



### **Pneumatic rack and pinion actuator specifications.**

The actuator will be a dual rack and pinion design. The actuator body shall be manufactured from 6005T5 extruded aluminum alloy. The actuator body will be type II anodized to a 30 micron thickness after machining and then finished with powder epoxy coating RAL7035. The actuator pinion shall be electroless nickel plated, alloy steel. A105 Forged steel cam style travel stops shall be adjusted off the pinion and allow for 100 degrees of travel with +5 or -5 degrees of adjustment on the open and close stop. The pinion thrust bearing shall be of a design so as to limit friction between the actuator body and the pinion. The design shall increase durability by absorbing side load forces on the pinion O-Ring. A Two Tooth – Piston to pinion design shall incorporate 100% positive engagement through the entire stroke of the actuator allowing increased actuator strength, consistent torque and greater accuracy. The actuator pistons shall be manufactured from die cast aluminum designed specifically for use with the two tooth minimum pinion engagement. The pistons shall be finished with anodization. The actuator end caps shall be manufactured from die cast aluminum, powder epoxy coated RAL 9005. Actuator bearing materials shall be manufactured from low friction acetylic resin Delrin 500. All actuator piston and pinion O-Rings shall be manufactured from BUNA-N Nitrile rubber material. The piston bearings shall be manufactured from Bronze impregnated PTFE. The actuator will be assembled using EP Lithium type grease lubricant (MIL-G-23827B). The actuator shall have the capability of being field converted from double acting to spring return with no additional tooling required. The actuator shall have the same end to end dimensions for double acting and spring return models. Springs shall be of the full encapsulated design affixing of accessories and transmitting devices. The actuator pinion drive and mounting patterns shall be consistent with ISO 5211 standards. Accessory mounting pattern on the actuator body shall conform to NAMUR standards per VDI/VDE 3845. All actuators shall be fully traceable by an individual serial number permanently stamped on the body.

This Actuator shall be designated the UniTorq M-Series Actuator.

UniTorq warrants actuators for a period of two years from the original date of shipment to the customers, or 2 million cycles, whichever occurs first.