

ABSTRACT

An automatic tensioning control system for a hoisting wire rope and a diaphragm wall grab machine are provided. The control system includes, a motor (1), a first hydraulic pump (4), a first control valve (2), a second hydraulic pump (9), a second control valve (8), a collector, and a controller (10). The motor (1) is provided with an oil port A and an oil port B. The first hydraulic pump (4) is provided with an oil port P1 and an oil port T1. The first control valve (2) is provided with an oil port A', an oil port B', an oil port a, a signal input end I3, an oil port P and an oil port T. The second hydraulic pump (9) is provided with an oil port P2 and an oil port T2. The second control valve (8) is provided with a signal input end Y1, an oil port A" and an oil port P3. The collector is configured to collect a working state data of a host. The controller (10) is provided with a signal input end I1 and a signal output end O1. The first control valve (2) is further provided with an oil port a. By means of the automatic tensioning control system for the hoisting wire rope and the diaphragm wall grab machine, when two bucket flaps grasp soil, the hoisting system automatically corrects the bucket body in time, controls the inclination of the bucket body within a reasonable range, and guarantees trenching accuracy. The correction process may be controlled either manually or automatically, which improves the reliability of the system, reduces the labor intensity and skill requirements.

Fig.1 for Publication