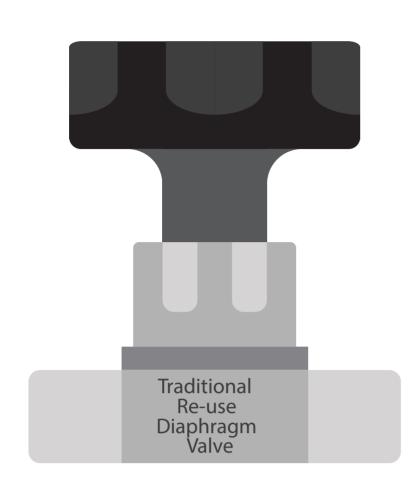
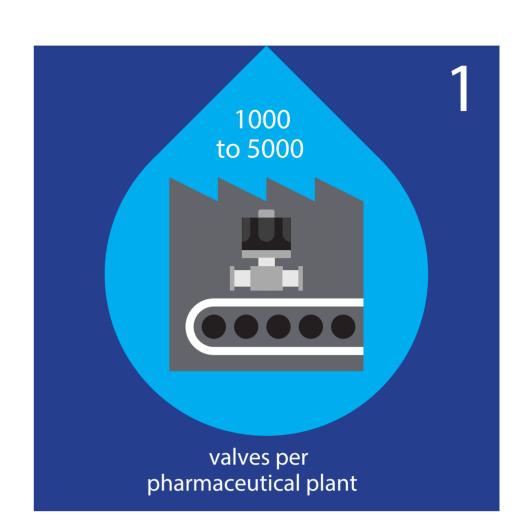
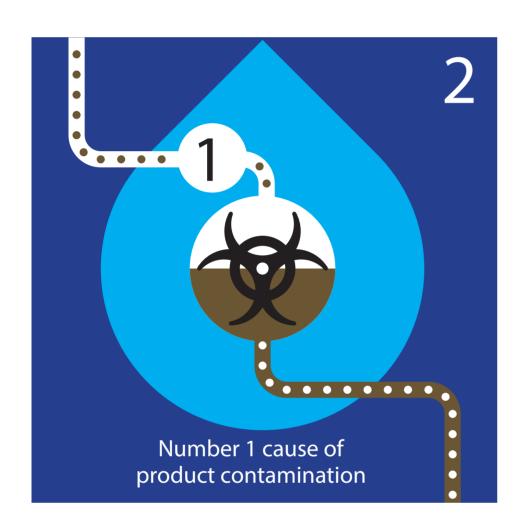


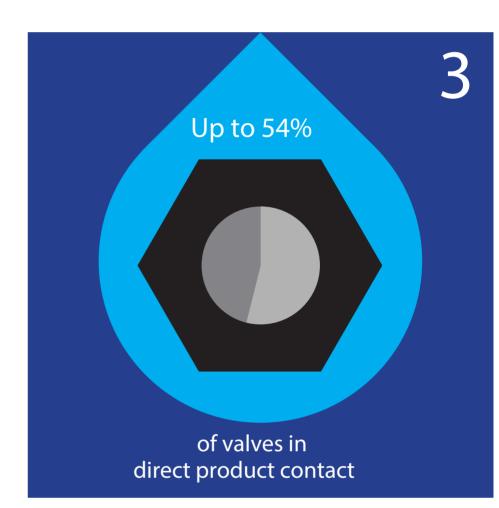
## Traditional Diaphragm Valve

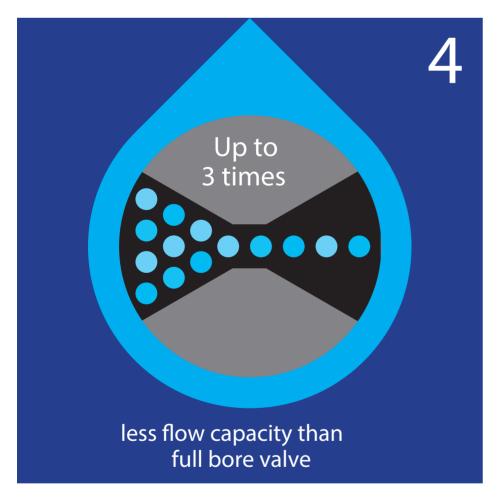
## What Contributes to the **High Cost of Ownership?**

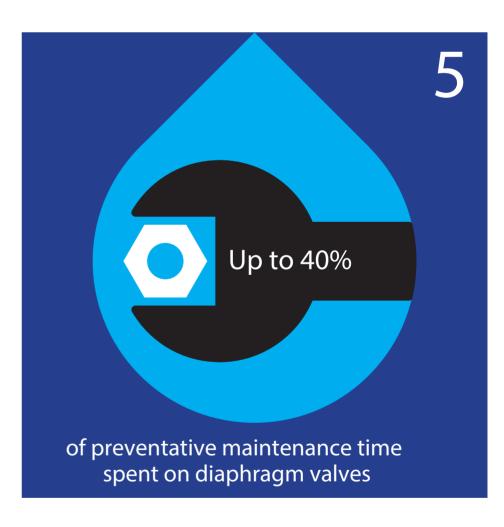




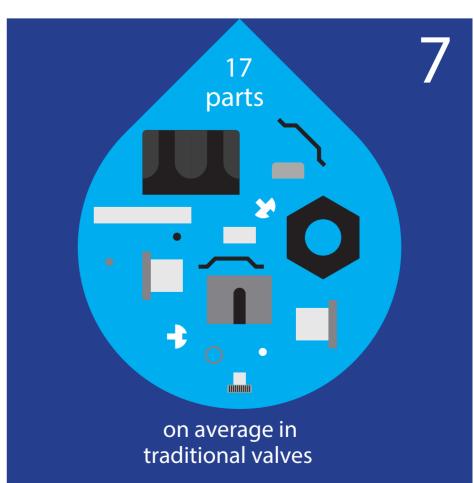












Clockwise from top left:

 $<sup>1.\</sup> Diaphragm\ Valve\ Development-Challenging\ Traditional\ Thinking.\ NOVEMBER/DECEMBER\ 2013,\ VOL\ 33,\ NO\ 6.$ The Future of Valves and Diaphragms Supply (2013). Biopharm International.
Available: http://www.biopharminternational.com/future-valves-and-diaphragms-supply Accessed on 4 January 2019.

<sup>3.</sup> Own data split assuming similarity with gas/liquid housings distribution.

<sup>5.</sup> BioPhorum Operations Group, presentation by Steve Jones, 2012 during BPOG meeting.

<sup>6.</sup> P. McClune, "Maintaining Hygienic Diaphragm Valves," Pharmaceutical Technology 40 (9) 2016. Available: http://www.pharmtech.com/pharmaceutical-technology-europe-september-2016-issue-pdf Accessed on 14 January 2019.