



**Certificate no. TAI-FS-C-21-0046**

WE HEREBY CERTIFY THAT

**Product description** 2-WAYS BOLTED SIDE ENTRY TRUNNION MOUNTED BALL VALVE

**Models** SERIES S, P, D, H

**Manufacturer** DAFRAM S.p.A.  
Via San Raffaele 1  
I-20121 Milano (MI)

IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE STANDARDS

**IEC 61508 Parts 1–7:2010**

AS RESULT OF THE ASSESSMENT ACCORDING TO THE PROVISION  
SET OUT IN THE ABOVE-MENTIONED STANDARDS

**Summary Report no. TAI-FS-R-21-0097**

**Expiry date** 27.04.2024

**Issue date** 28.04.2021

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28.04.2021, Monte Roberto (AN)

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## Annex to certificate no. TAI-FS-C-21-0046

<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

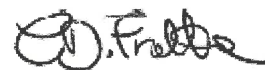
Random failure rates				
Configuration	Safety function	$\lambda_{DU}$ [1/h]	$\lambda_{DD}$ [1/h]	$\lambda_S$ [1/h]
Self-relieving / Double piston effect - No PST	1	3,06E-08	0,00E+00	0,00E+00
Self-relieving / Double piston effect - With PST	1	2,75E-09	2,78E-08	0,00E+00
Self-relieving - No PST	2	4,66E-08	0,00E+00	0,00E+00
Self-relieving - With PST	2	1,88E-08	2,78E-08	0,00E+00
Double piston effect - No PST	2	3,87E-08	0,00E+00	0,00E+00
Double piston effect - With PST	2	1,09E-08	2,78E-08	0,00E+00

<b>Systematic capability</b>	3 (Route 1s 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>			

**Remarks:**

- 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 MAE11009.

END OF CERTIFICATE



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