

C L A I M S

1. Chain tensioner for employment on a bottom of a water body, wherein the chain tensioner is configured for adjustment of the length of a tensioning chain that extends between the chain tensioner and a floating offshore facility, wherein the tensioning chain comprises a series of connected links each having a main plane, wherein the links alternately have their main plane in a first orientation and in a second orientation that is under an angle with respect to the first orientation, wherein the chain tensioner comprises a frame that bounds a chain passage for the tensioning chain and that has a bottom wall or skid to stand on the bottom of the water body, a chain lock that is fixedly connected with the frame for engaging and confining a link of the tensioning chain in the chain passage from aside the tensioning chain, and a chain switch device comprising a chain guide for engaging the tensioning chain in the chain passage from aside the tensioning chain, wherein the tensioning chain is sidewardly moveable by means of the chain guide of the chain switch device by moving the chain guide with respect to the frame over a switching stroke between a first position in which the chain lock engages a link of the tensioning chain, and a second position in which the tensioning chain passes the chain lock.

2. Chain tensioner according to claim 1, wherein the frame has with respect to the bottom wall or skid a front entrance of the chain passage at a front side of the frame, and a top entrance of the chain passage at a top side of the frame.

3. Chain tensioner according to any one of the preceding claims, wherein the chain switch device comprises a control cam between the frame and the chain guide, wherein the control cam is rotatable with respect to the

frame between a first position and a second position, wherein in the first position of the chain switch device the cam and the chain guide are in their first position, and in the second position of the chain switch device the
5 cam and the chain guide are in their second position.

4. Chain tensioner according to claim 3, wherein the control cam is located above the chain passage.

5. Chain tensioner according to claim 3 or 4, wherein the chain switch device comprises a shackle on the
10 control cam for connecting it with a pulling line.

6. Chain tensioner according to any one of the preceding claims, wherein the chain switch device comprises a first chain switch that is located with respect to the bottom wall or skid above the tensioning chain in the chain
15 passage, wherein the first chain switch comprises a first chain guide that faces the chain passage, wherein the first chain switch is moveable with its first chain guide between a first position in which the first chain guide is aligned with the chain lock, and a second position in which the
20 first chain guide is out of alignment with the chain lock.

7. Chain tensioner according to claim 6, wherein the first chain guide is convex curved towards the chain passage.

8. Chain tensioner according to claims 2 and 7,
25 wherein the first chain guide curves in a direction from the front entrance to the top entrance.

9. Chain tensioner according to any one of the claims 6-8, wherein the first chain switch is hingeable connected with the frame to hinge between its first
30 position and second position.

10. Chain tensioner according to any one of the claims 6-9, wherein the first chain switch comprises two first guide edges that extend parallel and spaced apart from each other to define a first link passage in between,
35 wherein the first link passage has a width that allows passage of the links in their first orientation only, wherein the links in their second orientation slide along

the first guide edges.

11. Chain tensioner according to claim 10, wherein the first chain switch comprises a plate shaped left switch body and a plate shaped right switch body
5 having the first guide edges, wherein the left switch body and the right switch body are connected parallel and spaced apart from each other to define the first link passage in between.

12. Chain tensioner according to any one of the
10 preceding claims, wherein the chain switch device comprises a second chain switch that is located with respect to the bottom wall or skid below the tensioning chain in the chain passage, wherein the second chain switch comprises a second chain guide that faces the chain passage, wherein the
15 second chain switch is moveable with its second chain guide between a first position in which the second chain guide is aligned with the chain lock, and a second position in which the second chain guide is out of alignment with the chain lock.

20 13. Chain tensioner according to claim 12, wherein the second chain guide is convex curved towards the chain passage.

14. Chain tensioner according to claim 12 or 13, wherein the second chain switch is hingeable connected with
25 the frame to hinge between its first position and second position.

15. Chain tensioner according to any one of the claims 12-14, wherein the second chain switch comprises two second guide edges that extend parallel and spaced apart
30 from each other to define a second link passage in between, wherein the second link passage has a width that allows passage of the links in their first orientation only, wherein the links in their second orientation slide along the second guide edges.

35 16. Chain tensioner according to claim 15, wherein the second chain switch comprises a plate shaped left switch body and a plate shaped right switch body

having the second guide edges, wherein the left switch body and the right switch body are connected parallel and spaced apart from each other to define the second link passage in between.

5 17. Chain tensioner according to any one of the preceding claims, wherein the chain lock comprises two hook sections that are fixed to the frame and that project from the frame into the chain passage, wherein the hook sections extend spaced apart from each other to define a link
10 passage in between, wherein the link passage has a width that allows passage of the links in their first orientation only, wherein the hook sections engage the links in their second orientation.

 18. Chain tensioner according to claim 17,
15 wherein the hook sections each comprise a catch aperture for confinement of the engaged link.

 19. Chain tensioner according to claims 6 and 12, wherein the chain switch device comprises a connecting yoke between the first chain switch and the second chain switch
20 for synchronous movement of the first chain switch and the second chain switch.

 20. Chain tensioner according to claims 5 and 19, wherein the control cam is operatively connected with the first chain switch and the second chain switch.

25 21. Method for operating a chain tensioner for employment on a bottom of a water body, wherein the chain tensioner is configured for adjustment of the length of a tensioning chain that extends between the chain tensioner and a floating offshore facility, wherein the tensioning
30 chain comprises a series of connected links each having a main plane, wherein the links alternately have their main plane in a first orientation and in a second orientation that is under an angle with respect to the first orientation, wherein the chain tensioner comprises a frame
35 that bounds a chain passage for the tensioning chain and that has a bottom wall or skid to stand on the bottom of the water body, a chain lock that is fixedly connected with

the frame for engaging and confining a link of the tensioning chain in the chain passage from aside the tensioning chain, and a chain switch device comprising a chain guide for engaging the tensioning chain in the chain
5 passage from aside the tensioning chain, wherein the tensioning chain is sidewardly moveable by means of the chain guide of the chain switch device by moving the chain guide with respect to the frame over a switching stroke between a first position in which the chain lock engages a
10 link of the tensioning chain, and a second position in which the tensioning chain passes the chain lock, wherein the tensioning chain has an operational tensioning chain section that extends between the chain tensioner and the floating offshore facility, and an adjustment chain section
15 that extends freely from the chain tensioner, wherein the method comprises the step of picking up the adjustment chain section, switching the chain guide of the chain switch device into its second position, pulling on the adjustment chain section, whereby the chain lock releases
20 the tensioning chain and the tension chain slides through the chain passage, and switching the chain guide of the chain switch device into its first position, whereby the chain lock engages a link of the tensioning chain.

22. Method according to claim 21, wherein the
25 adjustment chain section is pulled upwards while the chain tensioner remains in contact with the bottom of the water body.

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