

## Butterfly Valves Extension Stems – It's All About The Design

Milwaukee Valve butterfly valves offer great performance capabilities, including bubble-tight on/off service, dead-end service, and ease of installation, along with a variety of trim options to handle a wide array of service conditions. The lighter weights of butterfly valves (compared to traditional gate valves), quarter-turn operation and the smaller overall product envelope combine to make butterfly valves perfect for many difficult to access applications or on original equipment where stem extensions may be required.

Butterfly valve extensions are available in lengths of just a few inches to over 16 feet. Clearly, smaller extensions are not very challenging, but as the extension gets longer and heavier, design issues of the valve must be considered. For example, the weight of the extension sitting on top of the stem can affect valve performance. Longer extensions may also require a different gear operator. This is why extensions are custom to each application.



The valve pictured is a perfect example of a well-engineered extension stem for a particular service and butterfly valve. This 48" extension on a 16" stainless steel high-performance butterfly valve allowed for the use of the standard gear operator and mounting hardware. Using bearings accommodated the added weight of this extension and a shoulder in the outer channel to carry the weight of the extension, leaving the valve to perform as originally designed. In addition, the factory-designed and -assembled extension insures a perfectly vertical stem, reducing operating torque. Field designed

extensions may not incorporate all of the valve design features and may not yield the service life expected from the valve.

Don't hesitate to put our decades of experience to work to solve your application challenges. And **DON'T** perform field alterations to the valve, stem or handle without checking with us first.

In this picture, an installer fabricated a lever operator with

a stem extension to their CL 300 High Performance butterfly valve. Field adjustments get made, but we could have and would have advised against doing something like this...

This retrofitted handle does not have any form of locking mechanism, as a gear operator or actuator would. With enough line pressure, (in this case, 300 pounds) it is possible (or likely) that the disc will move off the seat when the stem is not being restricted.



That's exactly what happened here – the valve opened and started draining water out of this huge pipeline.

We don't warranty the valve without a positive stop on the operator. We could have provided the valve with a stem extension and gear operator to avoid any retrofit issues in the first place.

If you find yourself in need of a butterfly valve with stem extension, contact your Milwaukee Valve representative to help design an extension with the valve and application in mind.

For more information on the complete line of resilient and high-performance butterfly valves, visit

[www.MilwaukeeValve.com](http://www.MilwaukeeValve.com) or contact your Milwaukee Valve sales representative or customer service contact.



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