Basically the piston plate can be disposed on the front side or the back side of the drive element. Furthermore, it is possible to dispose one respective piston plate on both sides of the drive element. Accordingly then, two piston plates are provided per each reaction chamber.

The piston plates can be referred to as pressure distribution plates or pressure modulating plates, as they ensure that pressure, the drive element deploys, is transferred to an as large as possible a surface. Furthermore, they ensure that, when thermally activated, the drive element does not expand in hollow spaces, for example of the fissured back side of a door actuator.

Preferably, it is provided that the piston plate is manufactured from metal, for example from aluminium. Thereby, providing a strong, light-built and easily manufactured piston plate.

However, it should be considered that in most application cases, a thermally insulating configuration of the fire protection fastening device is advantageous. Basically, the heat input from the mounting surface into the drive element should be realized, if possible, without any resistance. However, any further heat conducting, in particular, in the direction of the door actuator, is to be prevented, if possible, Preferably, therefore it is provided that a piston plate, which is disposed between the drive element and the door actuator, is made from non-metallic, thermally

Patent claims

1. A fire protection fastening device (1) for fastening a door actuator (102), comprising:
   - a frame (3) with a back side (5), which is to be oriented to a mounting surface (101), in particular a door, casing or wall, wherein a mounting axis (2) is defined vertically to the back side (5), and wherein the frame (3) is formed for arrangement between a door actuator (102) and the mounting surface (101) or is an integral component of the door actuator (102),
   - at least one reaction chamber (4) formed in the frame (3), wherein the frame (3) delimits the reaction chamber (4) on the entire circumference, and wherein the reaction chamber (4) is open on the back side (5) and/or on a front side (6) of the frame (3) opposite the back side (5),
   - a drive element (7) made from intumescent material disposed in the reaction chamber (4), which, when thermally activated, is formed for pushing away the door actuator (102) from the mounting surface (101),
   - and a piston plate (8) disposed between the drive element and the door actuator in the reaction chamber (4), wherein the piston plate (8) comprises non-metallic, thermally insulating material or wherein the piston plate (8) includes at least one layer of non-metallic, thermally insulating material.

2. The fire protection fastening device according to claim 1, wherein the piston plate (8), when thermally activating the drive element (7), is displaceable by the drive element (7), in particular in relation to the frame and/or the door drive.

3. The fire protection fastening device according to any of the claims 1 or 2, wherein, on at least one side of the piston plate (8), at least one insulating plate (9) is placed, which comprises non-metallic, thermally insulating material.

4. The fire protection fastening device according to claim 3, wherein the drive element (7) and/or the piston plate (8) and/or the insulating plate (9) extend/s over the entire cross-sectional area of the reaction chamber (4) defined vertically to the mounting axis (2).

5. The fire protection fastening device according to any of the preceding claims, wherein the reaction chamber (4) is open on both sides, preferably on both sides over the entire cross-section thereof.

6. The fire protection fastening device according to any of the preceding claims, wherein the drive element (7) is exposed on the back side (5) of the frame (3) for direct contact with the mounting surface (101).

7. The fire protection fastening device according to any of the preceding claims,

- wherein a depth (17), defined vertical to the mounting surface (2), of the reaction chamber (4) amounts to between 1 mm and 30 mm, preferably between 5 mm and 20 mm,
- and/or wherein a cross-sectional area, defined parallel to the mounting surface (2), of the reaction chamber (4) is between 400 mm^2 and 50,000 mm^2, preferably between 900 mm^2 and 10,000 mm^2.

8. The fire protection fastening device according to any of the preceding claims, wherein the sum of the cross-sectional areas, defined vertically to the mounting axis (2), of all reaction chambers (4) is at least 2,500 mm^2, preferably at least 5,000 mm^2.

9. The fire protection fastening device according to any of the preceding claims,
   - wherein the frame (3) includes first fastening points (12), in particular formed as holes, for screwing to the mounting surface (101)
   - and wherein the frame (3) includes second fastening points (13), in particular formed as holes, for screwing the door actuator (102) or a mounting plate (30) to the frame (3).

10. The fire protection fastening device according to claim 9, wherein two respective first and second fastening points (12, 13) next to each other form a pair and the distance between first fastening point (12) and second fastening point (13) of a pair is at most 5 times,

preferably at most 4 times the thickness (18) of the frame (3).

11. An assembly (100), comprising a door actuator (102) and a fire protection fastening device (1) according to any of the claims 1 to 8, wherein the frame (3) is an integral component of the door actuator (102).

12. The assembly (100), comprising a door actuator (102) and a fire protection fastening device (1) according to any of the claims 1 to 10, wherein the door actuator (102) can be fastened, in particular screwed directly to the frame (3).

13. The assembly (100), comprising a door actuator (102), a mounting plate (30) and a fire protection fastening device (1) according to any of the claims 1 to 10, wherein the mounting plate (30) can be fastened, in particular screwed, directly to the frame (3), and wherein the door actuator (102) can be fastened, in particular screwed directly to the mounting plate (30).