

## Rotork fluid power actuator special condition of use



The actuator is suitable for use as a Category 2 device for Zone 1/21 and Zone 2/22. The Type of Protection used is: constructional safety "c".

In the following are reported specific conditions of use and warnings for hazardous zones:

1. Verify the Hazardous classification of the actuator is compatible with the plant zoning. Refer to the actuator nameplate.
2. Do not use the equipment outside its operating limits. Verify operating limits on the nameplate and in the specific technical documentation.
3. The operating medium shall be hydraulic oil ISO 4406 class 16/14/11 or, if applicable, sweet GAS, Instrument air with particles filtering  $\leq 40 \mu\text{m}$  (Class 7 according to ISO 8573-1, Table 1), pressure dew point  $\leq -20 \text{ }^\circ\text{C}$  ( $-4 \text{ }^\circ\text{F}$ ) or, to be at least,  $10 \text{ }^\circ\text{C}$  below the ambient temperature (Class 3 according to ISO 8573-1, Table 2), total concentration of oil  $\leq 5 \text{ mg/m}^3$  (Class 4, according to ISO 8573-1, Table 3) if not differently specified in the Installation, Commissioning and Maintenance Manual. If other medium is evaluated, contact Rotork to check the compatibility with the supply medium.
4. Equipment temperature class depends upon the environmental or exercise fluid temperature, actuator has no internal heat source. The actuator surface temperature is strictly dependent on the temperature of the process fluid used and by irradiation's conditions. The end user must check the surface temperature of the assembly, so that this cannot go over the minimum gas ignition temperature, which classifies the area with the explosion risk. Dust and debris accumulated on the actuator will slow down its cooling and contribute to the increase of its external temperature; in presence of dust, equipment surface temperature must not exceed 2/3 of the ignition temperature of the dust. Dust ignition temperature is reduced by  $75 \text{ }^\circ\text{C}$  if a 5 mm thick coating builds up.
5. The Ex-label does not indicate the maximum environmental and/or exercise fluid temperature; this information is reported within the project specific technical documentation.
6. The end user must guarantee equal voltage potential between the valve and the actuator and provide appropriate grounding. The end user shall indicate and maintain the grounding connections on the actuator.
7. Prevent electrostatic charges in potentially explosive areas; do not polish/rub non-conductive surface with a dry cloth. Operators must wear suitable antistatic clothing and use tools that will not generate a static charge. The users must ensure the operating environment and any materials surrounding the actuator cannot lead to a reduction in the safe use of, or the protection afforded by, the actuator.
8. Avoid maintenance operations with acid/basic solutions.
9. Damage to the paintwork shall be repaired according to painting specification.
10. The end user shall assure that actuator and its components are installed far from magnetic fields, electromagnetic fields, radioactive sources, electrical sparks, lightning, electroacoustic transducer which could modify its behaviour.
11. When replacement parts are required, ensure that the qualified service technician uses only replacement parts specified by Rotork. Substitutions will invalidate any hazardous area certification and may result in fire, electrical shock, other hazards, or improper operation.
12. The actuator can be equipped with additional accessories. Use only devices supplied by Rotork. Installation of any accessory on the bare actuator must preserve the actuator ingress protection level.
13. If applicable, check the electrical components supply voltage, before start-up.
14. Access to live electrical conductors is forbidden in hazardous areas unless done under a special permit. Otherwise, all power supply must be isolated, and the unit moved to a non-hazardous area for repair.



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[www.rotork.com](http://www.rotork.com)

*Corporate Headquarters*  
Rotork plc

*tel* +44 (0)1225 733200  
*email* [mail@rotork.com](mailto:mail@rotork.com)



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