US 20230232578A1

(19) **United States**

(12) **Patent Application Publication**

FAN et al.

(10) **Pub. No.: US 2023/0232578 A1**

(43) **Pub. Date: Jul. 20, 2023**

(54) **SCREW-TYPE PUMPING DEVICE AND LIQUID-COOLED HEAT DISSIPATION DEVICE**

(71) Applicant: **Dongguan city think-cool thermal dissipation technologies Co., Ltd.**, Dongguan City (CN)

(72) Inventors: **Xiao FAN**, Dongguan City (CN); **Haohui TANG**, Dongguan City (CN); **Haoqiang DENG**, Dongguan City (CN)

(21) Appl. No.: **17/651,051**

(22) Filed: **Feb. 14, 2022**

(30) **Foreign Application Priority Data**

Jan. 20, 2022 (CN) 202220157098.1

Publication Classification

(51) **Int. Cl.**

H05K 7/20	(2006.01)
F04D 29/42	(2006.01)
F04D 13/06	(2006.01)

(52) **U.S. Cl.**

CPC ***H05K 7/20272*** (2013.01); ***F04D 29/426*** (2013.01); ***F04D 13/0606*** (2013.01); ***H05K 7/20263*** (2013.01)

(57) **ABSTRACT**

The screw-type pumping device includes a water pump shell, a stator and a rotor. The water pump shell is provided with a first cavity for accommodating the stator and a second cavity for accommodating the rotor. At one end close to the second cavity, the water pump shell is provided with an outwardly-extending water pump water chamber, the water pump water chamber is internally provided with a screw configured to rotate coaxially with the rotor, and the water pump water chamber is provided with a first water port and a second water port which are in communication with the water pump water chamber. An objective of the present invention is to provide a screw-type pumping device and a liquid-cooled heat dissipation device. The newly designed screw-type pumping device can output higher hydraulic pressure while having a smaller vibration during high-speed rotation and a prolonged service life.