Claims

[Claim 1] A docking device for an underwater vehicle, the docking device comprising a docking station able to be connected to a carrying vessel, the docking station comprising a body comprising a stop allowing a movement of the underwater vehicle with respect to the body along a longitudinal axis (x) passing through the stop to be blocked, in a direction directed from the rear forward defined by the longitudinal axis (x), the docking station comprising a guiding device comprising a set (E) of arms which are connected to the body and each comprising a distal end (ED) and a proximal end (EP), the arms being distributed around the stop, the set (E) of arms being able to be in a deployed configuration in which it delimits a volume that flares toward the rear so as to allow the underwater vehicle to be guided toward the stop, the distal end (ED) of each arm being situated behind the proximal end (EP) of the arm in the deployed configuration, the set (E) of arms being able to be in a furled configuration in which a distal end (ED) of each arm of the set (E) of arms is closer to the longitudinal axis (x) than in the deployed configuration and in which the distal end (ED) is situated forward of the position occupied by the distal end (ED) in the deployed configuration so that a length, along the axis x, of a volume delimited by the set (E) of arms behind the stop is shorter in the furled configuration than in the deployed configuration, wherein at least one arm of the set is mounted on the body and configured and/or controlled in such a way that the distal end ED of the arm advances forward while constantly remaining behind the proximal end EP, during the transition from the deployed configuration to the furled configuration.

[Claim 2] The docking device as claimed in claim 1, wherein the docking station comprises locking means allowing the underwater vehicle, butting against the stop to be secured to the body.

[Claim 3] The docking device as claimed in claim 1 or 2, wherein the arm is mounted on the body in such a way that the arm advances forward, with respect

to the stop, during the transition from the deployed configuration to the furled configuration.

[Claim 4] The docking device as claimed in the preceding claim, wherein at least one arm of the set (E) is mounted with the ability to slip with respect to the stop along the axis (x) in such a way that the arm experiences a forward translational movement with respect to the stop during the transition from the deployed configuration to the furled configuration.

[Claim 5] The docking device as claimed in the preceding claim, wherein the proximal end (EP) of the arm is mounted with the ability to pivot on a slider mounted with the ability to slide with respect to the stop along the axis (x) in such a way that the distal end (ED) is able to move closer to the axis x, through the rotation of the arm with respect to the slider, as the slider advances along the axis (x) during the transition from the deployed configuration to the furled configuration.

[Claim 6] The docking device as claimed in any one of the preceding claims, wherein the proximal end (EPb) of at least one arm of the set is fixed in terms of translation along the longitudinal axis with respect to the stop.

[Claim 7] The docking device as claimed in the preceding claim, wherein the proximal end (EPb) of the arm is mounted with the ability to pivot with respect to the stop in such a way that the distal end (EDb) is able to move closer to the axis x and to advance along the axis x, by rotation of the proximal end (EPb) with respect to the stop during the transition from the deployed configuration to the furled configuration.

[Claim 8] The docking device as claimed in any one of the preceding claims, wherein the body comprises slots that are elongate along the axis x, accepting the distal ends (ED) of the arms in the furled configuration.

[Claim 9] The docking device as claimed in any one of the preceding claims, wherein the body comprises a beam extending longitudinally parallel to the longitudinal axis (x) rearward away from the stop.

[Claim 10] The docking device as claimed in any one of the preceding claims, wherein at least one arm has a length that is variable independently of an inclination of the arm with respect to the axis x.

[Claim 11] The docking device as claimed in any one of the preceding claims, comprising a cable connected to the docking station and intended to connect the docking station to the carrying vessel.

[Claim 12] A docking assembly comprising a docking device as claimed in the preceding claim and a carrying vessel, the cable connecting the docking station to the carrying vessel so as to allow the carrying vessel to haul the docking station fully submerged.

[Claim 13] An underwater assembly comprising a docking device as claimed in any one of claims 1 to 11 and the underwater vehicle, the underwater vehicle comprising a sonar antenna arranged in such a way that at least one arm of the set is able to be in a zone of coverage of the sonar antenna when the underwater vehicle is in abutment against the stop, the set of arms being in the deployed configuration; the arms of the set of arms being unable to be in the zone of coverage of the sonar antenna when the set of arms is in the furled configuration.