pneumatic actuator function process

Posted by haoyunlaiol9 - 2014/04/01 14:32

_____

A pneumatic actuator ball valve is made up of ball valve and pneumatic actuator.Then a Pneumatic actuator mainly consists of a piston, a cylinder, and valves or ports. The piston is covered by a diaphragm, or seal, which keeps the air in the upper portion of the cylinder, allowing air pressure to force the diaphragm downward, moving the piston underneath, which in turn moves the valve stem, which is linked to the internal parts of the actuator. Pneumatic actuators may only have one spot for a signal input, top or bottom, depending on action required. Valves require little pressure to operate and usually double or triple the input force. The larger the size of the piston, the larger the output pressure can be. Having a larger piston can also be good if air supply is low, allowing the same forces with less input. These pressures are large enough to crush object in the pipe. On 100 kPa input, you could lift a small car (upwards 1,000 lbs) easily, and this is only a basic, small pneumatic actuator ball valve http://www.chinapipelinevalve.com/Pneumatic-ball-valve.html However, the resulting forces required of the stem would be too great and cause the valve stem to fail. This pressure is transferred to the valve stem, which is hooked up to either the valve plug (see plug valve), butterfly valve etc. Larger forces are required in high pressure or high flow pipelines to allow the valve to overcome these forces, and allow it to move the valves moving parts to control the material flowing inside.

==========