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(54) **PROCESS FLUID LUBRICATED PUMP**

(57) A process fluid lubricated pump is proposed, for conveying a process fluid, having a common housing (2), a pump unit (3) arranged in the common housing, and a drive unit (4) arranged in the common housing (2), wherein the common housing (2) comprises an inlet (21) and an outlet (22) for the process fluid, wherein the pump unit (3) comprises a pump shaft (5) extending from a drive end (51) to a non-drive end (52) of the pump shaft (5) and configured for rotating about an axial direction (A), the pump unit (3) further comprising at least a first stage impeller (31) fixedly mounted on the pump shaft (5), and a last stage impeller (33) fixedly mounted on the pump shaft (5), and optionally at least one intermediate stage impeller (32) fixedly mounted on the pump shaft (5) between the first stage impeller (31) and the last stage impeller (33) wherein the drive unit (4) is configured to exert a torque on the drive end (51) of the pump shaft (5) for driving the rotation of the pump shaft (5), wherein a balance drum (7) is fixedly connected to the pump shaft (5) between the pump unit (3) and the drive end (51) of the pump shaft (5), the balance drum (7) defining a drum front side (71) facing the pump unit (3) and a drum back side (72), wherein a relief passage (73) is provided between the balance drum (7) and a first stationary part (26) configured to be stationary with respect to the common housing (2), the relief passage (73) extending from the drum front side (71) to the drum back side (72), wherein the pump unit (3) comprises at most one radial pump bearing (54) for supporting the pump shaft (5), wherein the at most one radial pump bearing (54) is arranged at the non-drive end (52) or at the drive end (51) of the pump shaft (5).

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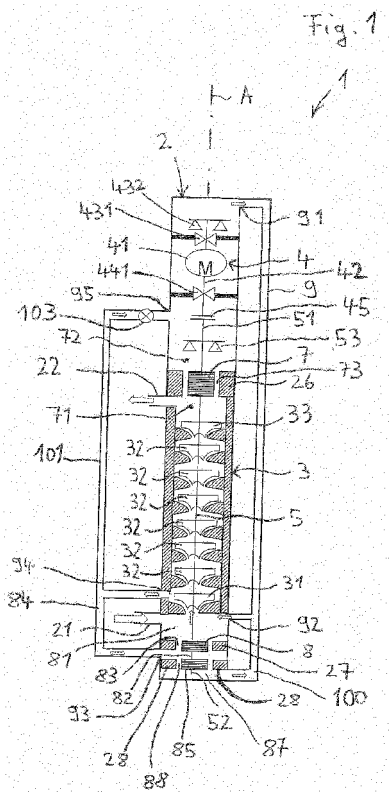
Fig. 1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