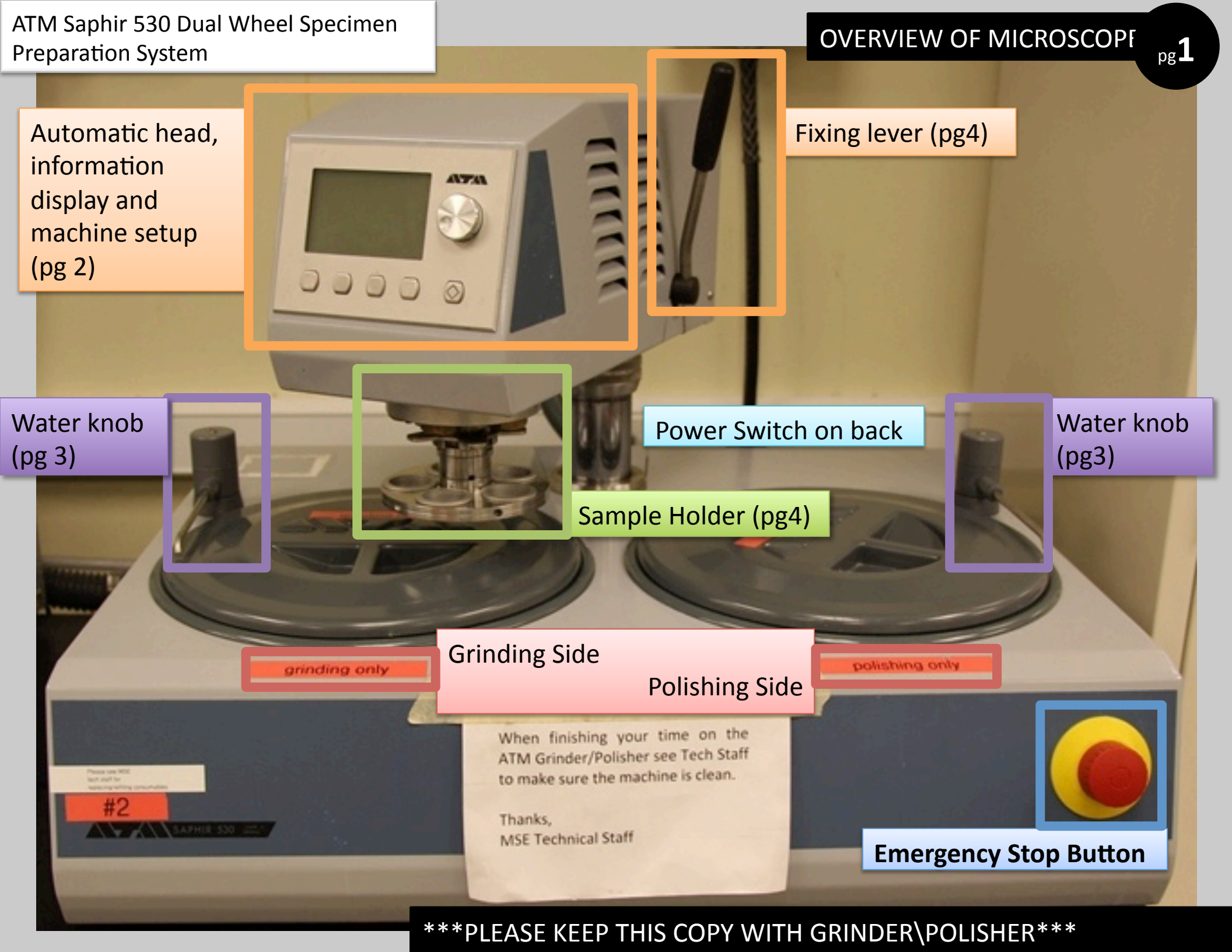
ATM Saphir 530 Dual Wheel Specimen Preparation System

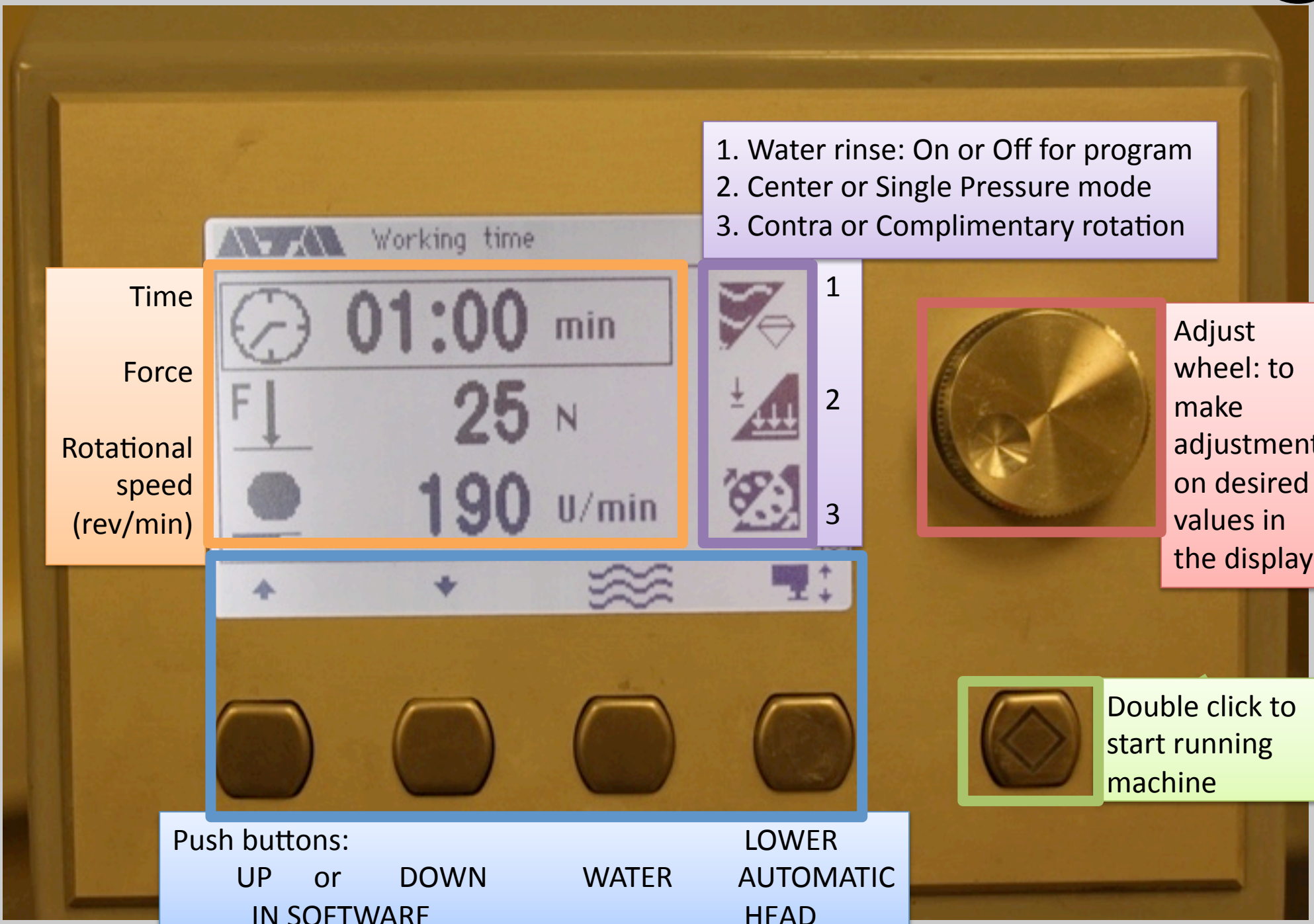
OVERVIEW OF MICROSCOPE



PLEASE KEEP THIS COPY WITH GRINDER\POLISHER

ATM Saphir 530 Dual Wheel Specimen Preparation System

INFORMATION DISPLAY UNIT



1. Water rinse: On or Off for program
2. Center or Single Pressure mode
3. Contra or Complimentary rotation

Time

Force

Rotational speed (rev/min)

Adjust wheel: to make adjustments on desired values in the display

Double click to start running machine

Push buttons:

UP or DOWN IN SOFTWARE

WATER

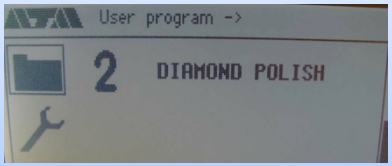
LOWER AUTOMATIC HEAD

Grinding Steps
(use program #4 for lab class – AL GR NO ED MSE)
(water flow decreased over finer grit paper)
- 22N force, with water, 300rpm, complementary direction
- 240 GRIT – **grind until all scratches from cutoff saw are removed**
- 320 GRIT – 1 minute
- 400 GRIT – 1minute
- 600 GRIT – 1 minute
- 1200 GRIT – 1 minute

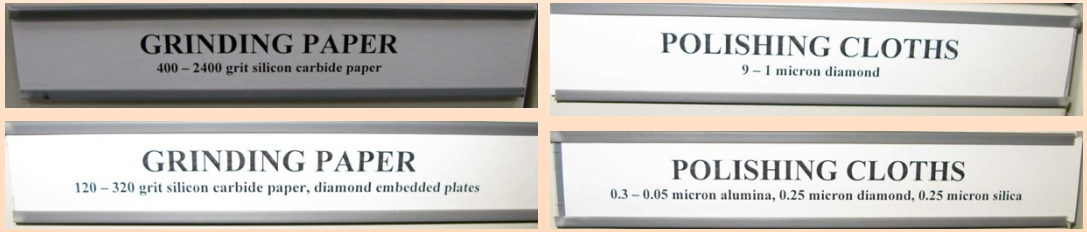
Polishing Steps
(use program #5 for lab class – AL PO NO ED MSE)
- 22N force, without water, 150rpm, complementary direction
- **Spray solution sparingly** (approx. every 1 minute)
- 6micron polylube diamond, run for 5 minutes
- 3micron polylube diamond, run for 5 minutes

0.03 micron Colloidal Silica Final Polishing Step
(use program#6 for lab class - AL SI NO ED MSE)
- Mix the solution: 5mL Colloidal Silica 5mL water **(poured a little every 10seconds)**
- 20N force, with water (off of pad), 150rpm, contra direction
run for 2 minutes, last 20 seconds with water on pad

To access the "User program" tab, scroll up above Time control or down below rotation control



Consumables are for MSE classes only!
- Found in drawers underneath machines
- If containers are empty, please see MSE tech staff

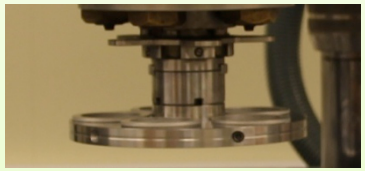


- Cleanup and put away any unused consumables and discard any used grinding paper
- Use appropriate grinding\polishing side to avoid contamination
- **Do not rinse the polishing** cloths after using

For Sample preparation, please see:
For the cutoff saw:
- LECO MSX205 abrasive cutoff saw SOP
For the band saw:
- DoAll Band saw SOP
For the mounting press:
- LECO PR-15 mounting press SOP

For additional background on metallographic preparation see pdf by Donald Zipperian posted on the SOP online

Most of the time automatic head is setup for "single sample" holder. To change this, please see MSE tech staff.



There are two forms of sample holders, center and single sample pressure modes:
- If 4 or less samples, then use the **single sample holder**
- If 5 samples, then use the **center mounted sample holder**

In between each grinding and polishing step, please thoroughly clean:
The samples
- For grinding: rinse with water
- For polishing: rinse with water, then a soapy cotton ball, then water, then ethanol
The wheel and surrounding area:
- Use the water rinse and remove any excess debris with a paper towel.
The sample holder:
- Use a paper towel

Repeat process when completely finished