

# HLR 7970 High/Low Pressure Sensor

The HLR 7970 Pressure Sensor is a pressure balance spool control valve used to respond to a predetermined pressure setting. In the Pressure Safety Low (PSL) mode, the valve functions as a 3-way, normally closed, block and bleed control. When used in the Pressure Safety High (PSH) mode, it functions as a 3-way, normally open, block and bleed control. The HLR 7970 is a unique self-contained control capable of responding to set pressure points from 10 to 10,000 PSI (0.69-689.50 Bar) and can be used in control circuits with 30-125 PSI pneumatic or hydraulic instrument supply pressure.



## Design Features:

Dimensions: 1.750" Dia. X 8.000" L.

Working Pressure: Sensed Inlet - 10 - 10,000 PSIMax.

Connections: Sensed Inlet - 1/2"-14 NPT"M"

1/8"-27 NPT "F"

Control 1/4"-18 NPT "F"

Weight: 3.5 lbs.

Panel Mount Detail: 1 5/8" diameter hole required.

# High / Low Pressure Sensor

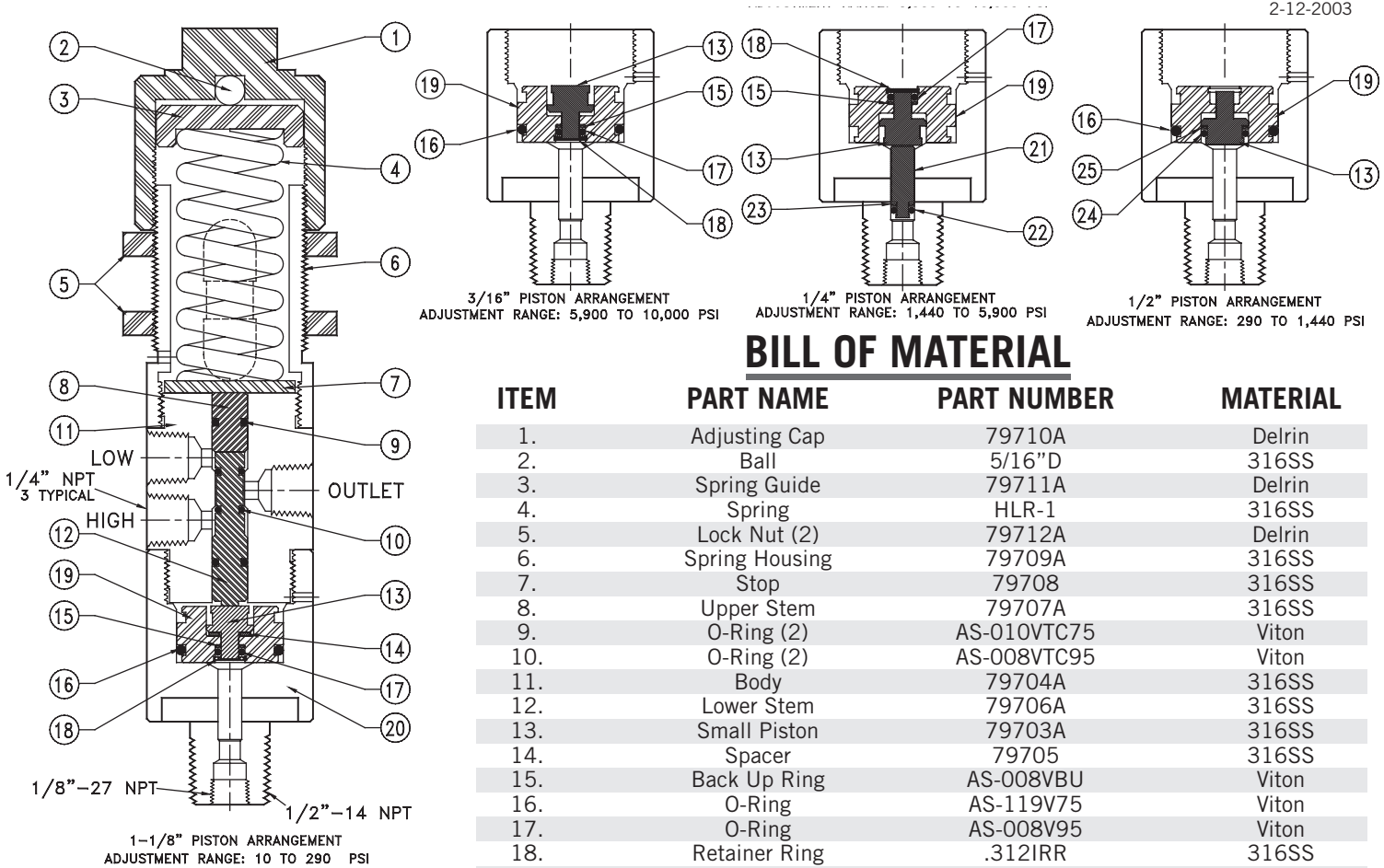
# HLR 7970

## A SELF CONTAINED UNIT

For Pressures From 10 to 10,000 PSI (0.69 - 689.50 Bar)

30-125 PSI Pneumatic or Hydraulic Instrument Supply

The piston arrangement and pressure range may be obtained through a combination of rearranging the components in the current piston assembly and utilizing components in the storage tube.



## BILL OF MATERIAL

| ITEM | PART NAME      | PART NUMBER | MATERIAL |
|------|----------------|-------------|----------|
| 1.   | Adjusting Cap  | 79710A      | Delrin   |
| 2.   | Ball           | 5/16"D      | 316SS    |
| 3.   | Spring Guide   | 79711A      | Delrin   |
| 4.   | Spring         | HLR-1       | 316SS    |
| 5.   | Lock Nut (2)   | 79712A      | Delrin   |
| 6.   | Spring Housing | 79709A      | 316SS    |
| 7.   | Stop           | 79708       | 316SS    |
| 8.   | Upper Stem     | 79707A      | 316SS    |
| 9.   | O-Ring (2)     | AS-010VTC75 | Viton    |
| 10.  | O-Ring (2)     | AS-008VTC95 | Viton    |
| 11.  | Body           | 79704A      | 316SS    |
| 12.  | Lower Stem     | 79706A      | 316SS    |
| 13.  | Small Piston   | 79703A      | 316SS    |
| 14.  | Spacer         | 79705       | 316SS    |
| 15.  | Back Up Ring   | AS-008VBU   | Viton    |
| 16.  | O-Ring         | AS-119V75   | Viton    |
| 17.  | O-Ring         | AS-008V95   | Viton    |
| 18.  | Retainer Ring  | .312IRR     | 316SS    |
| 19.  | Large Piston   | 79702MSG    | 316SS    |
| 20.  | Piston Housing | 79701A      | 316SS    |
| 21.  | 1/4" Piston    | 79713A      | 316SS    |
| 22.  | O-Ring         | AS-006V95   | Viton    |
| 23.  | Back Up Ring   | AS-006VBU   | Viton    |
| 24.  | O-Ring         | AS-012V75   | Viton    |
| 25.  | Back Up Ring   | AS-012VBU   | Viton    |

Other 7970 Series Models available:

7970-20M - 2,000-20,000 PSI Adjustment Range with 9/16 Medium Pressure Conn

7970-20H - 2,000-20,000 PSI Adjustment Range with 9/16 High Pressure Conn

7970T - Teflon "wetted" O-rings, NACE Certified

7970LP - Low Pressure, 2-50 PSI adjustment range

7970H-A - Offset instrument controls ports for 3/8 tubing

7970SS - All stainless steel (316SS)

7970DSS - Duplex stainless steel "wetted" parts

### CAUTION

1. Do not disassemble while under pressure.
2. Remove spring tension to assemble or disassemble spring housing from body.
3. Do not plug control ports.

NOTE: A. Instrument Supply pressure 30-125 PSI Pneumatic or Hydraulic.  
B. Extra parts for changing piston arrangements are stored in tube.

- Instrument CV Factor: 0.35

Dead Band: 3-5% of Pressure Setting.

- Pressure Setting Repeatability Factor:  
within 1% of Pressure Setting.

"HIGH" Application (PSH) "LOW" Application (PSH)  
(Pressure Increasing/Rising) (Pressure Decreasing/Falling)

Connection - Function

H - Supply INlet

L - Exhaust

0 - Outlet (Output)

Connection - Function

L - Supply INlet

H - Exhaust

0 - Outlet (Output)

# HLR 5000 PSHL Controller Unit

