Model F-04632-00 HYDRAULIC POSITION REGULATOR

FEATURES

- **Characterized Positioning**
- **Position Transmitter Output Option**
- **3-15 psig Control Input Signal Standard; Other Pneumatic Levels Optional**

APPLICATION

Hays Cleveland Model F-04632-00 HYDRAULIC POSITION REGULATORS are employed worldwide for use in refineries and petrochemical industries. They are used to regulate the position of the hydraulic cylinders utilized on slide valves and other final elements. They are the first choice selection for applications that require the power of hydraulics, the safety of 3-15 psig pneumatic signals, and repeatable, accurate positioning.

DESCRIPTION

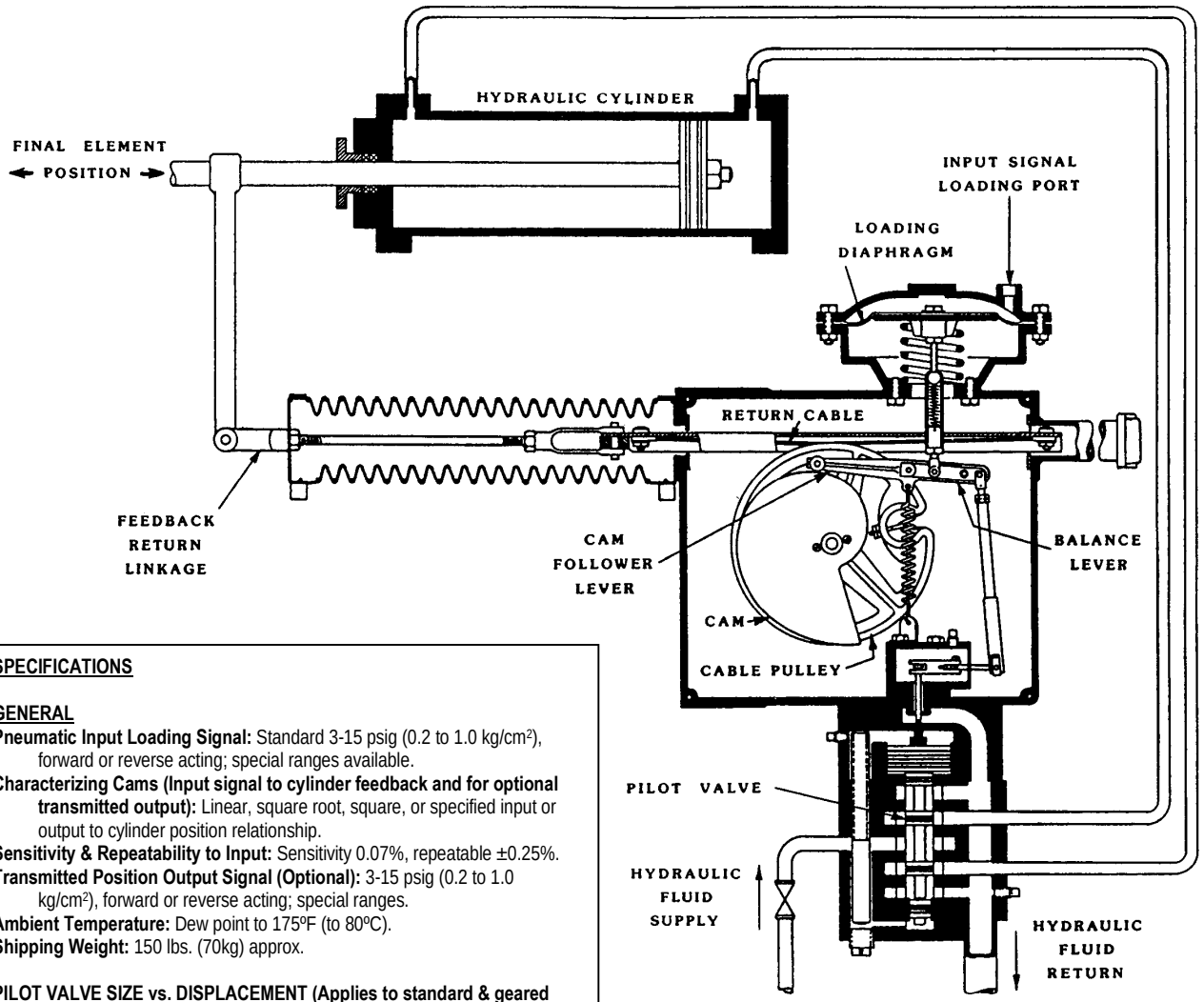
The **Hays Cleveland Model F-04632-00 HYDRAULIC POSITION REGULATOR** is available in various sizes and with options to match a wide range of stroke, length, orientation, and characterization requirements. Base and add-on options allow use at different hydraulic pressures.

The major components for the direct-positioned pilot valve models include: a loading diaphragm assembly, pilot valve, the feedback return linkage, and a case containing the cam, pulley, levers, and linkages. When used on high-pressure hydraulic systems, where the pressures exceed 300 psig (21 kg/cm^2), the pilot valve is operated by an auxiliary diaphragm.

For applications requiring strokes longer than 36 inches (1 meter), and less than 300 psig, the feedback return linkage is modified, and gears are added to the pulley. The selection of the type of hydraulic position regulator and pilot valve is based upon hydraulic fluid pressure and the stroke length and volume of the hydraulic cylinder. The large pilot valve size is selected over the small size when your cylinder volume exceeds 1000 cubic inches (16 liters). Position is cam characterized for linear, square root, or other functions.

OPERATION

The control input signal, through the loading diaphragm assembly, imparts a force to the balance lever. The pilot valve position is varied to increase or decrease the pressure on either side of the hydraulic cylinder, causing it to move the slide valve to its required position. As the hydraulic cylinder position changes, the feedback return linkage causes the cam to rotate until the force against the cam follower lever matches the force from the loading diaphragm. At this point, no further movement occurs in the pilot valve, and the position of the hydraulic cylinder is maintained until the input signal changes.



SPECIFICATIONS

GENERAL

Pneumatic Input Loading Signal: Standard 3-15 psig (0.2 to 1.0 kg/cm^2), forward or reverse acting; special ranges available.

Characterizing Cams (Input signal to cylinder feedback and for optional transmitted output): Linear, square root, square, or specified input or output to cylinder position relationship.

Sensitivity & Repeatability to Input: Sensitivity 0.07%, repeatable ±0.25%.

Transmitted Position Output Signal (Optional): 3-15 psig (0.2 to 1.0 kg/cm^2), forward or reverse acting; special ranges.

Ambient Temperature: Dew point to 175ºF (to 80ºC).

Shipping Weight: 150 lbs. (70kg) approx.

PILOT VALVE SIZE vs. DISPLACEMENT (Applies to standard & geared pilots):

Small Pilot Valve: For hydraulic cylinder displacements to 1000 cubic inches (16.4 liters).

Large Pilot Valve: For displacements from 1000 cubic inches to 3000 cubic inches (16.4 to 49.2 liters).

POSITIONER vs. STROKE (Varies with small & large sizes):

Stroke With Standard Feedback: 7 to 36 inches (18 to 91 cm).

Stroke With Geared Pulley: 25 to 72 inches (63 to 183 cm).

LENGTH (Feedback arm plus ½ case size):

To be specified to match cylinder and regulator sizes and stroke.

PILOT VALVE vs. HYDRAULIC FLUID PRESSURE (Geared positioners are direct only):

For Direct Positioned Pilot Valve: To 300 psig (21 kg/cm^2) maximum.

For Diaphragm Boost Pilot Valve Positioning: To 1200 psig (84 kg/cm^2) maximum.

Viscosity of Hydraulic Fluid: 5000 SUS maximum fluid viscosity.

Specifications Subject to Change

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