



# C E R T I F I C A T E

**Certificate no. 17-SIL-0010008-28-TIC**

WE HEREBY CERTIFY THAT

*Product description*

**HYDRAULIC RACK AND PINION DOUBLE ACTING ACTUATORS**

*Models*

**SERIES RPHD**

*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-0419-SIL-TIC-PC-0010008-17-17**

*Expiry date*

**25.04.2022**

**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, 26.04.2019



  
Dipl. Ing. Feridoon Sergizzarea

TÜV INTERCERT Certification Body



# C E R T I F I C A T E

## ANNEX to Certificate no. 17-SIL-0010008-28-TIC

<b>Type</b>	A
<b>HFT</b>	0
<b>Safety functions</b>	1. Delivery of a full stroke ( $\pm$ tolerance) driven by the piston of cylinder, powered by the specified medium working pressure
<b>Mode of operation</b>	Low Demand Mode

Random failure rates				
Configuration	Safety function	$\lambda_{DU}$ [1/h]	$\lambda_{DD}$ [1/h]	$\lambda_S$ [1/h]
RPHD - No PST	1	4,94E-08	0,00E+00	0,00E+00
RPHD - With PST	1	4,44E-09	4,49E-08	0,00E+00

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

**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 017.

END OF CERTIFICATE

Reggio Emilia, 26.04.2019

  
 Dipl. Ing. Feridoon Sergizzarea  
 TÜV INTERCERT Certification Body