

MULTISAFE Double Hose-Diaphragm Pump

Downflow Technology (DFT)

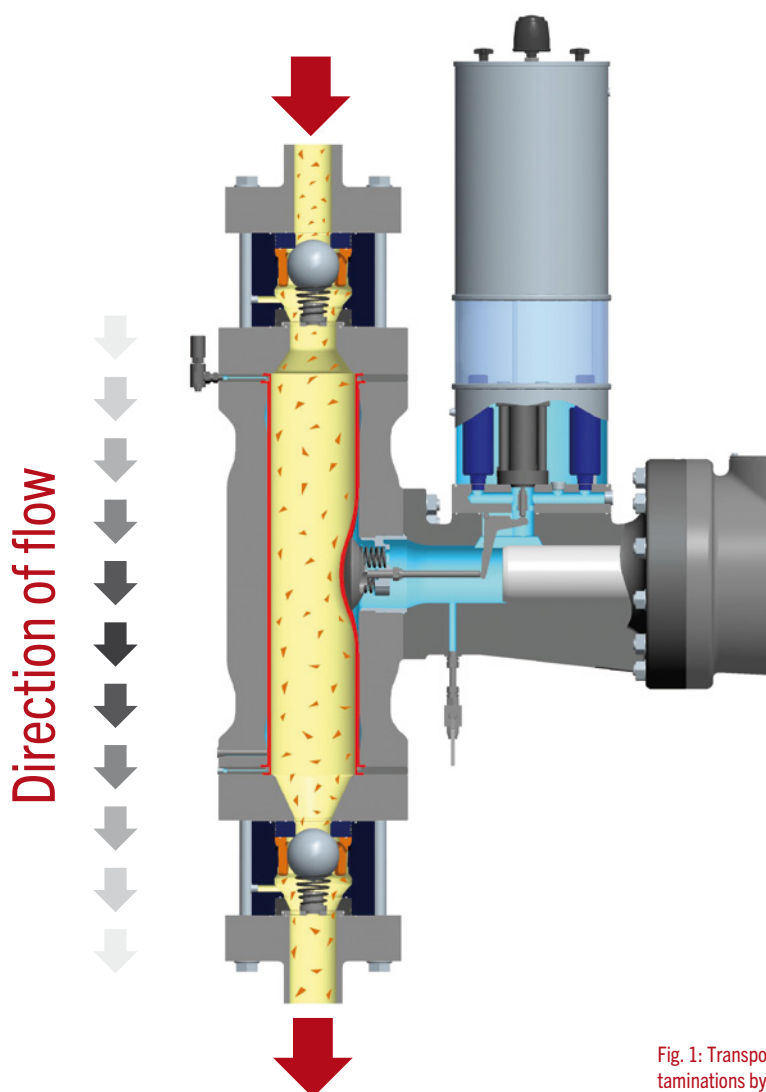


Fig. 1: Transport of solids carrying fluids with coarse contaminations by means of downflow valves and hollow balls

Pumping of heterogeneous mixtures and fluids containing coarse contaminations calls for custom-tailored solutions to ensure permanent trouble-free operation.

With traditional diaphragm pumps there is the risk of excessive stretching of the diaphragm in the pump head or suction valve so that it may even be pressed into the discharge check valve, which inevitably results in diaphragm failure (see Fig. 2). Such a case of breakdown cannot be avoided by the use of double flat diaphragms, because both diaphragms are subject to almost identical stress and will therefore rupture concurrently.

In order to avoid disadvantageous sedimentation, MULTISAFE double hose-diaphragm pumps literally turn the traditional pumping principle upside down, which means flow from the top to the bottom (see front page, Fig. 1). The cylindrical shape of the diaphragm with maximum linear flow lines panders to the flow behaviour and avoids the settling of solids. Handling of fluids carrying large solids moreover requires special and custom-tailored check valves.

Various design options, which give way to coarse solids carried by the fluid, are available for downflow configuration, such as spring-loaded ball valves (see Fig. 3) or special floating ball valves with hollow steel balls (see Fig. 4). In case of critical process conditions, in which the continuous flow must by no means be interrupted, double valves in cassette design avoid backflow leaks resulting from jammed solids.

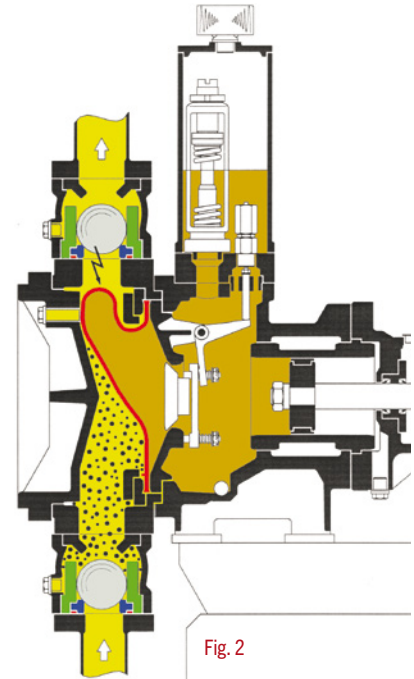


Fig. 2

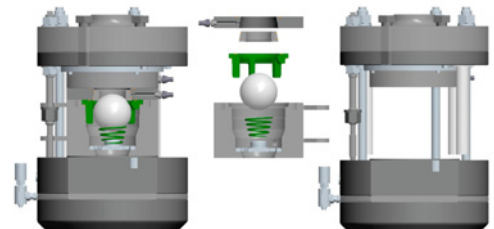


Fig. 3: TopEntry ball valve

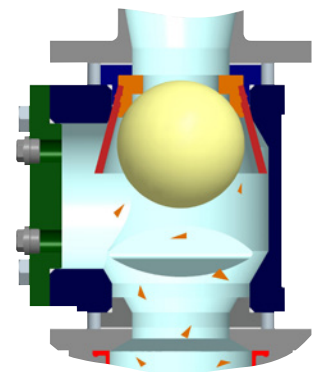


Fig. 4: Floating ball valve with inspection opening