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**To:** [Gorog, Mark](#); [Tomko, Devin](#); [Guerrini, Sheri](#)  
**Subject:** [External] Valve Extension  
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Devin, Mark, and Sheri,

Please see the additional language on the valve extensions from Don Kinder, Environmental Manager:

"I will add some context on the "extension of a valve". The valve testing standards API or ISO allows for valve manufactures to test let's say an 8" Class 900 Ball Valve, that the testing can "extend" that test of the 8" valve to cover for instance a range of valves from 4" to 12" and covers Class 300, 600 and 900 that follow the same manufacture specifications. Below is the actual language for API and ISO to explain how the extension from a good engineering practice works. The left side is ISO15848-1, middle table is API41 and last is API624. These standards allow the extension to various sizes if you meet the standards. It's harder to write it than to tell it, but I gave my best effort to help explain how a valve testing can be extended to other valves."

Are all stem and seal materials the same?	What is the max pressure class?	Is the valve an API 602 valve?
Does the loading arrangement provide similar sealing stress to the seal element?	Are tolerance classes and surface finish specifications for all components identical?	For API 602 valves, is there a NPS 3/4 class 800, 3/4 class 1500, a 1 1/2 class 800, and 1 1/2 class 1500 cert?
Is the motion of the stem identical?	What is the max stem diameter being approved?	Is NPS 4 valve being used to qualify all smaller diameter valves and one diameter and pressure class larger?
Are tolerance classes and surface finish specifications for all components identical?	What is the minimum stem diameter being approved?	For NPS valves >4, are the nominal sizes >1 nominal size, <2 nominal sizes, and 1 pressure class lower than the tested valve (s)?
What is the max stem diameter being approved?	What is the seal seat height?	Is the stem packing material, manufacture, or packing type/model the same as valve tested?
What is the minimum stem diameter being approved?	What is the smallest seat height approved?	
What is the maximum pressure class being approved?	What is the largest seat height approved?	
Temperature class between room temp and test temperature of qualified valve?	Are the type of motion, obturator, obturator support, type of offset, and type of stem support identical?	
Tightness class equal to or less than qualified valve?	Is the stem seal material, design, stress, shape, the same?	
	What is the maximum approved temperature?	



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