

SKYLUX 60/700 AZ

Refractor telescope
with azimuthal mount

Art. No. 961876100000



FIG. 1

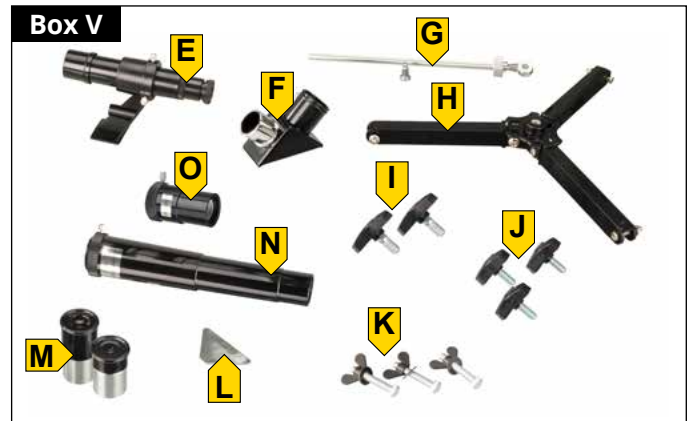
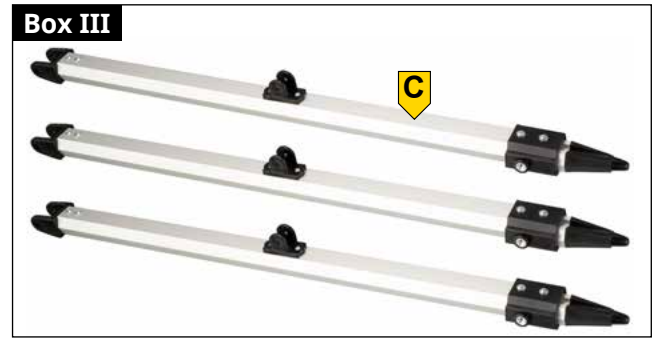
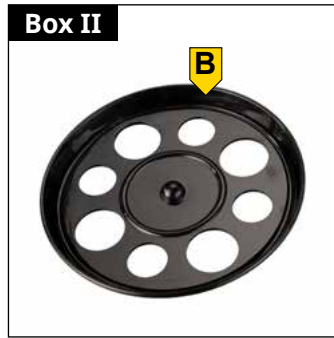
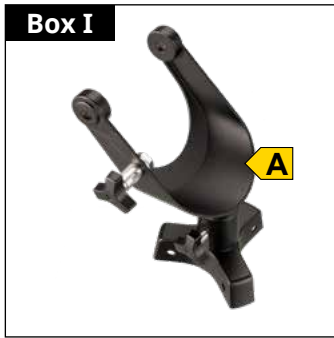


FIG. 2



INHALT

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VALIDITY NOTE

This documentation is valid for the products with the following part numbers: 9618761000000

Version: 0323

Description: Manual_9618761000000_Skylux-60-700-AZ_en_BRESSER_v032023a

Always have this information available when requesting service.

FEATURES

- Achromatic refractor with glass lens system
- Azimuthal mount with fine adjustment
- Height adjustable tripod with accessory tray
- 2 eyepieces included
- 3x Barlow lens included
- Zenith mirror included
- Smartphone holder with bendable suspension included
- Up to 525x magnification with included accessories

ABOUT THIS INSTRUCTION MANUAL

NOTE

This instruction manual is to be regarded as an integral part of the device.

Read the safety instructions and the operating instructions carefully before using this device. Keep these instruction manual in a safe place for future reference. If the device is sold or passed on, the instruction manual must be handed over to the new owner/user of the product.

GENERAL SAFETY INSTRUCTIONS

DANGER OF BLINDNESS!

- Never look directly at or near the sun with this device without a suitable solar filter! Direct sunlight will cause serious damage to your eyes or even blindness within a few seconds.
- When observing the sun, remove the finder scope and insert only the supplied solar filter in front of the objective lens before observing. Be sure to also read the separate operating instructions for the solar filter!

DANGER OF SUFFOCATION!

- Keep packaging materials (plastic bags, rubber bands, etc.) away from children!
- Contains small parts that can be swallowed.

FIRE HAZARD!

- Do not expose this device - especially the lenses - to direct sunlight! The concentration of light rays could cause a fire.

DANGER OF PROPERTY DAMAGE!

- Do not disassemble the device! In the event of a defect, contact the service center responsible for your country.
- Do not subject the device to strong vibrations.

SCOPE OF DELIVERY (FIG. 1)

BOX I: Mounting head (A)

BOX II: Accessory tray (B)

BOX III: 3 pcs. tripod legs (C)

BOX IV: Optical tube (D)

BOX V: 5x24 finder scope with bracket (E), diagonal mirror (F), stabilizing rod with short threaded screw (G), tripod spider with 3 pcs. small screws and lock nuts (preassembled) (H), 2 pcs. large wing screws (I), 3 pcs. small wing screws (J), 3 pcs. hexagon head screws with washers and wing nuts (K), screwdriver (L), 2 pcs. eyepieces (M), 1.5x erecting lens (N), 3x Barlow lens (O)

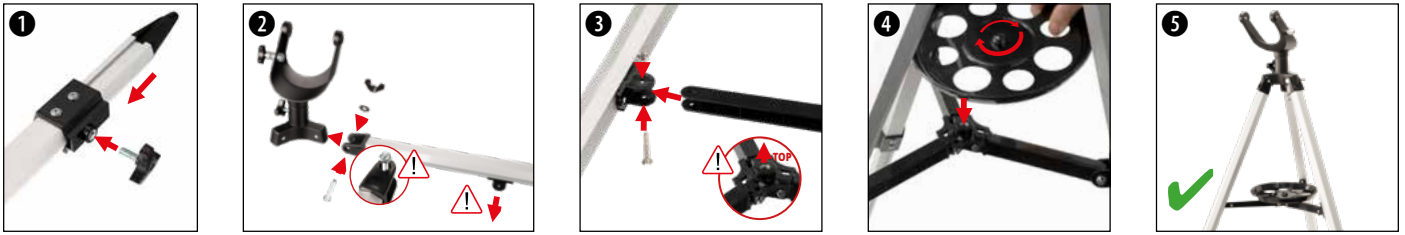
BOX VI: Smartphone holder (P),

BOX VII: Solar filter (Q)

PARTS LIST (FIG. 2)

- ① Dew shield with A dust cap (not visible)
- ② Optical tube with A internal thread (not visible)
- ③ Objective lens (internal)
- ④ Fixation screws (for the tube, 2 pcs., enclosed)
- ⑤ Viewfinder objective
- ⑥ Viewfinder scope with A viewfinder bracket (parts preassembled)
- ⑦ Adjustment screws (on the viewfinder, 3 pcs., preassembled)
- ⑧ Viewfinder eyepiece with focusing ring
- ⑨ Viewfinder shoe (on the tube, preassembled)
- ⑩ Eyepiece
- ⑪ Fixing screw (on the diagonal mirror, 1 pc., preassembled)
- ⑫ 90° Diagonal mirror
- ⑬ Fixing screw (on the extension ring, 1 pc., preassembled)
- ⑭ Extension ring (on the eyepiece extension)
- ⑮ Eyepiece extension
- ⑯ Focus wheel
- ⑰ Mounting screw (for mounting shaft) with A hexagon head screw, B wing nut, C washer (all parts enclosed)
- ⑱ Mounting fork (on the tripod leg)
- ⑲ Upper part of the tripod leg
- ⑳ Lower part of the tripod leg (extendable)
- ㉑ Foot tip (on the tripod leg)
- ㉒ Tripod leg clamp
- ㉓ Wing screw (enclosed)
- ㉔ Mounting pegs (pre-mounted on the tripod leg)
- ㉕ fixing screw (for mounting of the tripod spider) with A threaded screw, B lock nut (parts preassembled on tripod spider)
- ㉖ Tripod spider with A bar, B central thread
- ㉗ Accessory tray
- ㉘ stabilizing rod (one-sided) with A fixing screw, B fine adjustment wheel
- ㉙ Fixing screw with locating hole (pre-mounted on the mounting fork)
- ㉚ Mounting fork with A openings
- ㉛ Fixing screw for horizontal movement (pre-mounted on the mounting fork).
- ㉜ Mounting shaft (three-sided)
- ㉝ End piece with hole (on the smartphone holder)

A | SETTING UP THE TRIPOD AND MOUNTING THE ACCESSORY TRAY



- 1) Screw the three wing screws (23) into the threads of the tripod leg clamps (22) and tighten them hand-tight.
- 2) Slide the mounting forks (18) of the three tripod legs onto the mounting shafts (32) and attach them to the mounting pins (30) with the fastening screws (17).
IMPORTANT: When mounting, make sure that the mounting pins (24) point downwards and the head of the hexagon head screw (17A) engages in the corresponding recess on the mounting fork.
- 3) Remove the small mounting screws (25) from the ends of the tripod spider (26) and set them aside within reach. Place the ends of the tripod spider (26) on the mounting pins (24) and fasten them with the fastening screws previously removed.
IMPORTANT: Make sure that the central thread (26B) of the tripod spider points upwards in the direction of the mounting fork (30) when mounting.
- 4) Place the tripod upright on a firm, preferably level surface so that it is horizontal and secure. Screw the accessory tray (27) into the central thread (26B).
- 5) The base of the telescope with tripod, mount and accessory tray is now ready for use.
NOTE: The foot tips of the tripod legs can compensate for slight unevenness of the ground. For more uneven surfaces, the heights of the tripod legs can be adjusted independently. To do this, loosen the wing screws (23) on the tripod leg clamps (22) slightly and pull the lower tripod leg parts further apart or push them in accordingly. Then hand-tighten the wing screws (23) again. To check a level stand, place a spirit level on the accessory tray.

B | FASTENING THE TELESCOPE IN THE MOUNT AND ALIGNING IT



- ATTENTION!** Always hold the tube with one hand during the following assembly steps to prevent it from falling or turning over. This can lead to irreparable damage to the tube and optics!
- 6) Keep the fixing screws (4), the stabilizing rod (28) and the fixing screw (28A) within reach. Position the optical tube (2) from above in the mounting fork so that the internal threads (2A) on the optical tube (2) are located exactly behind the openings (30A) of the mounting fork.
 - 7) Take the fixing screws (4) and screw them through the openings (30A) of the mounting fork into the internal threads (2A) on the optical tube and tighten them hand-tight.
 - 8) Take the stabilizing rod (28) and push it through the locating hole of the fixing screw (29) and tighten the fixing screw slightly.
 - 9) Screw the stabilization rod hand-tight to the internal thread (X) of the optical tube (2) using the small fixing screw (28A) and the screwdriver (1).
 - 10) Loosen the fixing screw (31) for horizontal movement to move the optical tube (2) horizontally (to the right or left). For fixing in a specific horizontal position, hand-tighten the fixing screw (31). To move the optical tube (2) vertically, slightly loosen the fixing screws (4) for the optical tube (2) and the fixing screw (29) on the mounting fork. After reaching the desired position, hand-tighten all fixing screws again.
NOTE: Before each night observation, the optical tube (2) should be aligned horizontally and with the objective lens (3) facing north. A small compass can help with accurate alignment.

C | ATTACHING ACCESSORIES FOR VISUAL OBSERVATION

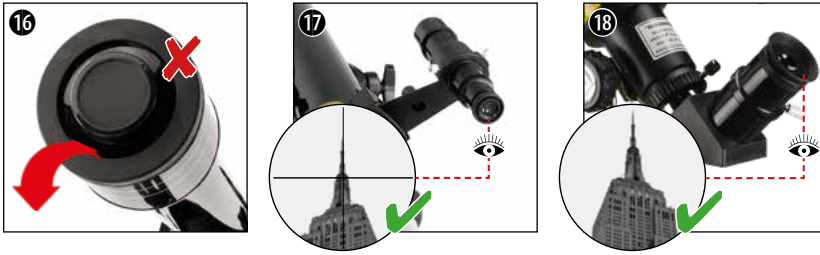


BASIC ACCESSORIES - VIEWFINDER, DIAGONAL MIRROR AND EYEPIECES

- 11) Insert the viewfinder (6) with the viewfinder bracket (6a) into the viewfinder shoe (7) on the optical tube (2).
- 12) The viewfinder (6) is correctly mounted when the objective lens (3) and the viewfinder lens (5) point in the same direction.
- 13) Loosen the fixing screw (13) on the focuser ring (14) so that the protective cap can be removed and the opening of the eyepiece extension (15) is not blocked. Insert the diagonal mirror (12) into the eyepiece extension (15) and hand-tighten the fixing screw (13) on the focuser ring (14) again.
- 14) Loosen the fixing screw (11) on the diagonal mirror (12) so that its opening is not blocked. Insert an eyepiece (10) into the diagonal mirror (12) and hand-tighten the fixing screw (11) on the diagonal mirror (12) again.
TIP! Start each observation with a low magnification eyepiece. The following applies to this: The larger the focal length in mm, the lower the magnification. Example: a 10mm eyepiece provides less magnification than a 4mm eyepiece
- 15) The telescope is now ready for use.

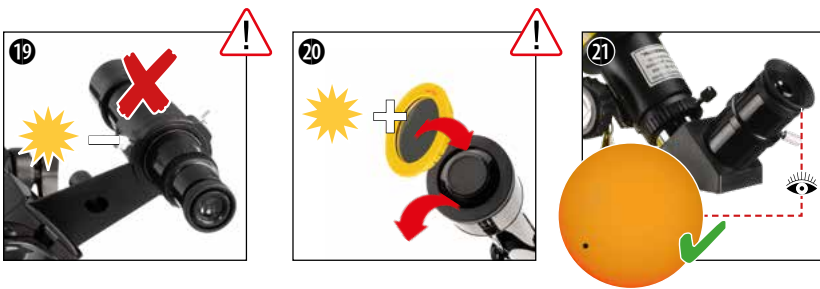
D | FIRST OBSERVATION

D-1 LAND OBSERVATION



- 16) Remove the dust cap (1A) from the dew shield (1).
- 17) Point the entire telescope at the object to be viewed. Look through the viewfinder eyepiece (8) and set the object in the center of the field of view (crosshairs) by adjusting the telescope horizontally and vertically. If necessary, the image sharpness can be adjusted using the focusing ring on the viewfinder eyepiece (8).
- 18) When looking through the eyepiece (10), the object can be seen magnified. If necessary, the image sharpness can be adjusted using the focus wheel (16).

D-2 SOLAR OBSERVATION



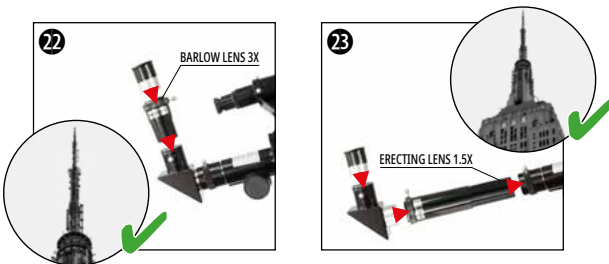
DANGER OF BLINDNESS!

- Never look directly at or near the sun with this device without a suitable solar filter! Direct sunlight will cause serious damage of your eyes or even blindness within a few seconds.
- When observing the sun, remove the finder scope and insert only the supplied solar filter in front of the objective lens before observing. Be sure to also read the separate operating instructions for the solar filter!

- 19) Completely disassemble the finder scope (6) from the optical tube (2).
- 20) Remove the dust cap (1A) from the dew shield (1). Place the sun filter (Q) on the dew shield (1) instead of the dust cap (1A).
- 21) When looking through the eyepiece (10), the sun can be seen magnified. If necessary, the image sharpness can be adjusted using the focus wheel (16).

E | ATTACHING OPTIONAL ACCESSORIES

BARLOW LENS AND/OR ERECTING LENS



Chapter C describes how to mount the basic accessories to the telescope.

In addition, special accessories can still be used. The assembly and function of the special accessories included in this telescope set are explained below.

- 22) The 3x Barlow lens is inserted into the beam path between the diagonal mirror (12) and the eyepiece (10). It provides a (calculated) increase in magnification of 3 times.

NOTE: Besides the image enlargement, there is no optical image change. I.e. the image inversion (laterally reversed) caused by the diagonal mirror (12) remains.

- 23) The 1.5x erecting lens is inserted between the eyepiece extension (15) and the diagonal mirror (12) in the beam path. In addition to a 1.5x increase in magnification, it also offers image reversal.

F | MOUNTING THE SMARTPHONE HOLDER



The smartphone holder (P) is mounted in the direct field of view of the observer.

24) Hold the optical tube (2) with one hand and simultaneously unscrew one of the two fixing screws (4) on the mounting fork (30) and put it aside within reach. Insert the fixing screw (4) through the hole on the end piece of the smartphone holder (P) and the opening on the mounting fork (30) and screw it back onto the optical tube (2).

25) Clamp the smartphone in the gripper arm of the smartphone holder. Open any Sky app on the smartphone and bend the movable arm of the mount to the desired position for observation.

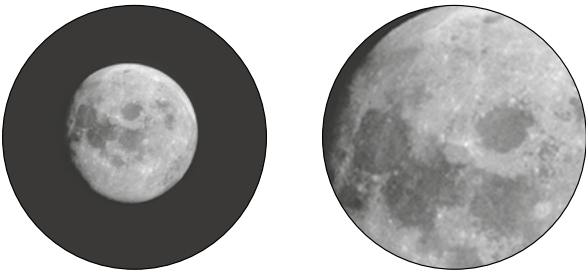
G | ASTRO SOFTWARE

For better orientation on the night sky, we provide the Astro software "Stellarium" for download on our internet platform. Download the software and a detailed user manual via the following web link:

<http://www.bresser.de/download/stellarium>

H | POSSIBLE OBSERVATION OBJECTS

Below we have selected and explained some very interesting celestial bodies and star clusters. In the accompanying illustrations at the end of the manual you can see how you will see the objects through your telescope with the supplied eyepieces - in good viewing conditions:



MOON

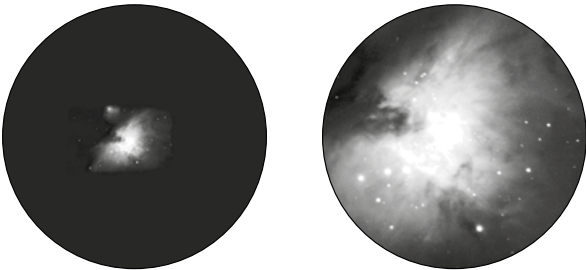
The moon is the only natural satellite of the earth

Orbit: approx. 384,400 km from the earth

Diameter: 3,476 km

Distance: 384,401 km

The moon has been known since prehistoric times. It is the second brightest object in the sky after the sun. As the moon orbits the earth once a month, the angle between the earth, the moon and the sun is constantly changing; you can see this in the cycles of the moon's phases. The time between two consecutive new moon phases is about 29.5 days (709 hours).



CONSTELLATION ORION / M42

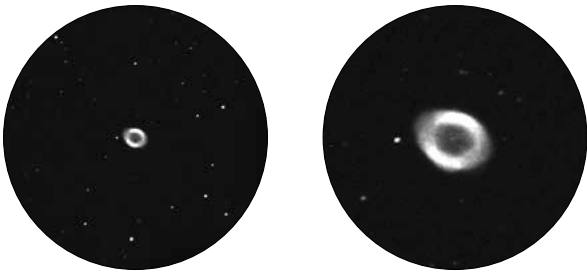
Right Ascension (R.A): 05:32.9 (hours : minutes)

Declination (DEC): 05:25 (degrees : minutes)

Distance: 1,500 light years

At a distance of about 1500 light-years, the Orion Nebula (M42) is the brightest diffuse nebula in the sky - visible to the naked eye, and a rewarding object for telescopes of all sizes, from the smallest binoculars to the largest Earth-based observatories and the Hubble Space Telescope.

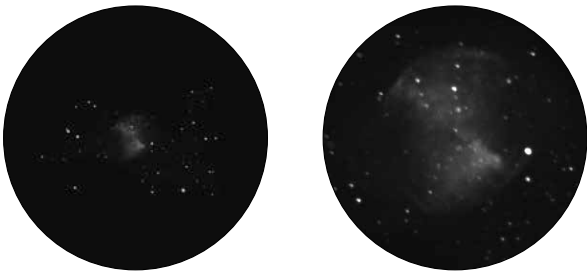
It is the main part of a much larger cloud of hydrogen gas and dust, extending at more than 10 degrees over about half of the constellation of Orion. The extent of this enormous cloud is several hundred light years.



CONSTELLATION LEIER / M57

Right Ascension (R.A): 18:51.7 (hours : minutes)
 Declination (DEC): 32:58 (degrees : minutes)
 Distance: 4.100 million light years

The famous Ring Nebula M57 in the constellation Lyra is often considered to be the prototype of a planetary nebula; it is one of the splendours of the northern hemisphere summer sky. Recent studies have shown that it is most likely a ring (torus) of brightly glowing matter surrounding the central star (visible only with larger telescopes), rather than a spherical or ellipsoidal gas structure. If the Ring Nebula were viewed from the side plane, it would resemble the Dumbbell Nebula M27. We are looking right at the pole of the nebula for this object.



CONSTELLATION VIXEN / M27

Right Ascension (R.A): 19:59.6 (hours : minutes)
 Declination (DEC): 22:43 (degrees : minutes)
 Distance: 1,250 million light years

The Dumbbell Nebula M27 or Dumbbell Nebula in the Vixen was the first planetary nebula ever discovered. On July 12, 1764, Charles Messier discovered this new and fascinating class of objects. We see this object almost exactly from its equatorial plane. If the Dumbbell Nebula were seen from one of the poles, it would probably have the shape of a ring and resemble the sight we know from the Ring Nebula M57.

This object can already be seen well in reasonably good weather conditions at low magnifications.

CLEANING & MAINTENANCE

- Clean the lenses (eyepieces and/or objective lenses) only with a soft and lint-free cloth (e.g. microfibre cloth). To avoid scratching the lenses, use only gentle pressure with the cleaning cloth.
- To remove more stubborn dirt, moisten the cleaning cloth with an eyeglass-cleaning solution and wipe the lenses gently.
- Protect the device from dust and moisture! After use, particularly in high humidity, let the device acclimatize at room temperature for a short period of time, so that the residual moisture can dissipate.

STORAGE

- Store it in the shipping carton if it will not be used for a long time.


TROUBLESHOOTING

Faults:	Help
No image	Remove the dust cap from the lens opening.
Blurred picture	Focusing with the focus wheel
Focusing not possible	Wait for temperature equalisation (approx. 30 minutes)
Bad image	Never watch through a pane of glass
Observation object visible in the viewfinder but not in the telescope	Adjust the viewfinder
"Crooked" image despite the diagonal mirror	The diagonal mirror must be aligned vertically to the eyepiece extension.

TECHNICAL DATA

Model	Skylux 60/700 AZ
Objective lens diam.	60 mm
Focal length (opt. tube)	700 mm
Mount	azimuthal mount
Tripod	height adjustable aluminum tripod
Viewfinder	optical, 5x24
Eyepieces	SR-4 mm, H-20mm
Other accessories	diagonal mirror, 1.5x erecting lens, 3x Barlow lens, solar filter, Smartphone holder

DISPOSAL

 Dispose of the packaging materials by type. Contact your local waste-disposal service or environmental authority for information about the proper disposal.

Observe the current legal regulations when disposing of the device! Information on proper disposal can be obtained from municipal waste disposal service providers or the Environmental Agency.

WARRANTY

This product is guaranteed for 5 years from the date of purchase. For the complete warranty conditions, please refer to the warranty booklet enclosed separately with the product.

Service

DE AT CH BE

Bei Fragen zum Produkt und eventuellen Reklamationen nehmen Sie bitte zunächst mit dem Service-Center Kontakt auf, vorzugsweise per E-Mail.

E-Mail: service@bresser.de
Telefon*: +49 28 72 80 74 210

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Deutschland

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Si vous avez des questions concernant ce produit ou en cas de réclamations, veuillez prendre contact avec notre centre de services (de préférence via e-mail).

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ES PT

Si desea formular alguna pregunta sobre el producto o alguna eventual reclamación, le rogamos que se ponga en contacto con el centro de servicio técnico (de preferencia por e-mail).


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