

ABSTRACT

METHOD OF ACTUATION OF AN ALTERNATING TANGENTIAL FLOW DIAPHRAGM PUMP

A control unit includes a first connector configured to connect a proportional pressure regulator to a positive pressure supply and a second connector configured to connect the proportional pressure regulator to a negative pressure supply. The control unit further includes at least one sensor configured to detect an amount of air flow (volume per unit of time), positive or negative, within an air flow line connected to an output of the proportional pressure regulator, and a third connector configured to connect the air flow line to an air side of a diaphragm. Additionally, the control unit includes a controller programmed to control at least an opening and closing function of the proportional pressure regulator to attain a desired amount of air flow (volume per unit of time), positive or negative, within the air flow line.

Figure 1