

CERTIFICATE

This certifies, that the company

Starline S.p.A.
Via dei Livelli di Sopra, 11
24060 Costa di Mezzate (BG)
Italy

Is authorized to provide the product mentioned below

Description of product: **2-ways bolted side entry trunnion mounted ball valve series 100, 200**

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

Registration No 21 21753 01
Test Report No PS-21753-21-L-01
File reference 21753-01



TUV NORD Italia S.r.l. (TUV NORD Group)
Via Turati, 70 20023 Cerro Maggiore (MI)



www.tuev-nord.it

Validity
from 2021-09-06
until 2024-09-06

Cerro Maggiore, 2021-09-06
prodotto@tuev-nord.it

ANNEX

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To Certificate-Nr. 21 21753 01

Type	A
HFT	0
Safety functions	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
Mode of operation	Low Demand Mode

Random failure rates				
Configuration	Safety function	λ_{DU} [1/h]	λ_{DD} [1/h]	λ_S [1/h]
Self-relieving / Double piston effect - No PST	1	7,37E-08	0,00E+00	0,00E+00
Self-relieving / Double piston effect - With PST	1	6,63E-09	6,70E-08	0,00E+00
Self-relieving - No PST	2	9,92E-08	0,00E+00	0,00E+00
Self-relieving - With PST	2	3,22E-08	6,70E-08	0,00E+00
Double piston effect - No PST	2	8,58E-08	0,00E+00	0,00E+00
Double piston effect - With PST	2	1,88E-08	6,70E-08	0,00E+00

Systematic capability	3 (Route 1 _S applied)			
Architectural constraints	Route 1_H:	Applied	Route 2_H:	Applied
	The product can be used in: <ul style="list-style-type: none"> • single channel configuration: <ul style="list-style-type: none"> ○ up to SIL 2 without external diagnostic tests ○ up to SIL 3 considering external diagnostic tests • double channel configuration: up to SIL 3 			
Remarks:	<ul style="list-style-type: none"> • Self-relieving configuration: both upstream and downstream seats shall be of self-relieving type (i.e. single barrier in the flow direction) • Double piston effect configuration: at least downstream seat shall be of double piston effect type (i.e. double barrier in the flow direction) • 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 ST-SM-SIL-T. 			

