

Hydrodynamic shaft seal contains a rotating chamber filled with sealing fluid, designed to be driven by a motor, a shaft, and dividing discs immersed in the fluid - a stationary one, which is hermetically connected to the machine body, and a rotating one, which is hermetically connected to the shaft. The design incorporates n rotating chambers for the sealing fluid arranged in a chain, the same number of rotating separator discs hermetically connected to additional chambers, and the same number of autonomous drives for additional chambers. Rotating dividing disc is hermetically connected to the shaft and immersed in the sealing fluid in the last additional chamber of the chain. Each additional dividing disc is immersed in the sealing fluid in the preceding chamber, and each chamber is designed to rotate via its own autonomous drive at a speed greater than that of the preceding chamber.