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> Visionking 90700SCF 90mm Aperture 700mm Focal Length Refractor Astronomical Telescope User Manual

VISIONKING VS90700SCF

Visionking 90700SCF Refractor Astronomical Telescope User Manual

Model: VS90700SCF

1. INTRODUCTION

This manual provides instructions for the proper assembly, operation, and maintenance of your Visionking 90700SCF Refractor Astronomical Telescope. This instrument is designed for both celestial observation, such as viewing the moon and planets, and terrestrial observation, allowing for detailed viewing of distant land objects. Please read this manual thoroughly before using your telescope to ensure optimal performance and longevity.

2. SAFETY INFORMATION

- **Never look directly at the sun through the telescope or its finder scope without a professionally manufactured solar filter.** Permanent and irreversible eye damage, including blindness, can result.
- Do not use the telescope to project an image of the sun onto any surface. Internal heat build-up can damage the telescope and any accessories attached to it.
- Always supervise children when they are using the telescope.
- Handle optical components with care to avoid scratches or damage.
- Ensure the tripod is stable on a level surface to prevent tipping.

3. PACKAGE CONTENTS

Verify that all components listed below are present in your package:

- Telescope Optical Tube (90mm Aperture, 700mm Focal Length Refractor)
- Aluminum Tripod
- Finder Scope
- K25mm Eyepiece
- K9mm Eyepiece

- 3x Barlow Lens
- Accessory Tray (if included, not explicitly mentioned but common)

4. ASSEMBLY AND SETUP

Follow these steps to assemble your telescope:

4.1. Set Up the Tripod

1. Carefully remove the tripod from its packaging.
2. Spread the tripod legs outwards until they are fully extended and stable.
3. Adjust the height of the tripod legs to your desired viewing level, ensuring the tripod head remains level. Secure the leg clamps.
4. Attach the accessory tray (if included) to the center brace of the tripod.

4.2. Mount the Telescope Optical Tube

1. Locate the mounting bracket on the telescope tube and the corresponding attachment point on the tripod head.
2. Carefully place the telescope tube onto the tripod head, aligning the mounting holes.
3. Secure the telescope tube to the tripod using the provided screws or clamps. Ensure it is firmly attached but do not overtighten.



Figure 1: The Visionking 90700SCF telescope fully assembled on its aluminum tripod, showing the main optical tube, finder scope, and eyepiece holder.

4.3. Attach the Finder Scope

1. Slide the finder scope into its bracket on the main telescope tube.
2. Tighten the small thumbscrews on the bracket to secure the finder scope. Do not overtighten.

4.4. Insert an Eyepiece

1. Loosen the thumbscrew on the focuser drawtube.
2. Insert either the K25mm or K9mm eyepiece into the focuser. The K25mm eyepiece provides lower magnification and a wider field of view, ideal for initial object location.
3. Tighten the thumbscrew to secure the eyepiece.
4. To use the 3x Barlow lens, insert it into the focuser first, then insert an eyepiece into the Barlow lens. This will triple the magnification of the eyepiece.

5. OPERATING INSTRUCTIONS

5.1. Aligning the Finder Scope

The finder scope must be aligned with the main telescope for easy object location.

1. Point the main telescope at a distant, stationary object (e.g., a distant tree or building) during daylight hours.
2. Look through the main telescope with the K25mm eyepiece and center the object in the field of view.
3. Now, look through the finder scope. Use the adjustment screws on the finder scope bracket to move the crosshairs until they are centered on the same object.
4. Once aligned, the finder scope will help you quickly locate objects in the night sky.

5.2. Focusing

To achieve a clear image, adjust the focuser:

1. Point the telescope at an object.
2. Turn the focus knob slowly until the image appears sharp.
3. Fine-tune the focus for the clearest possible view.

5.3. Changing Magnification

Different eyepieces provide different magnifications. To calculate magnification, divide the telescope's focal length (700mm) by the eyepiece's focal length.

- **K25mm Eyepiece:** $700\text{mm} / 25\text{mm} = 28\text{x}$ magnification. With 3x Barlow: $28\text{x} * 3 = 84\text{x}$.
- **K9mm Eyepiece:** $700\text{mm} / 9\text{mm} = 78\text{x}$ magnification. With 3x Barlow: $78\text{x} * 3 = 234\text{x}$.

Start with the lowest magnification (K25mm) to locate and center objects, then switch to higher magnifications (K9mm, or with Barlow) for more detailed views.

6. MAINTENANCE

- **Cleaning Lenses:** Use a soft, lint-free cloth or a specialized optical cleaning brush to gently remove dust. For smudges, use a small amount of optical cleaning fluid on a clean cloth. Avoid touching optical surfaces with your fingers.
- **Storage:** Store the telescope in a dry, dust-free environment. Keep dust caps on the objective lens and focuser when not in use.
- **General Care:** Avoid exposing the telescope to extreme temperatures or sudden temperature changes. Do not disassemble the optical components.

7. TROUBLESHOOTING

- **Image is blurry:** Adjust the focus knob slowly. Ensure the eyepiece is fully inserted and secured. Allow the telescope to acclimate to the ambient temperature.
- **Cannot find objects:** Ensure the finder scope is properly aligned with the main telescope. Start with the lowest magnification eyepiece (K25mm) for a wider field of view.
- **Image is dim:** This is normal for very high magnifications or when observing faint objects. Ensure your viewing location is dark and free from light pollution.
- **Image is upside down/reversed:** This is normal for astronomical telescopes. For terrestrial viewing, an optional erecting prism (not included) can correct the image orientation.

8. SPECIFICATIONS

Brand	VISIONKING
Model Number	VS90700SCF
Optical Design	Refractor
Aperture	90mm
Focal Length	700mm
Focal Ratio (F-value)	F7.8
Eyepieces Included	K25mm, K9mm
Barlow Lens	3x
Eyepiece Mount Diameter	31.7mm (1.25 inches)
Mount Type	Alt-azimuth (on Aluminum Tripod)
Resolution	1.33 arcseconds
Limiting Magnitude	11.9 magnitude stars
Weight	7.78 KG

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation provided with your purchase or contact the retailer or manufacturer directly. Keep your proof of purchase for warranty claims.

Manufacturer: Visionking Optical