



Certificate

The Certification Body RWTÜV Italia S.r.l. hereby certifies

PIBIVIESSE S.p.A.

Via Bergamina, 24
I-20014 Nerviano (MI)

That the product

Side Entry Ball Valves

Series E, E0, E1, E3, E5, EP, EZ0, EZ1, EZ, EZ3, CV

Meets the below mentioned requirements:

IEC 61508: 2000, part 1 to 7

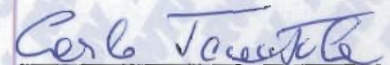
Functional Safety of electrical/electronic/programmable electronic safety related systems; Type A, Low Demand Mode

λ_s [1/h]	λ_{du} [1/h]	$\lambda_{dd(ps)}$ [1/h]	SFF (Partial Stroke Test)	SFF (No Partial Stroke Test)
$2,62 \cdot 10^{-7}$	$2,44 \cdot 10^{-9}$	$9,76 \cdot 10^{-9}$	99,1 %	95,5 %

PFD_{AVG} values for different values of TI and TI_{PS}: see Annex 1

As per these values, based on RWTÜV Assessment Report No. 233J04001/A in the valid version, the Pibiviesse Side Entry Ball Valves can be used up to SIL 3 as a single device.

Date 2006-07-31


Carlo Tarantola

Certificate No. 233J04001/A
Expiry date: 2009-06-30

RWTÜV Italia S.r.l.
Via Pisacane, 46 - I-20025 Legnano



Annex 1 to Certificate

PIBIVIESSE S.p.A.

Via Bergamina, 24
I-20014 Nerviano (MI)

Side Entry Ball Valves

Series E, E0, E1, E3, E5, EP, EZ0, EZ1, EZ, EZ3, CV

		Proof Test Interval Frequency (months)					
		6	12	24	36	48	60
Partial Stroke frequency (months)	1	9,20E-06	1,45E-05	2,52E-05	3,59E-05	4,66E-05	5,73E-05
	2	1,28E-05	1,81E-05	2,88E-05	3,95E-05	5,02E-05	6,09E-05
	3	1,63E-05	2,17E-05	3,24E-05	4,30E-05	5,37E-05	6,44E-05
	6	2,70E-05	3,24E-05	4,30E-05	5,37E-05	6,44E-05	7,51E-05
	9		4,30E-05	5,37E-05	6,44E-05	7,51E-05	8,58E-05
	12			6,44E-05	7,51E-05	8,58E-05	9,65E-05

PFD_{AVG} values (with Partial Stroke Test)

Proof Test Interval Frequency (months)						
6	12	24	36	48	60	
2,70E-05	5,37E-05	1,07E-04	1,61E-04	2,14E-04	2,67E-04	

PFD_{AVG} values (without Partial Stroke Test)

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