

CERTIFICATE

This certifies, that the company

KSB MIL Controls Limited
Meladoor, Annamanada, Thrissur District,
Kerala – 680741 - India

Is authorized to provide the product mentioned below

Description of product: **Actuator**

Model:
37,38 Series – Pneumatic Spring Diaphragm Actuators
67,68 Series – Double Acting Piston Cylinder Actuators

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



Registration No 22 23622 02
Test Report No PS-23622-23-M
File reference 23622-02



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

www.tuev-nord.it

Validity
from 2023-02-20
until 2026-02-20

Cerro Maggiore, 2023-02-20
prodotto@tuev-nord.it

Please also pay attention to the information stated overleaf

ANNEX

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To Certificate-Nr. 23 23622 02

E/EE/EP safety-related system (final element)		Actuators produced by KSB MIL Controls Limited			
Size (Class)		G9		G10	
Series		37	38	67	68
Environment / Application ⁽¹⁾	Size	11 to 24	11 to 24	6 to 24	6 to 24
	Pressure Rating	-	-	-	-
	Temperature Range	-	-	-	-
Safety Function Definition		Correct switching (Open to Close / Close to open) on demand , in low demand mode of operation		Correct switching (Open to Close / Close to open) on demand , in low demand mode of operation	
Max SIL (with HFT = 0)		SIL2		SIL2	
Max SIL (with HFT = 1)		SIL3		SIL3	
SC		SIL3		SIL3	
λ_{TOT}		4,34E-08		2,42E-08	
λ_S		1,06E-08		0,00E+00	
λ_{DU}		3,28E-08		2,42E-08	
PFD _{avg} ⁽²⁾ (FPT 12 months)		6,71E-04		4,47E-04	
FPT interval		12 months		12 months	
β and β_D factor		10%		10%	
MRT		8 h		8 h	
Hardware Safety Integrity		Route 2 _H		Route 2 _H	
Systematic Safety Integrity		Route 2 _S		Route 2 _S	
Remarks					
<p>(1) Category identified according to specific environment and application, in particular for actuator design for the specific fluid type and temperature range. Refer to the product safety manual for the detailed information on the categories.</p> <p>(2) PFD of reference calculated on the basis of a Full Functional Proof Test with time intervals reported for HFT = 0 configuration only. This time interval is considered by TÜV as reasonably consistent with the implementation of the equipment for safety related-applications, with reference to the overall range of results shown in the report, where other possible combination of time intervals adequate for a classification up to the SIL reported. Note that, concerning Full Proof Tests and the Partial Stroke Test, time intervals respectively higher than 36 months and 12 months are considered by TÜV as not adequate and consistent for equipment for safety related applications.</p> <p>(3) Above mentioned valve models are suitable for use in safety related systems in low demand mode of operation as a safety related subsystem according to IEC 61508 up to and including SIL3.</p>					