



# Functional Safety Data

Manufacturer Rotork Fluid Systems 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 TÜV NORD 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

$\lambda_d$ [1/h]	$\lambda_s$ [1/h]	$\lambda_{dd(ps)}$ [1/h]	SFF (Partial Stroke Test)	SFF (No Partial Stroke Test)
$1,45 \cdot 10^{-8}$	$1,45 \cdot 10^{-7}$	$1,09 \cdot 10^{-8}$	97,7 %	90,9 %

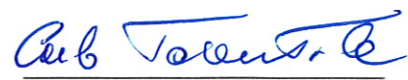
$$PFD_{AVG} = 2,02 \cdot 10^{-5}$$

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

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

As per these values, based on TÜV NORD 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).

Date 2007-10-03

  
Carlo Tarantola