900 mm (3 ft) measured horizontally to the 2.5 m (8 ft) elevation from windows, doors, porches, fire escapes, or similar locations. A luminaire supported by a single conduit shall not exceed 300 mm (12 in.) in any horizontal direction from the point of conduit entry.

These requirements address field installation of pendants mounted on boxes. Flexible fittings, such as a ball and socket supporting a pendant, as shown in Exhibit 314.8, must be installed on the box for stems longer than 18 inches. Swivel hangers for stems longer than 18 inches must be listed.

Δ **314.24 Dimensions of Boxes.** Outlet and device boxes shall have approved dimensions to allow equipment installed within them to be mounted properly and without likelihood of damage to conductors within the box.

(A) Depth of Outlet Boxes Without Enclosed Devices or Utilization Equipment. Outlet boxes that do not enclose devices or utilization equipment shall have a minimum internal depth of 12.7 mm (½ in.).

Δ **(B) Depth of Outlet and Device Boxes with Enclosed Devices or Utilization Equipment.** Outlet and device boxes that enclose devices or utilization equipment shall have a minimum internal depth that accommodates the rearward projection of the equipment and the size of the conductors that supply the equipment. The internal depth shall include, where used, that of any extension boxes, plaster rings, or raised covers. The internal depth shall comply with 314.24(B)(1) through (B)(5) as applicable.

The box selection must be based on its having sufficient cubic-inch capacity for the device, equipment, and conductors.

(1) Large Equipment. Boxes that enclose devices or utilization equipment that projects more than 48 mm (1⅞ in.) rearward from the mounting plane of the box shall have a depth that is not less than the depth of the equipment plus 6 mm (¼ in.).

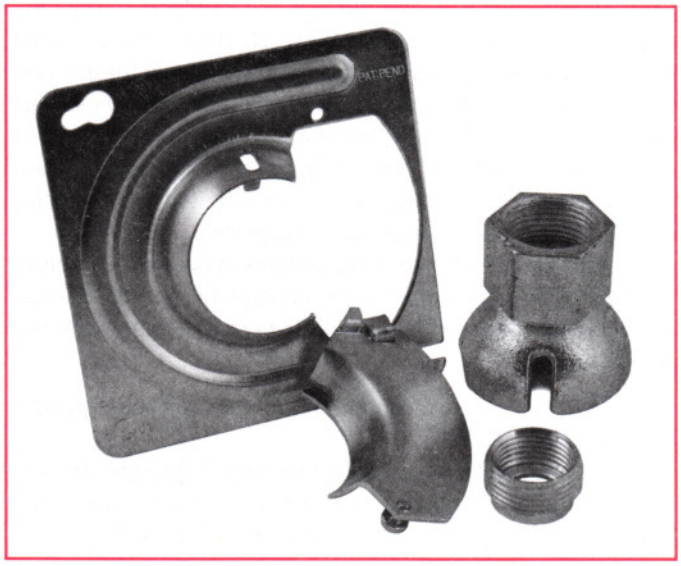

EXHIBIT 314.8 Flexible fitting for stems longer than 18 inches. *(Courtesy of Hubbell Incorporated)*

(2) Conductors Larger Than 4 AWG. Boxes that enclose devices or utilization equipment supplied by conductors larger than 4 AWG shall be identified for their specific function.

Exception: Devices or utilization equipment supplied by conductors larger than 4 AWG shall be permitted to be mounted on or in junction and pull boxes larger than 1650 cm³ (100 in.³) if the spacing at the terminals meets the requirements of 312.6.

(3) Conductors 8, 6, or 4 AWG. Boxes that enclose devices or utilization equipment supplied by 8, 6, or 4 AWG conductors shall have an internal depth that is not less than 52.4 mm (2⁹⁄₁₆ in.).

(4) Conductors 12 or 10 AWG. Boxes that enclose devices or utilization equipment supplied by 12 or 10 AWG conductors shall have an internal depth that is not less than 30.2 mm (1³⁄₁₆ in.). Where the equipment projects rearward from the mounting plane of the box by more than 25 mm (1 in.), the box shall have a depth not less than that of the equipment plus 6 mm (¼ in.). Where wiring enters the center portion of the rear of a box opposite to the equipment, the minimum clearance shall be increased to 13 mm (½ in.)

(5) Conductors 14 AWG and Smaller. Boxes that enclose devices or utilization equipment supplied by 14 AWG or smaller conductors shall have a depth that is not less than 23.8 mm (¹⁵⁄₁₆ in.).

Exception: Under any of the conditions specified in 314.24(B)(1) through (B)(5), devices or utilization equipment that is listed to be installed with specified boxes shall be permitted.

The intent here is to prevent damage to conductors that can occur where clearance from the device or utilization equipment to the back of the box is insufficient. Where clearance is insufficient, conductors are often pinched or the insulation is damaged as the device or utilization equipment is pushed into the box.

Examples of utilization equipment often located within an outlet or device box include speakers, timers, motion detectors, alarms, and video and audio surveillance equipment. Typically, minimum box dimensions are included in product installation instructions for listed utilization equipment.

N **(C) Clearances for Side-Wiring Entrances.** Where devices or equipment are mounted in boxes having side-wiring entries, the conductors entering from the side shall be protected as covered in (1) or (2), as follows. The term *side* applies to any wall of a box other than the one opposite to the opening.

(1) The rearward projection of the device or equipment shall not extend beyond the centerline of the wiring knockout or other entry.
(2) The clearance from the box wall to the installed device or equipment shall be not less than 13 mm (½ in.).