

**SAFETY SIZE ADVISORY**  
**YOUR IMMEDIATE ATTENTION IS REQUIRED**

**Safety Size Reaction Force Calculations**  
**September 2007**

Tyco Valves & Controls has discovered an error in the calculation of reaction forces using the Safety Size program under certain conditions. We ask for your immediate attention to this matter and to follow the recommendations listed below. Failure to follow these recommendations could lead to serious bodily injury or property damage.

The reaction force calculation in Safety Size has a unit conversion error that results in a value that is approximately 22% of the correct value. This error only occurs on reaction force calculations set up with the following parameters regardless of the other settings:

CALCULATION TYPE	SIZING BASIS	REACTION FORCE UNITS
Steam Area	Section VIII	Lbf
Steam Area	Other	Lbf
Steam Flow	Section VIII	Lbf
Steam Flow	Other	Lbf

A calculation using any other combination of these parameters, regardless of other settings, produces the correct value.

**This reaction force calculation error exists in all releases of the Safety Size program.**

A copy of a typical Safety Size data sheet is included with this Advisory highlighting the pertinent inputs and the location of the erroneous reaction force output.

**Tyco Valves and Controls recommend the following actions:**

1. Customers who utilized Safety Size data sheets for pipe support designs using the above inputs should contact their local Tyco Valves & Controls sales office or authorized Tyco sales representative in order for us to provide a revised reaction force calculation.

2. All Safety Size users should immediately discontinue use of the reaction force values calculated under the above parameters. As an alternative procedure, reaction forces should be calculated using Newtons as the force unit. The resulting value can be converted to lbf by multiplying it by 0.2248 and added as a tag note to the data sheet.

While we realize most customers rely on the data presented in API RP 520 and/or ASME B31.1 to calculate reaction forces, this advisory is being sent as a precaution to alert those customers who may have used Safety Size to determine reaction force data under the above conditions as a precaution.

Safety Size will not be revised to correct this error since a new sizing and selection software program is presently under development and scheduled to be released later this year.

Tyco Valves & Controls regrets any inconvenience this may cause our customers, however, it is important that this Advisory's recommendation be acted upon immediately.

For additional information on this Advisory, please contact;

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