

# C E R T I F I C A T E

This certifies, that the company

**Valland S.p.A.**  
**Corso Giacomo Matteotti, 8/A**  
**23900 Lecco (LC)**  
**Italy**

Is authorized to provide the product mentioned below

Description of product: **2-ways bolted top entry trunnion mounted ball valve series A31**

In accordance with: **EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7**

Registration No 20 21038 02  
Test Report No PS-21038-20-L-02  
File reference 21038-02



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Validity  
from 2021-01-25  
until 2024-01-25

Cerro Maggiore, 2021-01-25  
[prodotto@tuev-nord.it](mailto:prodotto@tuev-nord.it)

*Please also pay attention to the information stated overleaf*

# ANNEX

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To Certificate-Nr. 20 21038 02

<b>Type</b>	A
<b>HFT</b>	0
<b>Safety functions</b>	1. Close / Open upon the demand of the actuation system 2. Close upon the demand of the actuation system, with inline tightness when in closed position
<b>Mode of operation</b>	Low Demand Mode

Random failure rates				
Configuration	Safety function	$\lambda_{DU}$ [1/h]	$\lambda_{DD}$ [1/h]	$\lambda_S$ [1/h]
Self-relieving / Double piston effect - No PST	1	5,01E-08	0,00E+00	0,00E+00
Self-relieving / Double piston effect - With PST	1	4,51E-09	4,56E-08	0,00E+00
Self-relieving - No PST	2	6,71E-08	0,00E+00	0,00E+00
Self-relieving - With PST	2	2,15E-08	4,56E-08	0,00E+00
Double piston effect - No PST	2	5,82E-08	0,00E+00	0,00E+00
Double piston effect - With PST	2	1,26E-08	4,56E-08	0,00E+00

<b>Systematic capability</b>	3 (Route 1 <sub>s</sub> applied)			
<b>Architectural constraints</b>	<b>Route 1<sub>H</sub>:</b>	Applied	<b>Route 2<sub>H</sub>:</b>	Applied
	The product can be used in: <ul style="list-style-type: none"> <li>single channel configuration:               <ul style="list-style-type: none"> <li>up to SIL 2 without external diagnostic tests</li> <li>up to SIL 3 considering external diagnostic tests</li> </ul> </li> <li>double channel configuration: up to SIL 3</li> </ul>			
<b>Remarks:</b>	<ul style="list-style-type: none"> <li>Self-relieving configuration: both upstream and downstream seats shall be of self-relieving type (i.e. single barrier in the flow direction)</li> <li>Double piston effect configuration: at least downstream seat shall be of double piston effect type (i.e. double barrier in the flow direction)</li> <li>For further details, including environmental conditions, limitations of use, lifetime, failure rates traceability, mean repair times, common cause factors and systematic capability constraints, make reference to Safety Manual "Safety manual BV".</li> </ul>			

