Manufacturer Declaration

of SIL-conformity with IEC 61508:2010 / IEC 61511-1:2016 based on SIL-Capability Analysis

制造商声明

关于 IEC 61508:2010 / IEC 61511-1:2016 的 SIL 符合性（基于 SIL 性能分析）

HEROSE GMBH Elly-Heuss-Knapp-Str. 12
ARMATUREN UND METALLE D-23843 Bad Oldesloe / Germany
name and adress of the manufacturer / 制造商的名字和地址

The signing manufacturer confirms, that the series of actuated valves listed in the table basically fit for use in safety loops acc, to IEC 61508 / IEC 61511-1 up to stated Safety Integrity Level (SIL). The evidence is based on a SIL-Capability Analysis executed by TÜV Rheinland Industrie Service GmbH.
在此署名的制造商证明，表中所述的驱动阀系列通常可用于符合 IEC 61508 / IEC 61511-1-标准的安全回路，最高可用于所述的安全完整性等级 (SIL)。此证明基于由 TÜV Rheinland Industrie Service GmbH 公司执行的 SIL 性能分析.

Valve Series / 阀门系列			
Actuated Globe Valves:	**01353, 01653, 01753, 01853 (Trailorvalves)**		
General/Architectural Data / 般数据/结构数据 [2])			
Evaluation Standards:	IEC 61508:2010, part 1,2,4 … 7; IEC 61511-1:2016 + AMD 1:2017 (in extracts)	**Hardware Fault Tolerance:**	HFT = 0
Device Type:	Type A (ref. to IEC 61508-2)	**Mean Repair Time:**	MRT = 72h << T_1
Mode of Operation:	Low Demand Mode (LDM)	**Diagnostic Coverage [1]):**	DC = 0%
Proof Test Interval:	T_1 ≤ 1 year (Full Stroke Test)	**Beta Factor:**	β = 10%
Usable life time:	20 – 25 years (acc.to user´s experience)		

Safety Relevant Characteristics / 技术安全参数 [2])			
Safety Function: [3])	Close on demand and external tightness [4]) 按需关闭和外部紧缩	Close on demand with inner leakage class A acc.to DIN EN 12266-1:2012-06 and external tightness [4]) 按要求关闭，内漏等级为A级，符合。 DIN EN 12266-1:2012-06和外部密封性	Open on demand and external tightness [4]) 按需开放和外部紧缩
λ_{safe}:	52 FIT	52 FIT	N/A
$\lambda_{dangerous}$:	308 FIT	391 FIT	N/A
	3.08×10^{-7} / h	3.91×10^{-7} / h	N/A
$PFD_{avg,1oo1}$:	1.37×10^{-3}	1.74×10^{-3}	N/A
$PFD_{avg,1oo2}$:	1.39×10^{-4}	1.77×10^{-4}	N/A
Proof Test Coverage:	PTC = 63%	PTC = 50%	N/A
Safety Integrity Level:	**SIL 2:** For single device (HFT = 0) / 对于单个设备(HFT = 0) **SIL 3:** For redundant configuration (HFT = 1) / 对于冗余配置(HFT = 1)		

Assumptions and Preconditions / 例外与前提
Application of the valves according the manufacturer specified conditions (see maintenance and user manual) and the above mentioned standards are assumed. 依据制造商所指定的使用条件按规定运行阀门（参见维护和操作说明书）并遵守上述所有标准的规定
Additional legal requirements and standards for test / inspection-intervals and safety loop architectures in the user countries must be followed with priority. 优先考虑适用于使用者所在国家或地区有关测试间隔/检查间隔以及安全回路结构的附加规章和标准.
Consider, that data of the data sheets will allow a definite evaluation of SIL capability only in combination with the safety relevant parameters (e.g. PFD-values) of the other components building up the safety loop. The prerequisite is that the corresponding other components of the final element (e.g. valve, actuator and solenoid valve) are also suitably dimensioned and a proof in accordance with the above mentioned standard is available for the required SIL. 考虑到该数据表的数据只有在与构成安全回路的其他部件的安全相关参数（如PFD-值）相结合时，才能对SIL能力进行明确的评估。先决条件是最终元件的相应其他部件（如阀门、执行器和电磁阀）也有适当的尺寸，并且根据上述标准提供所需SIL的证明。

[1]) The specified value applies due to the lack of diagnostic options in the valve. Diagnostic measures must be user-defined and can only be realised in conjunction with an actuator. The quality of the diagnostic measures contributes significantly to the diagnostic coverage. 由于阀门中缺乏诊断选项, 因此规定值适用. 诊断措施必须是用户定义的, 并且只能与执行机构一起实现. 诊断措施的质量对诊断范围有很大的贡献.

[2]) Parameters with considering of actuater but without add-on parts, e.g. solenoid valve. 考虑到执行器的参数, 但没有附加部件 如电磁阀

[3]) Means closing or opening function by spring force. This function depends on the order related selected variation of the actuator. 意味着通过弹簧力实现关闭或打开功能. 该功能取决于执行器的相关顺序选择变化.

[4]) For cryogenic service see maximum allowable leakage rate as per DIN EN 1626:2009-01. 对于低温服务，请参见DIN EN 1626:2009-01规定的最大允许泄漏率

HEROSE GMBH
ARMATUREN UND METALLE
Elly-Heuss-Knapp-Straße 12
23843 Bad Oldesloe

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Date 日期	M. Zaubitzer – Quality Management - 质量管理	Stamp of the manufacturer 制造商公章

Remarks: The validation of this declaration expire in the case of any modifications at the above mentioned product.
注释: 任何上述产品出现的变更使此声明失效