



**Certificate of Conformity to IEC 61508  
Safety Integrity Level (SIL)**

***Functional Safety of Safety-Related Programmable Electronic Systems***

**Finlaggan T35342-V Valve & Local Control Panel (LCP) Assembly**

The Finlaggan valve T35342-V and LCP assembly has been assessed for its ability to move to the designated safe state within the specified time in a low demand application.

The safe state is defined as 'valve is in the closed position'. Based on the assumptions, data provided, and recommendations given in ESC Ltd report: H211\_FM001 rev. 1 (see section 9.1 and 9.2), the assessed devices achieved the following results:

- Dangerous Undetected Failure Rate,  $\lambda_{DU}$  (/hr) = 1.1E-06;
- Safe Failure Rate,  $\lambda_S$  (/hr) = 6.1E-06.

Valve Model (Configuration)	Proof Test Coverage (PTC)	Proof Test Interval (hrs)	PFD Achieved	Achieved SIL (20% PFD band)	Type	Achieved SIL Architecture	SIL Capability (PFD & Architecture)
T35342-V (HFT=0)	100%	8760	4.9E-03	1	A	2	1
T35342-V (HFT=0)	100%	2920	1.6E-03	2	A	2	2
T35342-V (HFT=1)	100%	8760	5.2E-04	2	A	3	2

The assessment was carried out to determine compliance with IEC 61508 with regards to:

- Random Hardware Failures (Predicted Probability of Failure on Demand), based on a 1 year proof test;
- Architectural Constraints, with an achieved SFF between 60%-90%.

Note 1: The sensing, logic solver and remaining final element subsystems have been excluded for the analysis and subsequently 80% of the SIL band has been allocated for their inclusion.

Managing Director: Kenneth G L Simpson  
Member of IEC 61508 Maintenance Committee  
Assessment Date: April 2019, valid to April 2021  
Certificate: H211\_CT001 rev. 1

**ENGINEERING SAFETY CONSULTANTS LTD**  
is ISO9001-certified by Global Group, itself a  
UKAS-accredited ISO9001 certification  
body

Reg: 12Q12086

**ENGINEERING SAFETY CONSULTANTS LTD**  
Tuition House  
27-37 St George's Road Wimbledon London SW19 4EU UK  
Telephone/Fax: +44 (0)20 8542 2807  
E-Mail: [info@esc.uk.net](mailto:info@esc.uk.net) Web: [www.esc.uk.net](http://www.esc.uk.net)  
Registered in England and Wales: 7006868  
Registered Office: 27-37 St George's Road Wimbledon London SW19 4EU