

SIL - Safety Integrity Level

Security in your process

APPLICATION

The company Somas and its range of butterfly-, ball segment-, ball valves and actuator are certified according to IEC 61508 and ISO 13849.

Typical applications are found where there is a demand for a higher grade of security in the process industry.

WHAT IS SIL- SAFETY INTEGRITY LEVEL?

The safety of a process is increased by adding safety instrumented functions (to the process). The certified valve is the final element in the function. The certification of the valve makes it possible to calculate the risk reduction of the valve with reference to both random features and systematic failures, giving the most relevant result for the calculation of the SIL for the complete safety instrumented function.

The SIL is a measure of the risk reduction that has been reached, divided into four different levels ranging from SIL 1 with the lowest risk reduction, to SIL 4 with the highest risk reduction. Each safety instrumented function can include single or multiple valves.

STANDARDS IEC 61508 AND IEC 61511

In order to determine which methods to use to achieve the proper risk reduction different standards are applicable.

- IEC 61508 which is the equipment manufacturer standard.
- IEC 61511 which is the standard for the process industry.
- ISO 13489 is a standard for safety of machinery.



WHAT THIS MEANS TO SOMAS AND OUR VALVES

Somas valves are certified to be used in safety instrumented functions up to and including SIL 3. The certification is achieved by evaluating Somas products with reference to random failures, and evaluating Somas company with reference to systematic failures.

The evaluation of the products has resulted in very competitive failure rates to be used in the SIL-calculation, and the evaluation of the company has resulted in SIL capability 3 (SC 3).

The valves need to meet the requirements related to functional safety that are set for each SIL rating for the specific safety instrumented functions in which the valves are installed.



The Bhopal disaster was a gas leak incident 1984 at the Union Carbide India Limited pesticide plant in Bhopal, India. It is considered to be the world's worst industrial disaster. Over 500,000 people were exposed to methyl isocyanate gas.



The Seveso disaster was an industrial accident that occurred north of Milan 1976 in the Lombardy region of Italy. It resulted in the highest known exposure to TCDD which gave rise to numerous scientific studies and standardized industrial safety regulations.



SUMMARY

- The SIL is a measure of the risk reduction that has been reached, divided into four different levels ranging from SIL 1 with the lowest risk reduction, to SIL 4 with the highest risk reduction.
- Somas valves are certified to be used in safety instrumented functions up to and including SIL 3. The certification is achieved by evaluating Somas products with reference to random failures, and evaluating Somas company with reference to systematic failures.