

Functional Safety Data

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| Manufacturer | Rotork Fluid System S.r.l. Via del Casalino, 6 I-55012 Tassignano (LU) |
| Product | Pneumatic Actuator |
| Model / Series | GP |
| Application | designed to be used in a Safety Instrumented System for use in low demand application (Emergency Shut Down / Emergency Blow Down) |
| Reference Report | RWTÜV Assessment Report No. 278J06001/A |

FUNCTIONAL SAFETY DATA

Reference Standard IEC 61508:2000, part 1 to 7
Functional Safety of electrical/electronic/programmable electronic safety related systems

Type A
Hardware Fault Tolerance 0
Mode Low Demand

| λ_d [1/h] | λ_s [1/h] | $\lambda_{dd(ps)}$ [1/h] | SFF (Partial Stroke Test) | SFF (No Partial Stroke Test) |
|----------------------|----------------------|--------------------------|------------------------------|---------------------------------|
| $2,17 \cdot 10^{-8}$ | $2,17 \cdot 10^{-7}$ | $1,62 \cdot 10^{-8}$ | 97,7 % | 90,9 % |

$$PFD_{AVG} = 3,02 \cdot 10^{-5}$$

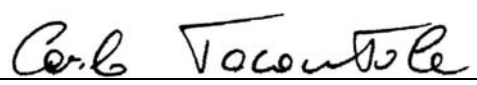
(for TI (Test Interval) = 1 year; TI_{PS} (Test Interval Partial Stroke) = 1 month)

See RWTÜV Assessment Report No. 278J06001/A for complete tables of results.

As per these values, based on RWTÜV Assessment Report No. 278J06001/A in the valid version, the Rotork Pneumatic Actuators Series GP can be used up to SIL 3 as a single device.

A user of the Rotork Pneumatic Actuators Series GP can utilize these failure rates in a probabilistic model of a Safety Instrumented Function (SIF) to determine suitability in part for Safety Instrumented System (SIS) usage in a particular Safety Integrity Level (SIL).

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