

# PRO CONTROL QUARTER TURN ACTUATORS

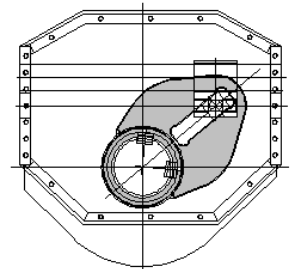
## Canted and symmetric Scotch yoke mechanism

The scotch yoke mechanism transforms the linear movement (thrust) of the piston into a 90 degrees rotation (torque). Pro Control actuators can be supplied with an inclined scotch yoke (canted) or a symmetric scotch yoke.

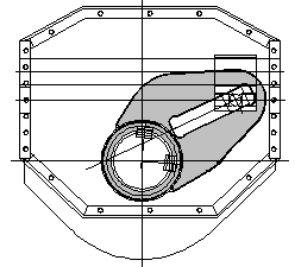
The **symmetric scotch yoke** is advantageous when the valve torque requirements are highest during the intermediate positions of the valves rotation (running). The whilst lowest during the intermediate position (running). The symmetric scotch yoke mechanism is normally used for plug.

The **canted scotch yoke** is advantageous when the valve torque requirements are highest at the beginning (valve unseating) and the end (valve reseating) of the valve 90° rotation, whilst lowest during the intermediate position (running). The canted scotch yoke mechanism covers most ball and butterfly valve torque requirements .

Symmetric yoke



Canted yoke



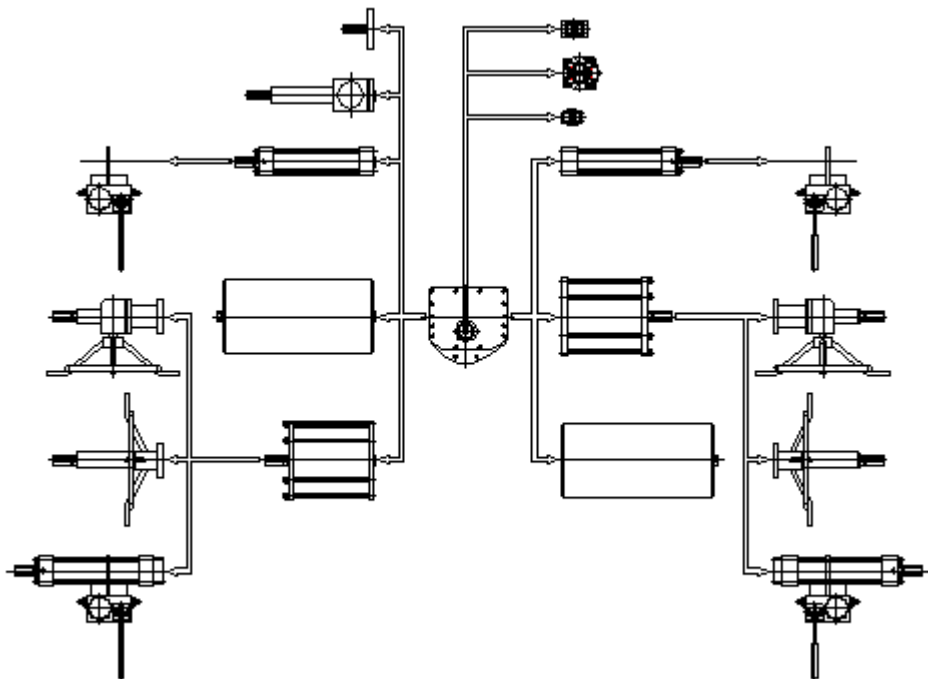
## PRO CONTROL - modular design construction

Pro Control SPS, SPD, SHS and SHD actuators all share a common construction philosophy.

Our current range of scotch yoke actuators consists of various center body sizes. The center bodies have been designed to accommodate the widest variety of pneumatic and hydraulic power cylinders together with the widest variety of spring containers.

The power cylinders can be assembled to either or both sides of the center body, and the spring containers can also be assembled onto either side of the center body thus allowing for the fail open or fail close emergency operation.

Our modular construction and stocking availability enables us to meet short deliveries



# PRO CONTROL QUARTER TURN ACTUATORS

## SPS & SPD Series heavy duty steel scotch yoke pneumatic actuators

Pro Control SPS & SPD series steel scotch yoke actuators have been specifically engineered and designed to suit the most demanding applications, the classical scotch yoke mechanism has proved to be the most reliable means of high torque transmission, transforming the linear movement of the piston into a 90° rotation, which suits ball, butterfly, plug and check valve operational requirements.

Pro Control has engineered and refined the following key features in order to provide our customers with uncompromising quality.

- Modular construction allowing for complete interchangeability
- Weatherproof housing fabricated from carbon steel ensures light weight and high strength
- 3D beacon position indicator which allows for positive visual indication even at a distance.
- Canted and Symmetric steel scotch yoke mechanism to suit most valve torque requirements.
- High strength alloy steel chromium plated transversal thrust reaction bar
- Pneumatic cylinder, polished with ENP internal coating ensures maximum protection against corrosion, and longer sealing life .
- Carbon steel piston supported by high strength alloy steel chromium plated piston rod ensure corrosion resistant durability.
- Fully encapsulated factory welded spring cartridge to ensure personnel safety and simplified assembly



- Alloy steel end stoppers externally protected by means of protection cap.
- Standard mounting pad to allow for control panel or weatherproof control cabinet assembly.
- Emergency manual override hand wheel or emergency hydraulic overrides available on request.




- Double and single acting actuators can be supplied with emergency air tanks in order to allow actuator operation in the event of power supply failure.
- Actuator and control system fire protection available on request

# PRO CONTROL QUARTER TURN ACTUATORS

## SHS & SHD Series heavy duty steel scotch yoke hydraulic actuators

Pro Control SHS & SHD series steel scotch yoke actuators are similar to the SPS & SPD range. Many components are interchangeable such as the center housing , yokes , guide block and spring cans, the only major difference being the hydraulic power cylinder .

Therefore the benefits of the SHS & SHD can also be summarized as follows :

- Modular construction allowing for complete interchangeability
  - Weatherproof housing fabricated from carbon steel ensures light weight and high strength
  - 3 D beacon position indicator which allows for positive visual indication even at a distance.
  - Canted and Symmetric steel scotch yoke mechanism to suit most valve torque requirements.
  - High strength alloy steel chromium plated thrust reaction bar
  - Hydraulic cylinder, polished with ENP internal coating ensures maximum protection against corrosion, and longer sealing life .
  - Electroless nickel plated Carbon steel piston supported by high strength alloy steel chromium plated piston rod ensure corrosion resistance.
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- Standard symmetrically drilled mounting pad to allow for multiple control panel orientation.
  - Alloy steel end stoppers externally protected by means of protection cap.
  - Emergency hydraulic manual override available on request.
  - Double and single acting actuators can be supplied with emergency accumulator tanks in order to allow actuator operation in the event of power supply failure.
  - Actuator and control system fire protection available on request