



C E R T I F I C A T E

Certificate no. 17-SIL-0010008-15-TIC

WE HEREBY CERTIFY THAT

Product description GAS-HYDRAULIC DOUBLE ACTING ACTUATORS

Models SERIES GPO

Manufacturer BIFFI ITALIA S.r.l.
Strada Biffi 165 – 29017 Fiorenzuola d'Arda PC

IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE STANDARDS

IEC 61508 Parts 1–7:2010

AS RESULT OF THE ASSESSMENT ACCORDING TO THE PROVISION
SET OUT IN THE ABOVE-MENTIONED STANDARDS

Summary Report no. RC-0718-54-SIL-TIC-PC-0010008-17-21

Expiry date 02.08.2021

Note

This certificate is issued upon the request of the manufacturer as voluntary certification; it does not include the production surveillance.
This certificate does not allow the manufacturer to use the safety mark of TÜV INTERCERT.



Reggio Emilia, 03.08.2018


Dip. Ing. Feridoon Sergizzarea

TÜV INTERCERT Certification Body



C E R T I F I C A T E

ANNEX to Certificate no. 17-SIL-0010008-15-TIC

| | |
|-------------------|---|
| Type | A |
| HFT | 0 |
| Safety functions | 1. Delivery of a full stroke (90° ± tolerance) driven by the piston of cylinder, powered by the specified medium working pressure |
| Mode of operation | Low Demand Mode |

| Random failure rates | | | | |
|----------------------|-----------------|----------------------|----------------------|-------------------|
| Configuration | Safety function | λ_{DU} [1/h] | λ_{DD} [1/h] | λ_S [1/h] |
| GPO - No PST | 1 | 3,32E-08 | 0,00E+00 | 0,00E+00 |
| GPO - With PST | 1 | 2,99E-09 | 3,02E-08 | 0,00E+00 |

| | | | | |
|---------------------------|--|---------|------------------------|---------|
| Systematic capability | 3 (Route 1 _s applied) | | | |
| Architectural constraints | Route 1 _H : | Applied | Route 2 _H : | Applied |
| | The product can be used in: <ul style="list-style-type: none"> • single channel configuration: <ul style="list-style-type: none"> ○ up to SIL 2 without external diagnostic tests ○ up to SIL 3 considering external diagnostic tests • double channel configuration: up to SIL 3 | | | |

Remarks:

- For further details, including environmental conditions, limitations of use, lifetime, failure rates traceability, mean repair times, common cause factors and systematic capability constraints, make reference to Safety Manual SM 014.

END OF CERTIFICATE

Reggio Emilia, 03.08.2018


 Dip. Ing. Feridoon Sergizzarea
 TÜV INTERCERT Certification Body