



ATTESTAZIONE DI VERIFICA DELLA CONFORMITÀ CONFORMITY VERIFICATION STATEMENT

cert n. SIL-20240321-1542

in accordo all'ultimo calcolo SIL eseguito all'azienda di seguito riportata
according with the latest SIL calculation performed by the company below

GHIBSON ITALIA S.r.l.
Via Dozza, 2 40069 Zola Predosa (BO) Italy

Verifica effettuata secondo i requisiti sotto riportati
Verification done according to the below requirements

IEC 61508:2010

Parti 1-7 - Sicurezza funzionale dei sistemi di sicurezza elettrici / elettronici / elettronici programmabili
Parts 1-7 - Functional safety of electrical/electronic/programmable electronic safety-related systems

per la seguente attività:
for the following activities:

Conformità di valvole a farfalla | tipo HD - TT - KI, KA, KX, PD (rif. Report n° 81747-1-R rev.00)
Compliance of butterfly valves | types HD - TT - KI, KA, KX, PD (ref. Report n° 81747-1-R rev.00)

Data di Prima Emissione
1st issue date

21-03-2024

Data di Emissione
Issue date

21-03-2024

Data di scadenza
Expiring date

20-03-2027

La presente certificazione è emessa e mantenuta a seguito di audit condotti presso l'organizzazione con il criterio campionamento in accordo alla ISO/IEC 17021:2015 e pertanto non esclude la possibilità di situazioni non conformi alla norma volontaria o alle leggi cogenti applicabili, per cui EUROCERTIFICATIONS SRL declina ogni responsabilità. La sua validità è subordinata a sorveglianza periodica e al riesame completo del sistema di gestione con periodicità prefissata. Per chiarimenti sui dettagli relativi allo scopo della certificazione, ai requisiti applicabili, ai processi affidati in outsourcing ed alle limitazioni del campo di applicazione, riferirsi al Sistema di Gestione dell'Organizzazione. | This certification is issued and maintained following audits conducted at the organization with the sampling criterion in accordance with ISO / IEC 17021: 2015 and therefore does not exclude the possibility of situations that do not comply with the voluntary standard or with the applicable mandatory laws, therefore EUROCERTIFICATIONS SRL declines all responsibility. Its validity is subject to periodic surveillance and a complete review of the management system with a pre-established periodicity. For clarification on the details relating to the purpose of certification, the applicable requirements, the outsourced processes and the limitations of the scope, refer to the Organization's Management System.

Per informazioni puntuali e aggiornate circa eventuali variazioni intervenute nello stato della certificazione o nelle attività di cui al presente certificato, si prega di contattare:
numero: + 39 0354997726 o all'indirizzo e-mail: info@eurocertifications.it
For further and updated information about this certificate please contact:
phone: +39 0354997726 or the e-mail: info@eurocertifications.it

Eleonora Angioletti

Procuratore Speciale
Legal Representative



EUROCERTIFICATIONS S.r.l. (P.IVA: 04336060167)
Sede Legale: e Uffici Operativi: via Puccini, 1 - 24040 - Madone (BG)
ufficio: 035 4997726 | e-mail: info@eurocertifications.it | website: www.eurocertifications.it





SIL ANNEX

TECHNICAL STATEMENT

manufacturer:

GHIBSON ITALIA S.r.l.

Via Dozza, 2 - 40069 Zola Predosa, Bologna (BO) – Italy

referring to product(s):

Description	INDUSTRIAL BUTTERFLY VALVES
Types	1. Series HD 2. Series TT 3. Series KI, KA, KX, PD
Safety Function	When an unsafe condition is detected, the controller (outside the subsystem) drives the actuator to close (open) the valve.
Test Result	The devices of the above mentioned are suitable for use in safety related systems as a single safety related subsystem according to IEC 61508-1/7:2010 for up to and including SIL 3 and the hardware meets the requirements of IEC 61508. For detailed results see test report n° 81747-1-R rev. 00 of 21/3/2024

Page 1 of 4

Certificate issue: 21/03/2024
Valid Until: 20/03/2027
N° of certificate registration: SIL-20240321-1542

EUROCERTIFICATIONS S.R.L.
EUROCERTIFICATIONS S.R.L.
Sede Legale e Operativa:
Via Puccini, 1 - Madone (BG) 24040
P.IVA / C.F.: IT04336060167





		PFD estimation					
		Test Interval frequency (months)					
		6	12	24	36	48	
Butterfly Valves HD	Partial Stroke frequency (months)	1	1,8619E-04	3,7035E-04	7,3869E-04	1,1070E-03	1,4754E-03
		2	1,8619E-04	3,7035E-04	7,3869E-04	1,1070E-03	1,4754E-03
		3	1,8619E-04	3,7035E-04	7,3869E-04	1,1070E-03	1,4754E-03
		6		3,7035E-04	7,3869E-04	1,1070E-03	1,4754E-03
		12			7,3869E-04	1,1070E-03	1,4754E-03
λ_{DD}	-						
λ_{DU}	8,4095E-08						
λ_{NE}	7,0079E-09						
λ_{TOT}	8,4095E-08						
MRT	24h						
MTTR	48h						
β and β_D factor	0,1						
SFF	>90%						
PFH $\geq 10^{-8}$ to $< 10^{-7}$							
		Test Interval frequency (months)					
		6	12	24	36	48	
Partial Stroke frequency (months)	1	SIL3	SIL3	SIL3	SIL2	SIL2	
	2	SIL3	SIL3	SIL3	SIL2	SIL2	
	3	SIL3	SIL3	SIL3	SIL2	SIL2	
	6		SIL3	SIL3	SIL2	SIL2	
	12			SIL3	SIL2	SIL2	
		Test Interval frequency (months)					
		6	12	24	36	48	
NO Partial Stroke Test		SIL3	SIL3	SIL3	SIL2	SIL2	

Certificate issue: 21/03/2024
 Valud Until: 20/03/2027
 N° of certificate registration: SIL-20240321-1542

EUROCERTIFICATIONS S.R.L.
 EUROCERTIFICATIONS S.R.L.
 Sede Legale e Operativa:
 Via Puccini, 1 - Madone (BG) 24040
 P.IVA / C.F.: IT04336060167





	Butterfly Valves TT	PFD estimation					
		Test Interval frequency (months)					
			6	12	24	36	48
Partial Stroke frequency (months)		1	6,7700E-05	1,1455E-04	2,0824E-04	3,0193E-04	3,9562E-04
		2	8,6785E-05	1,3363E-04	2,2732E-04	3,2101E-04	4,1471E-04
	3	1,0587E-04	1,5272E-04	2,4641E-04	3,4010E-04	4,3379E-04	
	6		2,0997E-04	3,0366E-04	3,9736E-04	4,9105E-04	
λ_{DD}	5,2289E-08						
λ_{DU}	2,1391E-08						
λ_S	1,6637E-07	Test Interval frequency (months)					
		6	12	24	36	48	
λ_{TOT}	2,4005E-07	NO Partial Stroke Test	1,6136E-04	3,2272E-04	6,4543E-04	9,6815E-04	1,2909E-03
MRT	24h	Test Interval frequency (months)					
		6	12	24	36	48	
Partial Stroke frequency (months)	1	SIL3	SIL3	SIL3	SIL3	SIL3	
	2	SIL3	SIL3	SIL3	SIL3	SIL3	
	3	SIL3	SIL3	SIL3	SIL3	SIL3	
	6		SIL3	SIL3	SIL3	SIL3	
	12			SIL3	SIL3	SIL3	
MTTR	48h	Test Interval frequency (months)					
		6	12	24	36	48	
β and β_D factor	0,1	NO Partial Stroke Test	SIL3	SIL3	SIL3	SIL3	
SFF	>90%	Test Interval frequency (months)					
		6	12	24	36	48	
PFH $\geq 10^{-7}$ to $< 10^{-6}$		NO Partial Stroke Test	SIL3	SIL3	SIL3	SIL3	

Certificate issue: 21/03/2024
 Valud Until: 20/03/2027
 N° of certificate registration: SIL-20240321-1542

EUROCERTIFICATIONS S.R.L.
 EUROCERTIFICATIONS S.R.L.
 Sede Legale e Operativa:
 Via Puccini, 1 - Madone (BG) 24040
 P.IVA / C.F.: IT04336060167





	Butterfly Valves KI, KA, KX, PD	PFD estimation						
		Test Interval frequency (months)						
		6	12	24	36	48		
λ_{DD}	3,4250E-08	Partial Stroke frequency (months)	1	4,3515E-05	7,3380E-05	1,3311E-04	1,9284E-04	2,5257E-04
			2	5,6017E-05	8,5881E-05	1,4561E-04	2,0534E-04	2,6507E-04
			3	6,8518E-05	9,8383E-05	1,5811E-04	2,1784E-04	2,7757E-04
			6		1,3589E-04	1,9562E-04	2,5534E-04	3,1507E-04
			12			2,7062E-04	3,3035E-04	3,9008E-04
		Test Interval frequency (months)						
		6	12	24	36	48		
λ_{DU}	1,3637E-08	NO Partial Stroke Test	1,0487E-04	2,0975E-04	4,1949E-04	6,2924E-04	8,3898E-04	
		Test Interval frequency (months)						
		6	12	24	36	48		
λ_S	1,2812E-07	Partial Stroke frequency (months)	1	SIL3	SIL3	SIL3	SIL3	SIL3
			2	SIL3	SIL3	SIL3	SIL3	SIL3
			3	SIL3	SIL3	SIL3	SIL3	SIL3
			6		SIL3	SIL3	SIL3	SIL3
			12			SIL3	SIL3	SIL3
		Test Interval frequency (months)						
		6	12	24	36	48		
λ_{TOT}	1,7601E-07	NO Partial Stroke Test	SIL3	SIL3	SIL3	SIL3	SIL3	
		Test Interval frequency (months)						
		6	12	24	36	48		
MRT	24h							
MTTR	48h							
β and β_D factor	0,1							
SFF	>90%							
PFH $\geq 10^{-7}$ to $< 10^{-6}$								

Certificate issue: 21/03/2024
 Valud Until: 20/03/2027
 N° of certificate registration: SIL-20240321-1542

EUROCERTIFICATIONS S.R.L.
 EUROCERTIFICATIONS S.R.L.
 Sede Legale e Operativa:
 Via Puccini, 1 - Madone (BG) 24040
 P.IVA / C.F.: IT04336060167

