

Claims

1. A pump for pumping liquid comprising solid matter,
comprising an impeller (4) and an axially extending drive
shaft assembly (5), wherein a distal end of the drive shaft
5 assembly (5) is received in a central recess (8) of the
impeller (4), the drive shaft assembly (5) comprising a drive
shaft (14) and a connector (15), wherein the connector (15)
comprises a sleeve (16) that is in telescopic engagement with
the drive shaft (14), the impeller (4) during operation of
10 the pump (1) being displaceable in the axial direction in
relation to said sleeve (16) between a distal rest position
and a proximal position, **characterized** in that, the impeller
(4) is biased towards the distal rest position by means of a
spring member (25) arranged between the sleeve (16) and the
15 impeller (4), the connector (15) comprising a hollow
adjustment screw (31) that is in threaded engagement with an
interior side of the sleeve (16) and configured to limit the
maximum degree of telescopic overlap between the sleeve (16)
and the drive shaft (14), wherein an impeller screw (33)
20 extends through the adjustment screw (31) and is in threaded
engagement with the drive shaft (14) in order to press the
adjustment screw (31) towards the drive shaft (14).
2. The pump according to claim 1, wherein the distal end of
25 the drive shaft (14) has the shape of a truncated cone and
the pump (1) comprises a socket (17), the socket (17) being
wedged between the interior side of the sleeve (16) of the
connector (15) and the distal end of the drive shaft (14).
- 30 3. The pump according to claim 2, wherein the adjustment
screw (31) is configured to wedge the socket (17) between the
interior side of the sleeve (16) of the connector (15) and
the distal end of the drive shaft (14).
- 35 4. The pump according to any preceding claim, wherein the
impeller (4) is an open impeller comprising a hub (9), an
upper cover disc (10) and at least one blade (11) connected
to said cover disc (10).

5. The pump according to any preceding claim, wherein the impeller (4) comprises a hub (9), said hub (9) comprising a through hole (12) that extends in the axial direction,
5 wherein the sleeve (16) is arranged in said through hole (12) of the impeller (4), and wherein a gap (28) is arranged between a distal portion of the sleeve (16) and the hub (9) of the impeller (4), said gap (28) being adjacent a cavity (21) that houses said spring member (25).
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6. The pump according to claim 5, wherein a seal (29) is arranged at the gap (28), in order to prevent any solid matter in the pump liquid from entering said cavity (21).
- 15 7. The pump according to claim 5 or 6, wherein the seal (29) is arranged in a circumferential groove in the through hole (12) of the impeller (4).
8. An impeller assembly for a pump suitable for pumping
20 liquid comprising solid matter, comprising an impeller (4) having a central recess (8) and a connector (15), wherein the connector (15) comprises a sleeve (16) arranged in the central recess (8) of the impeller (4), wherein the sleeve (16) is configured to be in telescopic engagement with an
25 axially extending drive shaft (14), the impeller (4) being displaceable in the axial direction in relation to said sleeve (16) between a distal rest position and a proximal position, **characterized** in that impeller (4) is biased towards the distal rest position by means of a spring member
30 (25) arranged between the sleeve (16) and the impeller (4), the connector (15) comprising a hollow adjustment screw (31) that is in threaded engagement with an interior side of the sleeve (16) and configured to limit the maximum degree of telescopic overlap between the sleeve (16) and the drive
35 shaft (14).