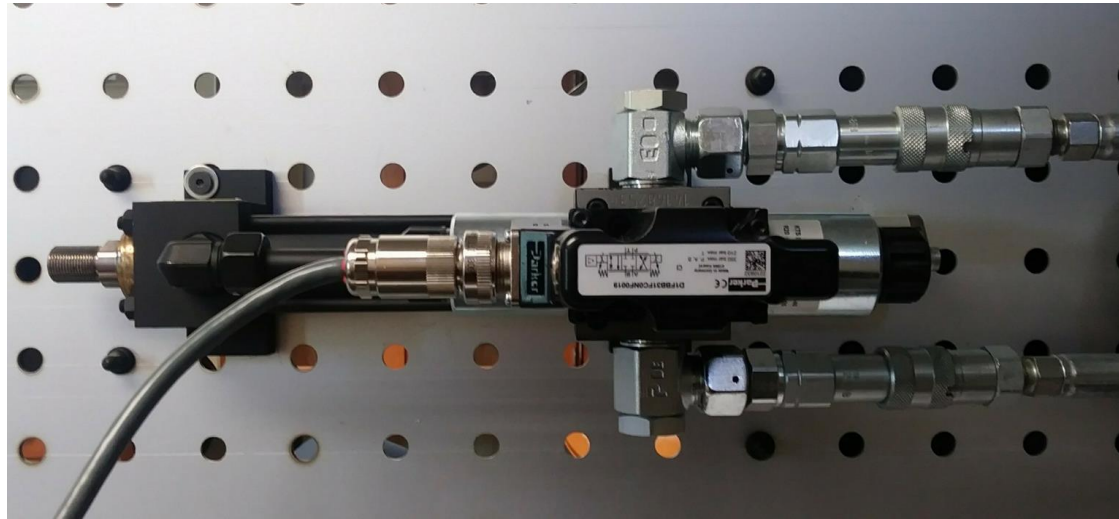


An Open-Loop EH Control System



Open-Loop Control vs. Closed-Loop Control

- Hydraulic control systems can be divided into open-loop control systems and closed-loop control systems
- Open-loop controls are used when only steady reciprocating motion is required, without the need for precise control of its displacement.
 - Such as a surface grinding machine
- Closed-loop controls are required when both the feed motion and the displacement need to be precisely controlled.
 - Such as a CNC milling machine

An Open-Loop Position Control Example:

- Command signal (current) is used to control a cylinder's extension/retraction position.
- The cylinder's position is proportional to the magnitude of the current signal.

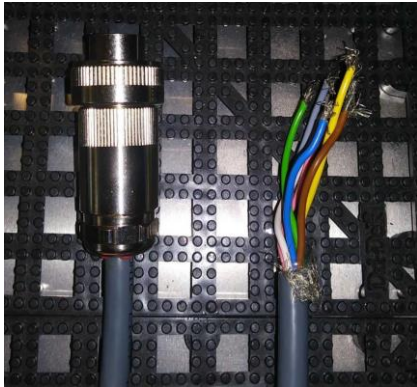


Fig1: Open loop control system

Position Control (Open Loop)

- Hardware Components:
 - SOLA Power Supply
 - PID00A-40 Controller
 - Series D*1FB Proportional Directional Control Valve
 - Potentiometer

Component Identification



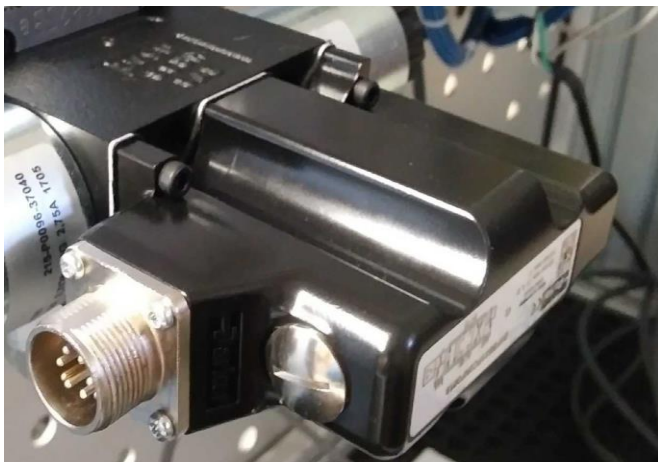
Amplifier Pin Cable
(Series D*1FB 7)



PID Controller
(Parker, RS-232)



PID Wiring Plate



Proportional Valve On-Board Electronics
(OBE) / External Amplifier (D*1FB)



Power Supply (SOLA, SDP 4-
24-100LT)



Potentiometer

Wiring

