



## MANUAL LENSOMETRY PLUS CYLINDER

### Single Vision Glasses

- Focus eye piece.
  1. Sphere and axis wheel should be set at zero. Turn counterclockwise until all lines are blurry.
  2. Then rotate slowly until lines are in focus.
- With the outside of glasses facing the examiner, center the right lens in the middle of the cross hairs.

If the Rx is greater than

- With one hand on the axis wheel and the other hand on the power knob, turn the power knob away from you to high minus. Now turn the power knob towards you bringing the thin lines in focus first. The power in which the thin lines come in focus, is the amount of the sphere. Example: -1.00
- **NOTE: if the thick lines come in focus first, rotate the axis 90 degrees away and then bring the thin lines in focus.** Now note when the thin lines come in focus.
- Continue to turn the power knob towards you (adding plus power) until the thick lines are in focus, the amount of cylinder is the difference between where the thin lines come in focus and where the thick lines come into focus. The sphere is written first, the amount of cylinder power that is needed is the second number and the axis where the cylinder is needed is the third. Example: -1.00 +0.50 x 90.

### Bifocals and Trifocals

- Center the glasses directly above the bifocal/trifocal segment and read the power. You will use the same process as described above for single vision glasses.
- To find the power that is in the bifocal segment, bring the thin lines in focus as the segment is centered in the lensometer. The difference from where the thin lines came in focus at the top and where they come in focus in the segment is the amount of add or bifocal power. The trifocal power is generally half of the bifocal power. Example: -2.00+1.00x75 is the distance power. Since the thin lines at the top come in focus at -2.00 and the thin lines at the bottom come in focus at +1.00, the add power is +3.00.

### Progressive Lenses

- Read the distance power the same as above but make sure to read them very high at the top of the glasses. They will not be centered as they were for SVL. In progressives, the distance correction is at the top and gradually plus power is added as you move down the lens towards the bottom.
- To read the add you can have the outside of the glasses facing you and hold glasses up to the light and read the etching on the lenses or use the green machine to read the etching.

### **Additional Notes**

- If you have difficulty centering lenses, there may be prism in them. This is measured by the concentric circles inside the lensometer. In order to read accurately, the optical centers on the glasses need to be marked while the patient is wearing them and then prism is read as they are centered on the lensometer by the dot.
- If you are not sure if there is an ADD, get the thin lines in focus at the top of the glasses and bring the glasses upwards and see where the thin lines come into focus at the bottom. If the thin lines blur at the bottom, then there is an add since the power is different from the top.