

ABSTRACT

SELF LOCK MECHANISM FOR VALVE ACTUATOR

This publication relates to a self lock mechanism (100) for rotating actuators, which allow rotation from one side while deny rotation from the other side. The mechanism (100) comprising one or more sets of rollers (113) possibly separated by a spring means (114, 118) and arranged between a housing (101) and a valve connection part (102). The valve connection (102) may be configured with a shape which will press one of the rollers (113) in each set against the inner surface of the housing (101) wall and cause locking if the mechanism is attempted twisted from the valve side. Further the mechanism is provided with a motor connection part (105) configured so that it will press the rollers (113) out of locking position and release the locking before the motor connection part (105) makes contact with the valve connection part (102) and start transferring torque. If a spring (114, 118) is provided between the rollers (113), the spring (114, 118) may have a stiffness and a length so as to provides a force which is sufficient for keeping the rollers (113) in position but not sufficient to cause considerable friction between rollers (113) and housing (101), and thereby allow a motor to rotate the gear through the self lock mechanism (100) with relatively small torque and power losses in the self lock mechanism (100). In lieu of the springs (114, 118), the rollers (113) may be separated and kept in place by a wing (117) on the valve connection part (102).

Fig. 2B