

CERTIFICAT

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СЕРТИФИКАТ

認證證書

CERTIFICATE

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CERTIFICATE

according to IEC EN 61508

Certificate No.: TUV IT 25 SIL 0607

CERTIFICATE OWNER: FITOK (Wuhan) Incorporated
No.16, Jinyang Avenue,
Yangluo Economic Development Zone,
Xinzhou District,
Wuhan City,
Hubei Province,
P. R. China

WE HEREWITH CONFIRM THAT
DP SERIES PNEUMATIC DIAPHRAGM VALVES
MEET THE SIL REQUIREMENTS DETAILED IN THE ANNEXED TABLE
FOR THE SAFETY FUNCTIONS:

***SIF1: "correct switching on demand (open to closed) and tight for closing phase,
in low demand mode of operation"***

***SIF2: "correct switching on demand (closed to open), in low demand mode of
operation"***

Examination result: The above reported DP Series Pneumatic Diaphragm Valves were found to meet the standard defined requirements of the safety levels detailed in the following table according to IEC EN 61508, under fulfillment of the conditions listed in the Report R TUV IT 25 SIL 0566, on which this Certificate is based

Examination parameters: Construction/Functional characteristics and reliability and availability parameters of the above mentioned DP Series Pneumatic Diaphragm Valves

Official Report No.: R TUV IT 25 SIL 0566

Expiry Date June, 15th 2028

Reference Standard IEC EN 61508:2010 Part 2, 4, 6, 7

Milan, June, 16th 2025

TÜV ITALIA Srl



TÜV ITALIA Srl
Industrie Service Division
Managing Director

Alberto Carelli



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SUMMARY TABLE

<i>E/EE/EP safety-related system (final element)</i>	DP Series Pneumatic Diaphragm Valves produced by FITOK (Wuhan) Incorporated	
<i>System type</i>	Type A	
<i>Systematic Capability</i>	SC3	
<i>Safety Function Definition</i>	<i>SIF1: “Correct switching on demand (open to closed) and tight for closing phase, in low demand mode of operation”</i>	<i>SIF2: “Correct switching on demand (closed to open), in low demand mode of operation”</i>
<i>Max SIL⁽¹⁾</i>	SIL3	SIL3
λ_{TOT}	1,050E-08	1,050E-08
λ_{NE}	1,728E-09	2,218E-09
λ_{SD}	0,000E+00	0,000E+00
λ_{SU}	3,258E-09	1,494E-09
$\lambda_{DD,PST}^{(2)}$	1,915E-09	4,999E-09
$\lambda_{DU,FPT}$	3,604E-09	1,793E-09
<i>β and β_D factor</i>	10%	10%
<i>MRT</i>	8 h	8 h
<i>Hardware Safety Integrity</i>	Route 2 _H	Route 2 _H
<i>Systematic Safety Integrity</i>	Route 2 _s	Route 2 _s
<i>Remarks</i> <i>(1) The Safety Integrity Level (SIL) of the entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD_{AVG} considering the redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each subsystem must be checked to assure compliance with the minimum hardware fault tolerance (HFT) requirements.</i> <i>(2) Considering an automatic Partial Stroke Test.</i>		

SIL classification according to Standard IEC EN 61508:2010 for DP Series Pneumatic Diaphragm Valves produced by FITOK (Wuhan) Incorporated

NOTE: The present table is integral part of the Document TUV IT 25 SIL 0607
Date: June, 16th 2025