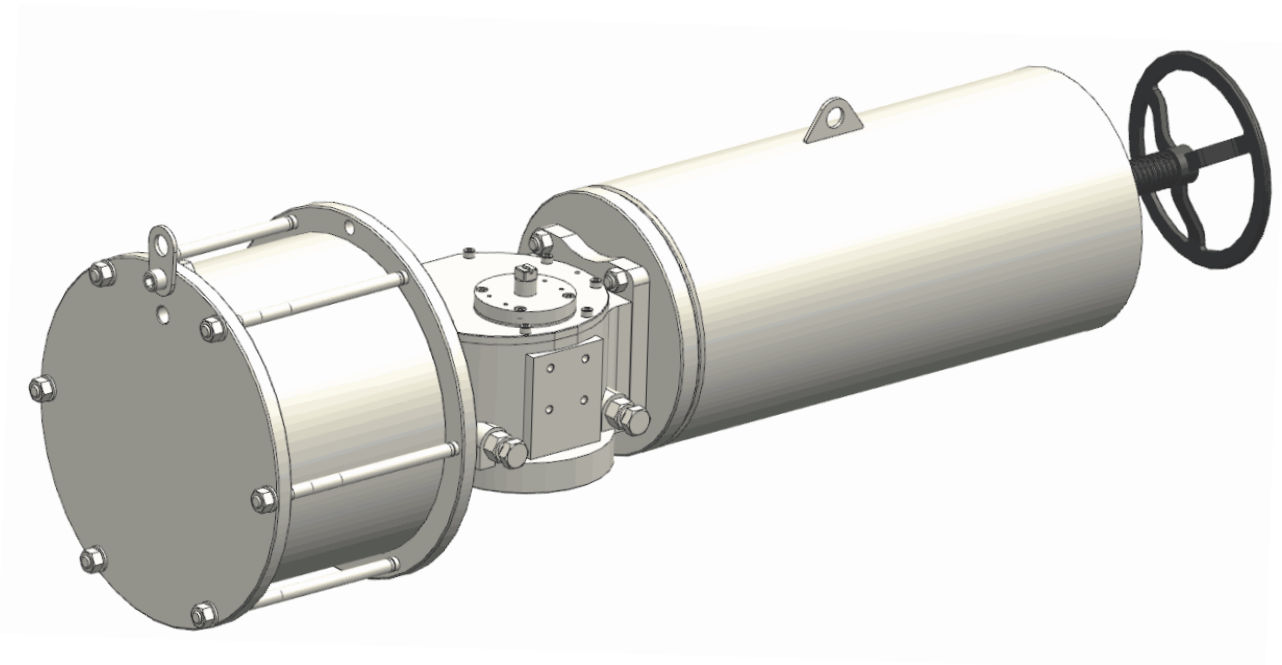




# ***USER INSTRUCTIONS***

ASY Series Scotch Yoke Pneumatic Actuators

*Installation*  
*Operation*  
*Maintenance*



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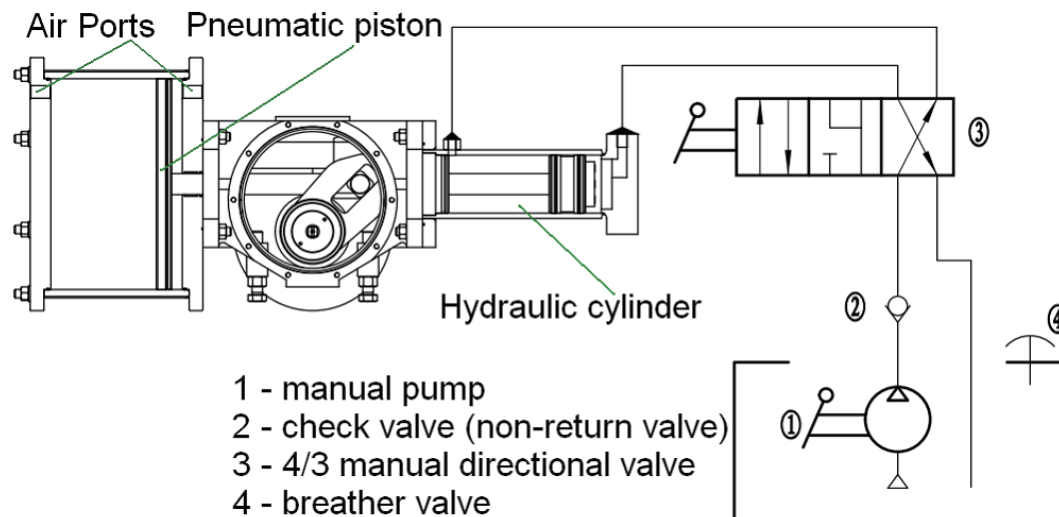
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### 5.2.1.2 Double Acting Hydraulic Override

As for ASY25 to ASY60 series actuators, the hydraulic override is available and is fitted to the end of centrebody directly. Below is the hydraulic configuration and the working principle.

**5.2.1.2.1** The double acting ASY hydraulic override device consisted of manual pump, hand shank, oil box, check valve, 3/4 manual directional valve and breather valve. Seeing the drawing below, this device can be integrated installation with actuator easily and is convenient operation and maintenance.



**5.2.1.2.2** Seeing the drawing above, when needed to operate the the actuator / valve by hydraulic override, the two air ports on each side of the pneumatic cylinder must be connected or open to air to sure no air pressure on the pneumatic piston.

**a) Closed to valve:** Switching the manual directional valve to right position (see above), operating the manul pump hand shank to charge the oil to the left oil port on the hydraulic cylinder through check valve (2), the actuator / valve will be closed manually.

**b) Open to valve:** Switching the manual directional valve to left position (see above), operating the manul pump hand shank to charge the oil to the right oil port on the hydraulic cylinder through check valve (2), the actuator / valve will be opened manually.

**c) Back to Automation:** Just switching the manual directional valve to middle position (see above) and the oil will flow into oil box totally.

## 5.2 Manual Operation

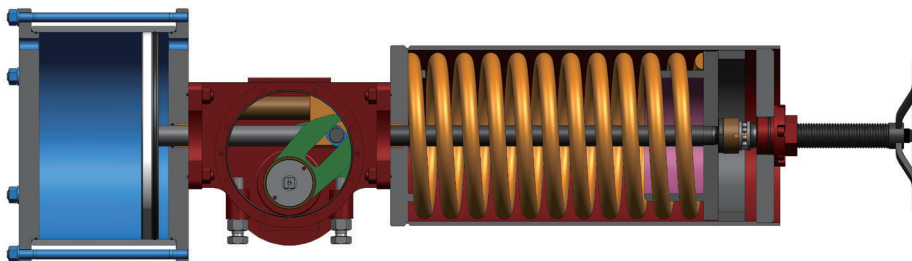
### 5.2.2 Spring Return Manual Operation

ASY series scotch yoke spring return pneumatic actuators are available to arm with hand wheel or hydraulic manual overrides to meet some special requirement, such as the assembly debugging in test run, emergency shut down in power failure and so on.

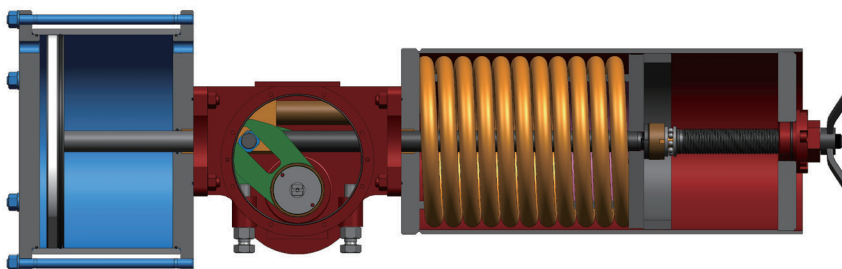
#### 5.2.2.1 Hand wheel Override(HW)

As for the size of ASY10-XX to ASY16-XX actuators, the hand wheel manual override is armed on side of the spring cartridge. Turning the hand wheel is easy to open or close the valve by hand. Below is the introduction of the operation.

**a) Open the valve by hand:** Turning the hand wheel (clockwise) to compress the spring and override the actuator and valve to open position.



**b) Close the valve by hand:** Turning the hand wheel (counterclockwise) to loosen the spring and the stored energy overriding the actuator to closed position.

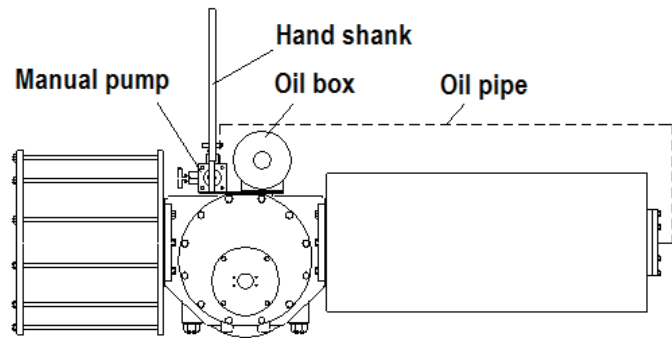


## 5.2 Manual Operation

### 5.2.2.2 Spring Redturn Hydraulic Override(HY)

As for ASY25 to ASY60 series actuators, the hydraulic overrides are available. Below is the hydraulic configuration and the working principle.

**5.2.2.2.1** The spring return ASY hydraulic override device consisted of manual pump, hand shank, oil box, check valve, globe valve and breather valve. Seeing the drawing right, this device can be integrated installation with actuator easily and is convenient operation and maintenance.



**5.2.2.2.2** Seeing the drawing below, you can find that the hydraulic cylinder is built inside of the spring cartridge. When needed to operate the the actuator / valve by hydraulic override, the two air ports on each side of the pneumatic cylinder must be connected or open to air to sure no air pressure on the pneumatic piston.

#### a) Open the actuator / valve:

Closed the globe valve (3), operating the manual pump hand shank to charge the oil to hydraulic cylinder through check valve (2).

#### b) Closing the actuator / valve:

Open the globe valve (3), the oil will flow into oil box from hydraulic cylinder.

**c) Back to Automation:** Just open the globe valve (see above) and the oil will flow into oil box totally.

