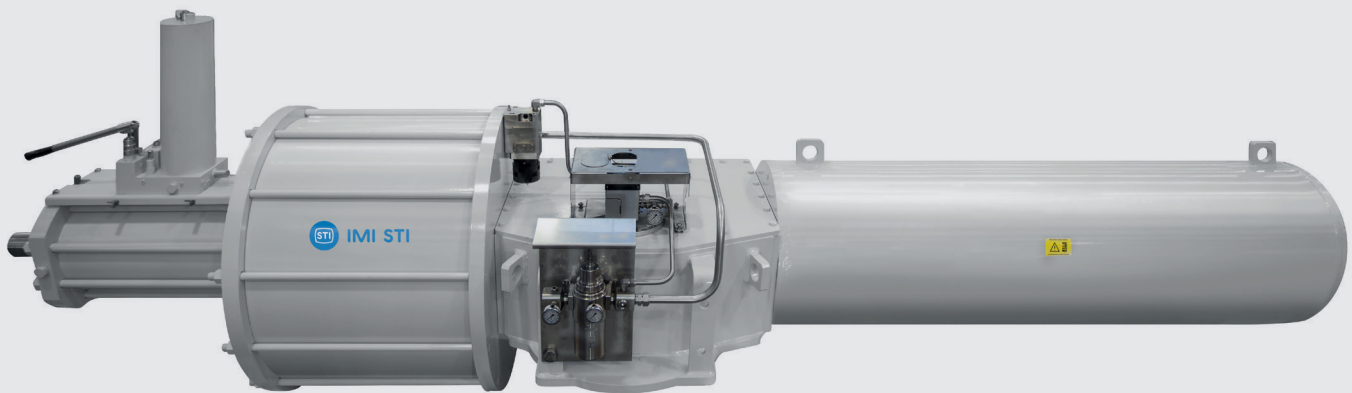


# Zero Backlash (ZB)



*Engineering  
GREAT Solutions*

**Scotch Yoke Mechanism  
for RT Series**

## New scotch yoke mechanism for modulating valve

Historically, quarter turn valves have been used almost exclusively for on-off applications. More recently however, the need for use in regulation processes is increasing.

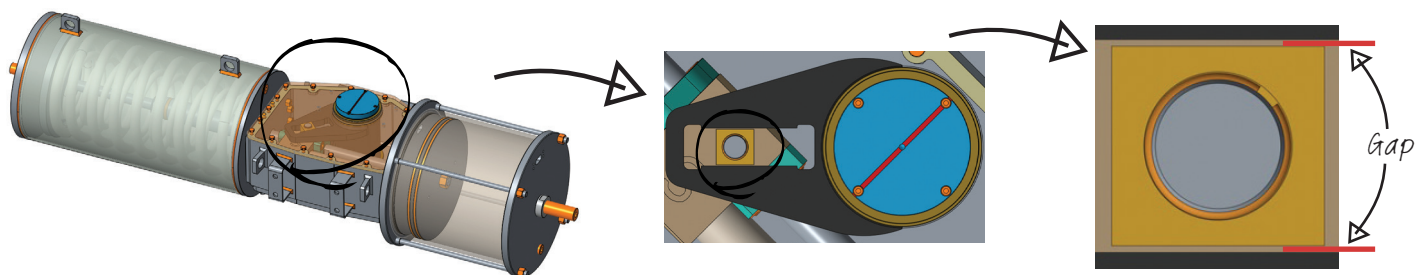
The majority of pneumatic and hydraulic actuators use scotch yoke technology to transform the linear piston movement into a rotary one. Gaps between the sliding block and the scotch yoke slot inevitably have a negative influence on both precision and the

functional dynamics (hysteresis, dead band, small step response, etc). Throughout the operating life of the actuator, this inaccuracy becomes permanent and will consistently worsen.

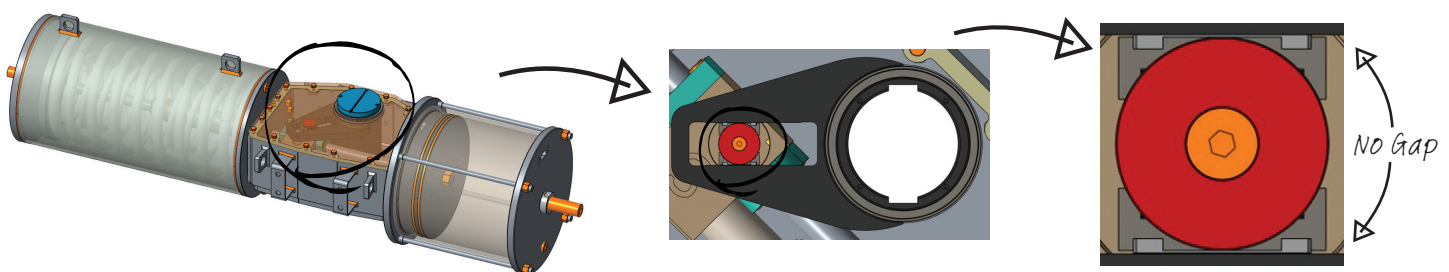
Our innovative Zero Backlash mechanism improves performance and solves the wearing-related gap between the sliding block and the scotch yoke slot, maintaining friction at similar levels to even the most established technology.

## Standard scotch yoke mechanism vs Zero Backlash system

### Standard



### Zero Backlash



## Why buy the quarter turn actuator with Zero Backlash system?

- > Avoid increase in dynamic and static friction
- > Avoid any possible unwanted movement between different parts
- > Allows automatic and continuous adaptations during actuator's operation
- > Position reliability of the ZB system is 400% times better than a standard mechanism
- > It is upgradable on all of IMI STI's quarter turn range
- > Patented technology
- > Available on the whole range of scotch yoke mechanisms

*Patented mechanism*

*Please contact us for more information at  
imisti.sales@imi-critical.com*