

HYDRAULIC TORRENT CONTROL VALVE

ABSTRACT

A hydraulic control valve actuated by a diaphragm's integral spring whose thicker part acts with greater force to close the diaphragm and plug unit of the valve and whose thinner part may complete the closing motion so that the integral spring may weaken faster than linearly in relation to displacement of the diaphragm and plug unit. A snap seat supporting the plug may include a seat portion and a grip skirt portion integrally joined at an acute angle. A bracket and sliding guide may guide a helical rotor touching an indicator. Movement of the diaphragm and plug unit may rotate the helical rotor and the indicator without the indicator rising out of the valve. The cover may have an internal control passage in communication with a base of the valve to allow the cover to be installed horizontally and vertically conveniently and without disconnecting the control tubing above the valve.

Fig. 1