

Title (en)  
MULTISTAGE PUMP SYSTEM AND PUMPING ARRANGEMENT

Title (de)  
MEHRSTUFIGES PUMPSYSTEM UND PUMPANORDNUNG

Title (fr)  
SYSTÈME DE POMPE À PLUSIEURS ÉTAGES ET AGENCEMENT DE POMPAGE

Publication  
**EP 4027020 A1 20220713 (EN)**

Application  
**EP 22167420 A 20220408**

Priority  
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Abstract (en)  
A multistage pump system for conveying a fluid is proposed, comprising a multistage pump (1) and a control unit (20), wherein the multistage pump comprises a pump unit (3) arranged in a pump housing (30), and a drive unit (4) arranged in a drive housing (40), wherein the control unit (20) is configured for controlling the drive unit (4), wherein the pump housing (30) comprises a pump inlet (21) for receiving the fluid with a suction pressure, and a pump outlet (22) for discharging the fluid with a discharge pressure, wherein the pump unit (3) comprises a pump shaft (5) for rotating about an axial direction (A), and a plurality of impellers (31, 32, 33) for conveying the fluid from the pump inlet (21) to the pump outlet (32), with each impeller (31, 32, 33) being mounted to the pump shaft (5) in a torque proof manner, wherein the drive unit (4) comprises a drive shaft (42) for driving the pump shaft (5), and an electric motor (41) for rotating the drive shaft (42) about the axial direction (A), and wherein the control unit (20) is configured to drive the electric motor (41) at different rotational speeds. The control unit (20) is configured to operate the electric motor (41) in a first mode (M1), in which the control unit (20) operates the electric motor (41) at a constant rotational speed, and in a second mode (M2), in which the control unit (20) operates the electric motor (41) at a constant engine load, wherein the control unit (20) is further configured to switch from the first mode (M1) to the second mode (M2), when a control parameter (CP) that is indicative of a rate of change of the engine load exceeds a presettable threshold value (D). Furthermore a pumping arrangement is proposed.

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Citation (applicant)  
• EP 3771828 A1 20210203 - SULZER MANAGEMENT AG [CH]  
• EP 3808984 A1 20210421 - SULZER MANAGEMENT AG [CH]

Citation (search report)  
• [XY] US 2021108497 A1 20210415 - BRENNE LARS [NO]  
• [YD] EP 3771828 A1 20210203 - SULZER MANAGEMENT AG [CH]  
• [A] US 2016333677 A1 20161117 - WESTBERG TOMMY [SE], et al

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