

**M**inimizes pump damage by detecting and correcting the sources of high stress energy prior to failure.

The Model HI 5703ST operates off the power supplied by most DCS systems. Its ability to operate right off the loop makes installation simple and straightforward. Simply mount the unit on the machine case, and connect its two wires into a 4-20 mA current loop.

Experience has shown that damage will be minimized if the conditions causing the machine stress are quickly corrected. The HI 5703ST has been designed and developed to remain perched on the bearing cap, transmitting the machine stress energy levels into the 4-20 mA loop.

#### The HI 5703ST Detects:

- Rolling Element Bearing Problems
- Dry Sealless Pumps
- Solids in the Product
- Pump Cavitation

This stress energy level (SEL) can be transmitted over long lines to a process computer, PLC, chart record, or a number of other monitoring devices.

On-line monitoring of critical equipment is a reality when the HI 5703ST is wired to a process computer. Pattern recognition provides additional rewards if the stress energy level is stored for historical trends.

The HI 5703ST listens for the high frequency emissions of a machine in stress. Pumps generate this stress energy emission when they cavitate, run dry, become excessively loaded, or develop impending bearing failure.

Other sources of stress energy emissions are gear problems, seal and bearing rub (sleeve or pad bearings) and high pressure leaks.

#### Sealless Pumps

The most common cause of failure in sealless pumps is incorrect operation. Because the bearings are normally lubricated by the process, running a pump "dry" means running the pump without the bearings lubricated. The HI 5703ST transmitter provides the warning required to stop the machine or change the operating condition before damage occurs. The trace on the back page illustrates the effect of operating a sealless pump incorrectly.

#### Features

- Easy to install and use
- Rugged, trouble-free operation
- Hazardous area use
- Reliable and inexpensive



**S P E C I F I C A T I O N S**

**Stress Energy Level (SEL)**

0 to 5 or 0 to 10

**Maximum Load Resistance**

50 (Vs -12) ohms

**Isolation:** 500 V, circuit to case

**Output Current**

4 to 20 mA into 600 ohms,  
max. @ 24 V

**Electrical Connection**

2 wires, AWG #20, 20 inches

**Frequency Range**

5 kHz to 60 kHz

**Temperature Range**

-40° C to +85 deg C

**Axis Orientation**

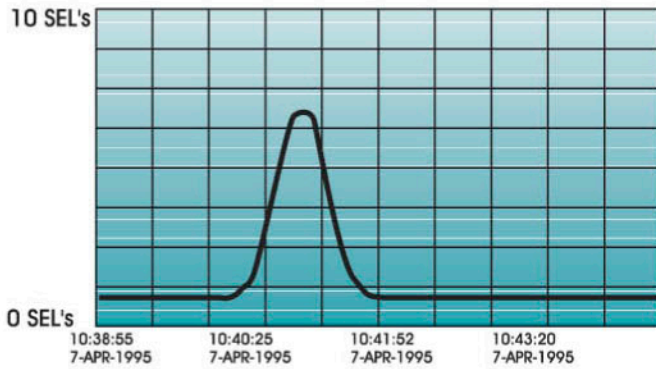
any

**Supply Voltage (Vs)**

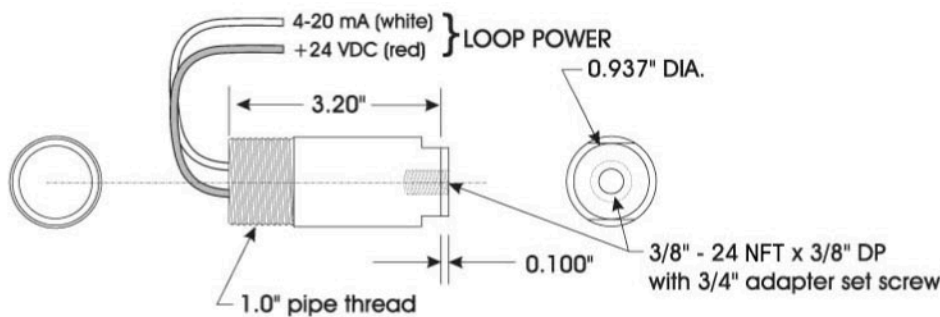
24 vdc volts nominal  
+14 vdc to + 36 vdc

HI 5703-10 = 10 SEL

HI 5703-05 = 5 SEL



The above trace shows a typical increase in trauma placed on a pump as the supply of product was momentarily shut off.



**NOTES:**

**MATERIAL:** 316 STAINLESS  
**INSTALLATION:** Drill and tap 3/8" - 25 x 1/2" DP



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*Hazardous Area approval pending*

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