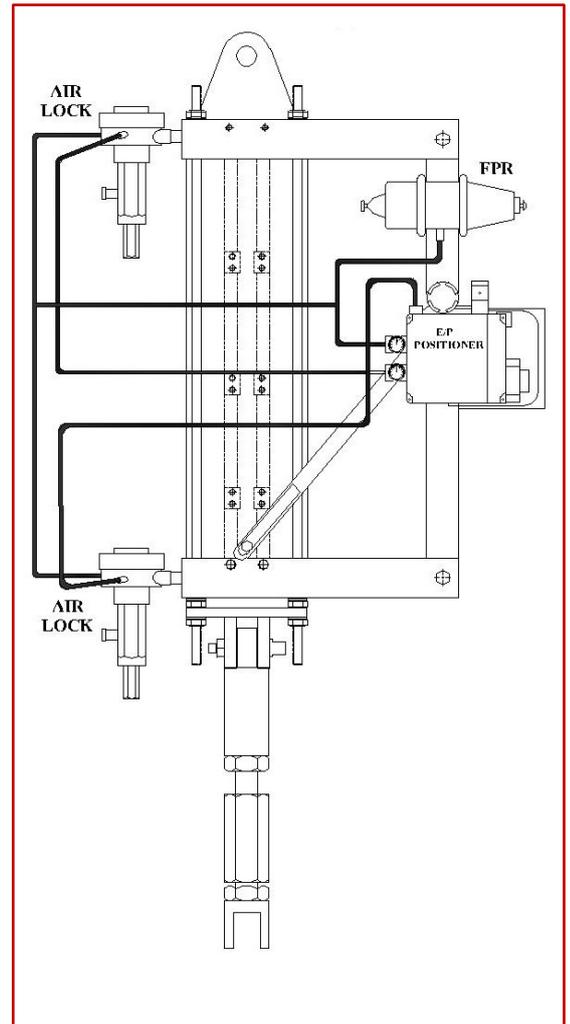


LINEAR POWER CYLINDERS

I&S Linear Power Cylinders are widely used for accurately and positively. Positioning all types of plant regulators such as Dampers, ID and FD. Fans in Boilers, Throttle Valves and Butterfly Valves. These cylinder can be arranged so that increase or decrease in control pressure moves the position either outwards or inward.

SPECIFICATION

Design	Double Acting Piston Cylinder
Bore	2" to 20"
Stroke	Up to 20" Standard (Larger sizes are available on request)
Working Pressure	7.0 Kg/cm ² (Max)
Temperature Range	-20 ⁰ C to 80 ⁰ C
Sensitivity	0.5% of Full Stroke
Control Signal	0.2 to 1.0 Kg/cm ² (3-15 PSIG)
Air Consumption	1.0 SCFM at 80PSIG
Thrust	Available thrust may be considered as 70% of Cylinder Bore Area multiplied by operating air pressure
Mode of Action	Linear
Connection	¼"/1/2" NPTF/BSPF
Accessories(Optional)	Valve Positioner - Pneumatic, Electro Pneumatic, Air set, Air Lock, Solenoid Valve, Volume Booster, I/P Converter, Position, Transmitter, Limit Switches, Proximity Switches etc.



MATERIAL OF CONSTRUCTION

Barrel	Seamless Honed and Hard Chrome Plated
Piston Shaft	EN8 Ground & Hard Chrome Plated
End Cap	Cast Steel
Seal	Nitrile

PRINCIPLE OF OPERATION

The position-control unit (D/A VP) incorporated in the power cylinder receives a control signal (0.2 to 1.0 kgf/cm²) from a controller and regulates the high pressure air supply to the cylinder to give a corresponding displacement of the position. The position-control unit operates on the force-balance principle and comprises a diaphragm to receive the control signal, a control spring, one end of which is moved by the piston rod through a cam and bell crank, and a pilot valve to admit and exhaust the high-pressure air supply to the cylinder. When the control signal changes, the diaphragm expands or contracts opening the pilot valve and admitting air to the cylinder to move the piston, any force on the piston less than the designed maximum thrust of the power cylinder will not prevent movement as the pilot valve remains open until the restraining force is overcome and the position requirements are met. The change in the piston's position causes the control-spring force to increase or decrease until a state of equilibrium is reached between the opposing forces of the diaphragm and control spring, the pilot valve is then closed and the piston comes to rest in its new position.