Celestron Omni XLT AZ 102

f you're looking for a telescope to see you beyond beginner level, hen this beautifully-presented refractor is a strong contender

Telescope advice

Cost: £325 / $329.95
From: David Hinds Ltd
Type: Refractor
Aperture: 4"
Focal length: 25.98"

Best for...

- Beginners
- Small budget
- Planetary viewing
- Lunar viewing
- Bright deep-sky objects

Recently added to the Celestron Omni range, the XLT AZ 102 is an extremely attractive package for the price, with its gunmetal-blue tube, white mounted rings, tripod legs and alt-azimuth mount. Inspecting the quality of the telescope - which took a few minutes to set up - we were pleased to find that, despite having a smaller aperture of 4-inches (102mm), Celestron have been generous in ensuring that the overall build matches that of its larger - and more expensive - 4.75-inch and 6-inch cousins.

Given that this beginner's telescope is much more portable, weighing in at 6.3 kilograms (13.8 pounds), as well as being of a reasonable price without skimping on its overall build, we were impressed with what Celestron are offering budding sky-watchers - particularly since the telescope comes with everything to get started in astronomy, including a red dot finder and a 25mm Plössl eyepiece that offers a magnification of 26x. With the addition of extra eyepieces and other accessories, the Omni XLT AZ 102 is a good balance of magnification 'power' and portability.

Celestron had previously released a 4-inch model in the Omni range with an equatorial mount, but this new version comes with a manual-use alt-azimuth mount, with handles that allow you to move the telescope up or down (altitude) and left or right (azimuth). While less sophisticated than an equatorial - there's no need to polar align, and there is no computerised GoTo capability - the alt-azimuth's simplicity makes it ideal for beginners, or children. We waited patiently for a gap in the clouds before we could truly test the refractor's mettle on a selection of night-sky objects. The naked-eye planets are now all in the morning sky, which meant an early start, but the sight of Jupiter through the Omni XLT AZ 102 managed to warm our hearts during those cold pre-dawn mornings. The accompanying 'StarPointer Pro' finderscope - all new for the Omni 102 with this release - worked a treat, aligning the telescope with the giant planet in the centre of the two-circle reticule. Using the supplied Plössl eyepiece, we got a fair view of the great gas giant with its Galilean moons: at first only Europa, Ganymede and Callisto were on view, flanking the planet's limbs, and then Io appeared, exiting occultation from behind Jupiter.

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With Jupiter in the field of view, using our own 2x Barlow lens and a 10mm eyepiece, we could make out the planet's bands. Refractors are known for their chromatic aberration (where light of different colours is focused to slightly different points by the lens, creating colour fringing around the object) and unfortunately this Omni 102 is of no exception, as we did notice a green halo around the edge of the planet's disc. However, the scope's longer focal length minimises this somewhat, given that chromatic aberration is to be expected of refractors (unless they are using high quality - and expensive - 'extra dispersion', or ED, glass in their optics, which the budget-friendly Omni XLT AZ 102 does not). The focuser is relatively sensitive in bringing objects into a sharp view, however, the tripod did wobble, causing the target to dance around the field of view.

Nearby Venus looked startling, its crescent phase notable but, of course, there's no other detail for the scope to discern on the planet's bland clouds. Far more interesting was the Moon, which really brought out the best of the Omni XLT AZ 102's optics. By applying a 15mm eyepiece we were able to fit the entire Moon within the field of view. Switching back to the 10mm eyepiece,

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