功能安全产品认证证书

证书编号：CS2025PV17020108000090

认证委托人名称、地址

重庆川仪调节阀有限公司

重庆市北碚区龙凤一村

生产者名称、地址

重庆川仪调节阀有限公司

重庆市北碚区龙凤一村

生产企业名称、地址

重庆川仪调节阀有限公司

重庆市北碚区蔡家岗镇蔡和路 879 号

产品商标

产品名称和系列、型号、规格

气动直行程活塞式执行机构 HVabcde

认证依据标准

IEC 61508-1:2010、IEC 61508-2:2010

上述产品符合下述自愿性产品认证实施规则的要求：

SITIIAS-RJ03-02 B/2《功能安全产品认证实施规则》，

特发此证。

产品相关信息详见附件。

认证模式

功能安全评估+初始工厂检查+获证后监督

发证日期：2025 年 09 月 28 日 **有效期至：**2030 年 09 月 27 日

首次发证日期：2025 年 09 月 28 日

本证书在有效期内的有效性依据发证机构监督的符合结果予以保持，
本证书的具体信息可通过发证机构官方网站查询。

批准人：_____ **日期：**2025 年 09 月 28 日

上海仪器仪表自控系统检验测试所有限公司

地址：中国•上海上海市漕宝路 103 号邮编：200233

电话：021-64518419 网址：www.sitiias.com.cn

功能安全产品认证证书附件

证书编号：CS2025PV17020108000090

产品名称： 气动直行程活塞式执行机构　　**型号规格：** HVabcde

描　　述： HVabcde气动直行程活塞式执行机构：
产品覆盖范围详见下表：

HVabcde 气动直行程活塞式执行机构型号覆盖范围

HVabcde	选项
HV 代表气动直行程活塞式执行机构系列	/
ab 代表规格大小，不同规格表示不同的气缸直径	21、31、41、51、61、71、81
c 代表执行机构可以分为双作用、单作用	D：双作用；S：单作用
d 代表作用方式，分为双作用、故障关、故障开	0：双作用；R：单作用故障关； D：单作用故障开
e 代表弹簧范围	0：双作用无弹簧； 5：单作用，弹簧范围 190~300KPa

安全功能：
单作用气动执行机构安全功能：由弹簧力实现的使阀门失气-关或失气-开功能。
双作用气动执行机构安全功能：由气动实现的使阀门关或开功能。

依据标准： IEC 61508-1: 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General Requirements
IEC 61508-2: 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic /programmable electronic safety-related systems

本页为证书附件，应与证书主页同时使用。

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功能安全产品认证证书附件

证书编号：CS2025PV17020108000090

产品名称： 气动直行程活塞式执行机构 **型号规格：** HVabcde

安全完整性等级（SIL）： 根据 IEC 61508:2010，硬件安全完整性等级确定采用路径 2_H 的方法，HVabcde 气动直行程活塞式执行机构属于 A 类安全相关组件（Type A），在低要求操作模式下，其 HFT(硬件故障裕度)=0 时，安全完整性等级达到 SIL 2。其 HFT=1 时，安全完整性等级可达到 SIL 3。

型号规格	HVabcde（单作用）	HVabcde（双作用）
λ_S	0.0	0.0
λ_{DU}	296.5	263.2
λ_{DD}	0.0	0.0
PFD_{avg}（T1=1Y）	1.30E-03	1.15E-03
SIL（HFT=0）	SIL2	SIL2
SIL（HFT=1）	SIL3	SIL3
说明：失效率的单位为 FIT, $1FIT=1\times10^{-9}/h$		

其他说明： 用户需按安全手册的要求对产品进行安装、使用、定期检查和维护。

备注：

1. 编号为 2025SPV16020108-000300 报告是本证书的支持文件。本证书仅对与认证文件和样品一致的产品有效。认证文件等由 SITIIAS 保存。

本页为证书附件，应与证书主页同时使用。

上海仪器仪表自控系统检验测试所有限公司

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电话：021-64518419 网址：www.sitiias.com.cn

FUNCTIONAL SAFETY PRODUCT CERTIFICATE

No.: CS2025PV17020108000090

NAME AND ADDRESS OF THE APPLICANT

Chongqing Chuanyi Control Valve Co.,Ltd

Longfengyi Village, Beibei District, Chongqing

NAME AND ADDRESS OF THE MANUFACTURER

Chongqing Chuanyi Control Valve Co.,Ltd

Longfeng one Village, Beibei District, Chongqing

NAME AND ADDRESS OF THE FACTORY

Chongqing Chuanyi Control Valve Co.,Ltd

No.879 Caihe Rd.,Caijiagang Town

PRODUCT TRADEMARK

NAME, MODEL AND SPECIFICATON

Linear Motion Pneumatic Piston Actuator HVabcde

THE STANDARDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS

IEC 61508-1:2010、IEC 61508-2:2010

This is to certify that the products mentioned above have met the requirement of certification rules:

SITIIAS-RJ03-02 B/2: Implemented rules for certification of functional safety products

Product information detailed in the attachment.

CERTIFICATION MODE

Functional safety assessment + Initial industry inspection + Supervision after obtaining the certificate

Date of Issued: September. 28, 2025 **Date of expiry:** September. 27, 2030

Date of original certification: September. 28, 2025

Validity of this certificate is subject to positive result of the regular follow up inspection by issuing certification body until the expiry date.The specific information of this certificate can be inquired through the official website of the issuing authority.

Authorized by : _____ **Date :** September. 28, 2025

Shanghai Inspection and Testing Institute of Instrumentation and Automation Systems Co.,Ltd.

Address: 103 Caobao Road Shanghai, P.R. of China, 200233

Tel: 86 21 64518419 Website: www.sitiias.com.cn

FUNCTIONAL SAFETY PRODUCT CERTIFICATE ANNEX

No.: CS2025PV17020108000090

Product: Linear Motion Pneumatic Piston Actuator **Model:** HVabcde

Description: HVabcde Linear Motion Pneumatic Piston Actuator:

The coverage scope of product is detailed in the table below:

HVabcde Linear Motion Pneumatic Piston Actuator Model Coverage

HVabcde	Option
HV stands for Linear Motion Pneumatic Piston Actuator Series	/
ab stands for actuator size, and different sizes correspond to different cylinder diameters	21、31、41、51、61、71、81
c indicates that the actuator can be classified as Double-Acting or Single-Acting	D: Double acting; S: Single acting
d stands for air failure action, which can be classified as Double-Acting, Fail closed and Fail open.	0: Double acting; R: Single acting with spring return for Fail-close; D: Single acting with spring return for Fail-open
e stands for spring range	0: Double-acting (springless); 5: Single-acting with spring range 190~300 kPa

Safety function:

Spring return actuator safety function: The valve is closed or opened by spring force.

Double acting actuator safety function: The valve is closed or opened by pneumatic.

Standards : IEC 61508-1: 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General Requirements

IEC 61508-2: 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems

This attachment shall be used together with the certificate itself.

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FUNCTIONAL SAFETY PRODUCT CERTIFICATE ANNEX

No.: CS2025PV17020108000090

Product: Linear Motion Pneumatic Piston Actuator **Model:** HVabcde

Safety Integrity Level (SIL): According to IEC 61508: 2010, the hardware safety integrity level is determined via route 2_H. HVabcde Linear Motion Pneumatic Piston Actuator belongs to Type A safety related elements. In low demand operation mode, the safety integrity level reaches SIL 2 with its HFT (Hardware Fault Tolerance) = 0, and the safety integrity level reaches SIL 3 with its HFT = 1.

Model	HV(single-acting)	HV(double-acting)
λ_S	0.0	0.0
λ_{DU}	296.5	263.2
λ_{DD}	0.0	0.0
PFDavg(T_1=1Y)	1.30E-03	1.15E-03
SIL(HFT=0)	SIL2	SIL2
SIL(HFT=1)	SIL3	SIL3
Note: The failure rate unit is FIT, 1FIT=10^{-9}/h.		

Specification: Proof test and routine inspection should be performed according to Safety Manual.

Note:

1. Test Report Numbered 2025SPV16020108-000300 is the supporting document of this certificate. This certificate is valid only for products that are consistent with the certification documents and samples approved by SITIIAS. The documents are kept by SITIIAS.

This attachment shall be used together with the certificate itself.

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