

INFINITY *KNUCKLE*

The patented Infinity Knuckle from Vista Professional Outdoor Lighting is an articulating assembly with infinite adjustment capabilities to precisely aim up and accent lighting fixtures. Infinite adjustment is achieved using a spherical grommet, which also provides water tightness.

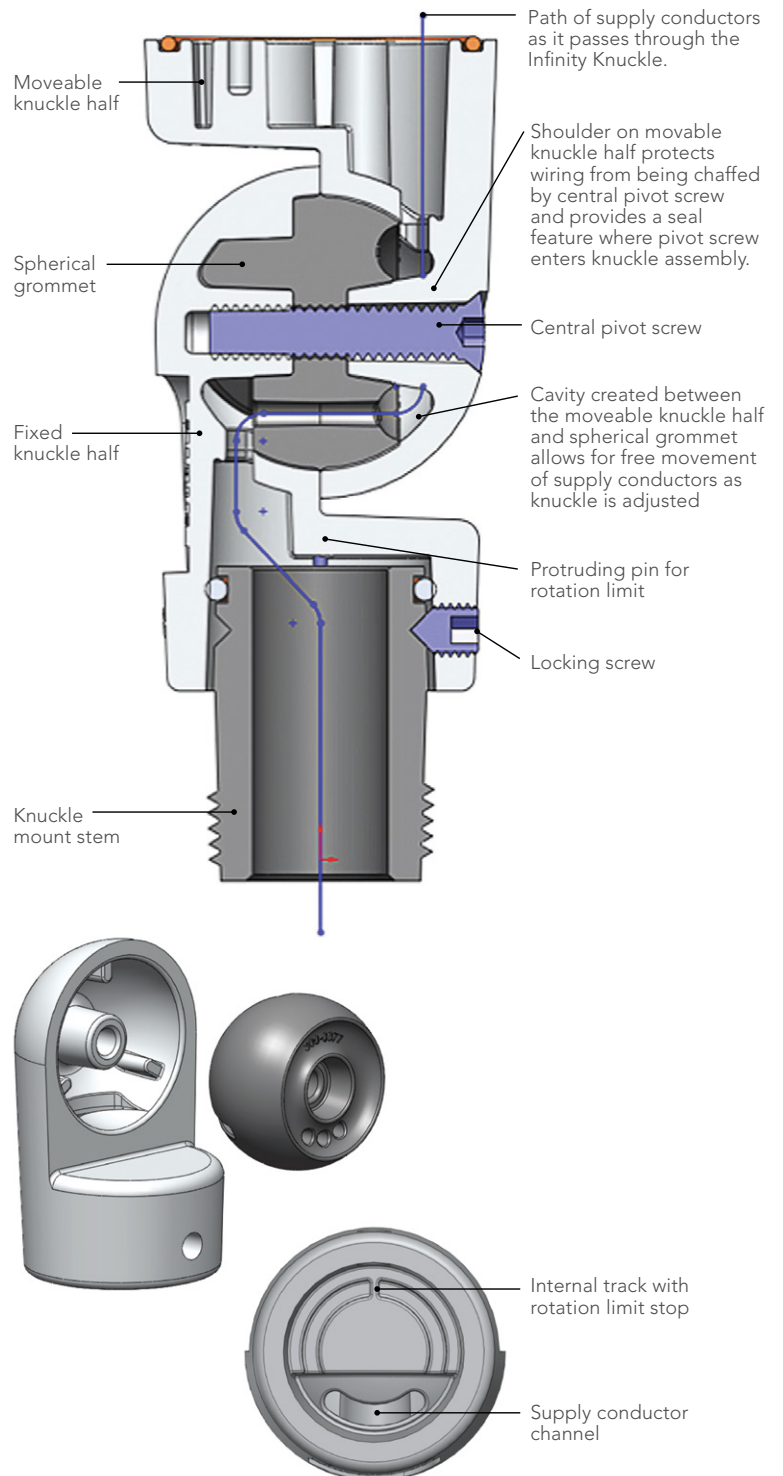
PRODUCT ADVANTAGES

- » Infinite adjustment is achieved using a spherical grommet
- » Spherical grommet also provides water tightness for knuckle into fixture and knuckle into junction box/mounting
- » Spherical grommet positions wiring away from central pivot screw; eliminates pinched or wear-through wires
- » A stainless steel knuckle mount stem with perimeter sealing, limited rotation, provision for utilizing a wrench to tighten into place, and grooves for locking stem into knuckle assembly



PRODUCT MECHANICS

- » Utilizes a unique spherical seal grommet positioned within die cast knuckle halves. This spherical grommet is formed with tight fitting electrical conductor openings, keyed detents which lock the sphere into the fixed half of the articulating knuckle assembly, and precisely sized geometry to facilitate adjustment and locking of the movable half of the assembly.
- » Movable knuckle half is formed with an internal spherical cavity which is slightly undersized to the grommet. When the central pivot screw is tightened, the slightly oversized grommet compresses, locking the assembly in place. The material selection durometer (hardness) of the grommet is a key parameter in ensuring proper locking and sealing performance.
- » Grommet itself becomes the sealing feature, compressing around each conductor as they pass through the knuckle assembly when the central pivot screw is tightened. Additional sealing around the central pivot screw is achieved through a precisely formed through-hole in the grommet, shaped to enclose the screw and seal around a boss which is formed within the fixed knuckle half.
- » The grommet geometry section positioned within the movable knuckle half is truncated to allow for free movement of the electrical conductors as the knuckle assembly rotates. This truncated section does not impinge on wiring as it enters into the fixture body, nor does it allow the wiring to come in contact with the central pivot screw as the knuckle assembly is being adjusted.
- » The fixed knuckle half is fitted with a separate knuckle mount stem. The knuckle mount stem is a cylindrical, heavy walled stainless steel stem that is threaded on one end for entry into junction boxes, and mounting accessories such as stakes or tree boxes. On the other end around perimeter of the stem, an O-ring groove and O-ring is fitted to provide an annular seal with the fixed knuckle half. There is also a pair of parallel flat sections along the cylinder above the threaded section. These flats allow for a wrench to be fitted to the stem for installation into whatever mounting is required. The top of the stem is fitted with a protruding pin which mates into a formed track with a stop within the fixed knuckle half. This pin prevents 360° rotation, eliminating the twisting of supply connections. Finally, a groove located between the O-ring and the flats are for receiving locking mounted in the shaft of the fixed knuckle half. The knuckle mount stem allows the installer to fit this component to the mounting accessory prior to any fixture placement or wiring connection.
- » Once in place, the installer passes the fixture wiring through the central hole in the knuckle mount stem to the supply connection splice point. After supply connection is complete, the fixture is slipped over the knuckle mount stem, rotated to aim to the proper position, and locked into place.



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