

This certifies, that the company

CZ 627 00 Šlapanice, K Letišti 1804/3
Czech Republic

Is authorized to provide the product mentioned below

Description of product: **Pressure Reducing Valves, mod. VLR, VLRO, VLR-Q**
Steam Conditioning Valves, mod. VLB, VLBO, VLB-Q

In accordance with: **EN 61508:2010 Parts 1, 2, 4**

Registration No 20 19447 02 rev. 3
Test Report No PS-26027-24-M-02
File reference 26027-02

Marco Grimm



Validity
from 2024-10-23
until 2026-12-18
First issue 2023-12-19

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Type	A
HFT	0
Safety functions	1. Close / Open upon the demand of the actuation system
Mode of operation	Low Demand Mode

Random failure rates				
Configuration	Safety function	λ_{DU} [1/h]	λ_{DD} [1/h]	λ_S [1/h]
VLR/VLB series - No Partial Stroke Test (PST)	1	1.209E-06	0,000E+00	1.313E-06
VLR/VLB series- With Partial Stroke Test (PST)	1	6.083E-07	6.004E-07	1.313E-06

Systematic capability	3 (Route 1 _s and 2 _s applied)			
Architectural constraints	Route 1 _H :	Applied	Route 2 _H :	Applied
	The product can be used in: - single channel configuration: - up to SIL 2 without external diagnostic tests - up to SIL 3 considering external diagnostic tests - double channel configuration: up to SIL 3			
Remarks:	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 CZ-DR-20002_A3.			



PFD_{avg} values for different values of FPT test intervals, without Partial stroke test (PST)

VLR, VLRO, VLR-Q VLB, VLBO, VLB-Q	
Full Proof Test Interval [months]	36
	33
	30
	27
	24
	21
	18
	15
	12
	9
	6
	3

PFD_{avg} values for different values of FPT test intervals, with Partial stroke test (PST)

		VLR, VLRO, VLR-Q VLB, VLBO, VLB-Q											
Full Proof Test Interval [months]	36	8.112E-03	8.334E-03	8.556E-03	8.778E-03	9.000E-03	9.222E-03	9.444E-03	9.666E-03	9.888E-03	1.011E-02	1.033E-02	1.055E-02
	33	7.454E-03	7.676E-03	7.898E-03	8.120E-03	8.342E-03	8.565E-03	8.787E-03	9.009E-03	9.231E-03	9.453E-03	9.675E-03	9.897E-03
	30	6.797E-03	7.019E-03	7.241E-03	7.463E-03	7.685E-03	7.907E-03	8.129E-03	8.351E-03	8.573E-03	8.795E-03	9.017E-03	9.239E-03
	27	6.139E-03	6.361E-03	6.583E-03	6.805E-03	7.028E-03	7.250E-03	7.472E-03	7.694E-03	7.916E-03	8.138E-03	8.360E-03	8.582E-03
	24	5.482E-03	5.704E-03	5.926E-03	6.148E-03	6.370E-03	6.592E-03	6.814E-03	7.036E-03	7.258E-03	7.480E-03	7.702E-03	7.924E-03
	21	4.824E-03	5.046E-03	5.268E-03	5.491E-03	5.713E-03	5.935E-03	6.157E-03	6.379E-03	6.601E-03	6.823E-03	7.045E-03	7.267E-03
	18	4.167E-03	4.389E-03	4.611E-03	4.833E-03	5.055E-03	5.277E-03	5.499E-03	5.721E-03	5.943E-03	6.165E-03	6.387E-03	6.609E-03
	15	3.509E-03	3.731E-03	3.954E-03	4.176E-03	4.398E-03	4.620E-03	4.842E-03	5.064E-03	5.286E-03	5.508E-03	5.730E-03	5.952E-03
	12	2.852E-03	3.074E-03	3.296E-03	3.518E-03	3.740E-03	3.962E-03	4.184E-03	4.406E-03	4.628E-03	4.850E-03	5.072E-03	5.294E-03
	9	2.194E-03	2.417E-03	2.639E-03	2.861E-03	3.083E-03	3.305E-03	3.527E-03	3.749E-03	3.971E-03	-	-	-
	6	1.537E-03	1.759E-03	1.981E-03	2.203E-03	2.425E-03	2.647E-03	-	-	-	-	-	-
	3	8.795E-04	1.102E-03	1.324E-03	-	-	-	-	-	-	-	-	-
	1	2	3	4	5	6	7	8	9	10	11	12	
		Partial Stroke Test Interval [months]											

Legend			
SIL 4	SIL 3	SIL 2	SIL 1

