Claims

1. An embolic protection device (1) for inserting into an aortic arch (9), comprising a filtering unit (2) and a feeding unit (4), wherein
- the filtering unit (2) comprises a frame (3) forming a loop and a filter mesh (20) and the filter mesh (20) is arranged on the frame (3),
- the loop of the filtering unit (2) has a proximal area (6) and a distal area (7),
- wherein the filtering unit (2) is designed in such a way that it can, at least partially, be positioned in the aortic arch (9), and wherein the proximal area (6) of the loop is configured to be positioned in a feeder vessel separately from the distal area (7) configured to be positioned in the aortic arch (9).

2. The embolic protection device (1) in accordance with Claim 1, characterised in that, when the filtering unit (2) is appropriately positioned, haptic or visual feedback is generated, which signals its final position to the user.

3. The embolic protection device (1) in accordance with Claim 1 or 2, characterised in that the frame (3) comprises two ends (18) and (19) in the proximal area (6), which extend in parallel to one another in the interior of the frame (3) and are connected with the feeding unit (4) via an area.

4. The embolic protection device (1) in accordance with Claim 1, 2 or 3, characterised in that the proximal area (6) contains an anchorage (16), designed in such a way that the radial rigidity according to the area of radial stability (41) is increased.

5. The embolic protection device (1) in accordance with one of Claims 1 to 4, characterised in that a support (21) is placed between the filter mesh (20) and the feeding unit (4), through which the filter mesh (20) is passively drawn to the aortic roof (22) in the expanded state.

6. The embolic protection device (1) in accordance with Claim 5, characterised in that the support (21) is a spring, a rubber component, nitinol or an elastic material.

7. The embolic protection device (1) in accordance with one of Claims 1 to 6, characterised in that the filter mesh (20) is connected with a device (23), so that the filter mesh (20) can be actively drawn via the device (23) to the aortic roof (22).

8. The embolic protection device (1) in accordance with Claim 7, characterised in that the device (23) is a wire, a yarn or a chain.

9. The embolic protection device (1) in accordance with one of Claims 1 to 8, characterised in that the proximal area (6) can be configured separately from the distal area (7) in a feeder vessel (11) and the distal area (7) separately from the proximal area (6) in the aortic arch (9).

10. The embolic protection device (1) in accordance with one of Claims 1 to 9, characterised in that the proximal area (6) can be adjusted to a feeder vessel (11) through a change in the direction of curvature in the frame geometry, and can be fixed therein.

11. The embolic protection device (1) in accordance with one of Claims 1 to 10, characterised in that the frame (3) of the filtering unit (2) is connected with a return device (35), through which the frame can be returned to a catheter (12).

12. The embolic protection device (1) in accordance with one of Claims 1 to 11, characterised in that the filtering unit (2) is divided into two in such a way that a second frame (32) is configured in the outer area of a first frame (33).

13. The embolic protection device (1) in accordance with one of Claims 1 to 12, characterised in that the circumference of the filter mesh (20) exceeds the circumference of the frame (3), wherein the filter mesh (20) is connected with the feeding unit (4), so that, when the filter mesh (20) is pulled in the direction of the feeder vessel (11), a wedge (34) is formed.

14. A system, comprising the embolic protection device (1), in accordance with one of Claims 1 to 13 and a handle (5), characterised in that the handle (5) comprises a first connecting piece (36), a handle shell (37), a slide (38) and/or a second connecting piece (39).

15. The system in accordance with Claim 14, characterised in that the first connecting piece (36) is designed in such a way that a connection that is to be actively secured to a catheter can be produced.

16. The system in accordance with one of Claims 14 to 15, characterised in that the connecting piece (36) has notches (42) on the inside, into which the blades (40) of the catheter (12) can be inserted.

17. The system in accordance with one of Claims 14 to 16, characterised in that, by means of the second connecting piece (39), a reversible clamp connection to the feeding unit (4) can be produced.

18. The system in accordance with one of Claims 14 to 17, characterised in that the slide (38) is designed in such a way that it can exert a pull and/or push mechanism for loading and positioning devices.

19. The system in accordance with one of Claims 14 to 18, characterised in that the slide (38) has a locking device for anchorage, which makes the relative position of the slide in relation to the handle shell (37) possible.

20. The system in accordance with one of Claims 14 to 19 characterised in that the handle (5) contains a haemostatic valve.

21. The system in accordance with one of Claims 14 to 20 characterised in that the handle shell (37) has an interior guide tube, which can be inserted into the slide (38).

22. The system consisting of an embolic protection device (1) in accordance with one of Claims 1 to 13 and a catheter (12).