

Certificate of Conformity No.: 28714274

Manufacturer: Servovalve S.p.A.
Via Quasimodo, 25/27
I-20010 S. Stefano Ticino (MI)

Specifications: IEC 61508-1+7:2010

Product: Single Acting Rack-Pinion Hydraulic Actuator

Type: Series RHM

RESULT:

As per the TÜV Rheinland Italia Report No. FS 28714274 Rev. 0 we declare that the product meets the below requirements:

IEC 61508: 2010, part 1 to 7

Functional Safety of electrical/electronic/programmable electronic safety related systems; Type A, Low Demand Mode, HFT=0

Series	λ_D [1/h]	$\lambda_{DD(PS)}$ [1/h]	Systematic Capability
RHM	3,90E-08	3,55E-08	3

The above values are compatible with SIL 3.

For SFF values with external diagnostic tests, carried out according to definition 3.8.7 of IEC 61508-4, see what written in the Safety Manual.

The requirements of minimum hardware fault tolerance (HFT) according to table 6 of IEC 61511-1 have to be observed.

Expiry date: **2017-12-31**

Location: **Milan**

Date: **2014-12-01**

**Attachment 1 to
Certificate of Conformity No.: 28714274**



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Specifications: IEC 61508-1+7:2010

Equipment: Single Acting Rack-Pinion Hydraulic Actuator

Type: Series RHM

		Test Interval Frequency (months)				
		6	12	24	36	48
Partial Stroke frequency (months)	1	2,16E-05	2,93E-05	4,47E-05	6,01E-05	7,54E-05
	2	3,46E-05	4,22E-05	5,76E-05	7,30E-05	8,84E-05
	3	4,75E-05	5,52E-05	7,06E-05	8,60E-05	1,01E-04
	6		9,41E-05	1,09E-04	1,25E-04	1,40E-04
	9				1,64E-04	
	12			1,87E-04	2,03E-04	2,18E-04

PFD_{AVG} values according to IEC 61508 for different values of TI and TI_{PS}

Test Interval Frequency (months)				
6	12	24	36	48
8,64E-05	1,72E-04	3,43E-04	5,14E-04	6,85E-04

PFD_{AVG} values according to IEC 61508 for different values of TI (no Partial Stroke Test)

NOTES:

- The above values of PFD_{AVG} are calculated for MRT=24 h and Proof Test Coverage=100%. For other values of MRT, TI, TI_{PS} and/or non-perfect Proof Test, the PFD_{AVG} values must be re-calculated.
- The PFD_{AVG} values including Partial Stroke Test are calculated considering the use of a commercial automatic Partial Stroking Test System: for further details, see the Safety Manual.

Location: Milan

Date: 2014-12-01

TÜV Rheinland Italia S.r.l.
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