

Claims

1. A locating system for determining a current position in an elevator shaft (103) of an elevator installation (101) extending in a main extension direction (108), the locating system (30, 130, 230) comprising:

- a first distance sensor (38, 138, 238) by means of which a first distance and a second distance, which is perpendicular to the first distance, from a first reference element (110, 210) can be measured,
- a tilt sensor (44, 144) by means of which a rotation about a horizontally extending first axis (x) and a horizontally extending second axis (y) that is perpendicular to the first axis can be measured, and
- a measuring system (48, 148) by means of which a position of the locating system (30, 130, 230) can be determined in the main extension direction (108) of the elevator shaft (103),

characterized in that

the first distance sensor (38, 138, 238) remains in a fixed position relative to the first reference element (110, 210) when measuring the first distance and the second distance; and

the first distance sensor (38, 138, 238) and/or a second distance sensor (40) are constructed as a 2D profile scanner.

2. The locating system according to claim 1,

characterized in that

the first distance sensor (238) is constructed and arranged such that it can measure the distances from two reference points (250, 252) on the first reference element (210), the two reference points (250, 252) being arranged in a defined relationship to one another.

3. The locating system according to claim 1,

characterized in that

the first distance sensor (238) is constructed and arranged such that it can measure a third distance and a fourth distance, which is perpendicular to the third distance, from a second reference element, the first reference element and the second reference element being arranged in a defined relationship to one another.

4. The locating system according to claim 1 or 2,

characterized in that

the locating system (30, 130) comprises the second distance sensor (40), by means of which a third

distance and a fourth distance, which is perpendicular to the third distance, from a second reference element (111) can be measured, the first reference element (110) and the second reference element (111) being arranged in a defined relationship to one another.

5. An installation device for carrying out an installation process in an elevator shaft (103) of an elevator installation (101) which comprises a locating system (130) according to any of claims 1 to 4.

6. The installation device according to claim 5, characterized in that the installation device (1) comprises a carrier component (3) and an installation component (5), the carrier component (3) being designed to be moved relative to the elevator shaft (103) and positioned at different heights within the elevator shaft (103), and the installation component (5) being retained on the carrier component (3) and being designed to carry out an installation step as part of the installation process at least partially automatically and the locating system (130) being arranged on the carrier component (3).

7. The installation device according to claim 6, characterized in that the installation device (1) comprises a sensor (9) which can be arranged on the installation component (5) and by means of which a distance from a first reference element (110, 210) can be measured, and comprises a control apparatus (42), the control apparatus (42) being provided

- to determine a relative position of the installation device (1) in a fixing position with respect to the first reference element (110, 210) in the elevator shaft (103) using a sensor (121) arranged on the installation component (5),
- to determine the relative position of the first reference element (110, 210) with respect to at least two different sensor positions and thus positions of the installation component (5) and
- to determine the fixing position in the elevator shaft (103) on the basis of the relative position of the installation device (1) with respect to the first reference element (110, 210).