The global leader in customized valve automation

Quarter-Turn Hi-Pressure Direct Gas Actuator

The ATI Quarter-Turn Hi-Pressure Direct Gas valve actuator incorporates proven pipeline technology and is designed to operate using direct pipeline natural gas with pressures up to 1500 psi, providing torque outputs over 1 million inch-pounds. The unique design utilizes the best features of the traditional gas-over-oil actuator while solving some of the problem areas associated with these designs. The design is based on separate gas and hydraulic cylinders to provide simple, reliable, low maintenance actuation for pipeline valves.

Separate Gas Power and Hydraulic Override Systems

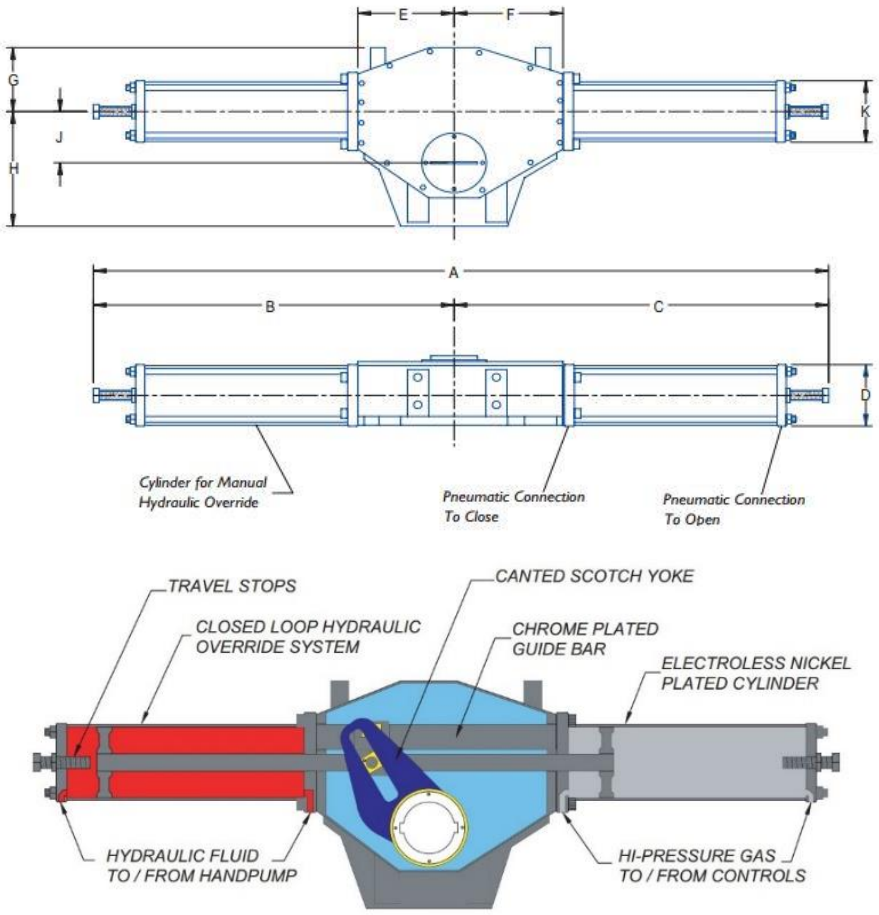
Utilizing separate cylinders for the high pressure power gas and the hydraulic hand pump eliminates the mixing of gas and oil, and therefore stops the release of oil to the atmosphere during valve operation. The ATI direct gas actuator utilizes 50% to 75% less natural gas during operation than the traditional gas-over oil system, primarily because there is no dead tank space to fill at the beginning of the actuator stroke. The completely sealed, closed-loop hydraulic system for the hand pump provides smooth, efficient operation. When pipeline pressure is not available, the hydraulic hand pump can be used to safely and reliably open and close the valve at its maximum torque requirement. Independently adjustable opening and closing speed controls are built into the hand pump module and are easily adjusted in the field without the need for special tools. This closed loop hydraulic circuit eliminates the costly maintenance process to regularly drain collected condensation from the gas/oil tanks, the costs of refilling tanks, the costs of spillage, and the problems associated with disposal of the used oil. In addition, this system utilizes 75% less on-board oil than a gas/oil system.

Canted Scotch Yoke Design

The canted scotch yoke mechanism provides high breakaway torque at the beginning of the stroke, which results in smaller cylinders and reduces cost and gas consumption. All ATI actuators that incorporate our proprietary pipeline technology utilize Teflon-impregnated, sintered bronze bushings on a heavily chrome-plated guide bar to absorb any side loads, guaranteeing smooth operation and longer cycle life.

Linear Travel Stops

The externally adjustable travel stops are on center with the piston rod, eliminating side loading on the scotch yoke. Located at either end of the actuator, these travel stops provide precise adjustment. Both the pen and close travel stops are independently adjustable.



Dimensions (inches)

Actuator Model	A	B	C	D	E	F	G	H	J	K	Pneumatic Conn. (NPT)	Weight (lbs)
HP30U-4-1-MHP	77.5	38.2	39.3	6.5	7.4	8.5	7.3	7.3	3.94	8.75	1/2	375
HP30U-6-1-MHP	80.7	39.8	40.9	8	7.4	8.5	7.3	7.3	3.94	9.75	1/2	450
3.0-6.0HP6.0	88.6	43.6	45.0	8	11.2	12.6	8.5	8.5	6.3	9.75	1/2	675
6.0-6.0HP6.0	92.1	45.3	46.8	8	12.9	14.4	10.2	10.2	7.28	9.75	1/2	1020
6.0-8.0HP8.0	93.9	46.2	47.7	9	12.9	14.4	10.2	10.2	7.28	12	3/4	1190
14-8.0HP8.0	98	48.1	49.9	9	14.8	16.6	11.6	11.6	7.87	12	3/4	1655
14-9.0HP9.0	98	48.1	49.9	10	14.8	16.6	11.6	11.6	7.87	15	3/4	1720
14-10.0HP10.0	98	48.1	49.9	12	14.8	16.6	11.6	11.6	7.87	15	3/4	1810

Mechanical Data (Maximum Allowable Pressure 1500 psig)*

Actuator Model	Max. Operating Torque (lb. in.)	Max Operating Pressure (psig)**	Gas Consumption (cu. in.)	Oil Content (cu. in.)
HP30Y-4-1-MHP	130500	514	430	490
HP30U-6-1MHP	130500	320	755	815
3.0-6.0HP6.0	261000	407	755	815
6.0-6.0HP6.0	522000	688	755	815
6.0-8.0HP8.0	522000	533	1030	1220
14-8.0HP8.0	1044000	959	1030	1220
14-9.0HP9.0	1044000	740	1305	1425
14-10.0HP10.0	1044000	492	1950	2070

* Maximum allowable pressure is the maximum static pressure that may be applied to the cylinder with the piston against travel stops.
** Maximum operating pressure is the pressure required to produce the maximum operating torque of the actuator.