

Pressure Switch Temperature Limitations

Pressure switch applications often have media temperatures that are in excess of our published specifications. Even though most of Neo-Dyn's switches can actually withstand temperatures higher than those listed, they are published for varying reasons that include effects on; set point shift, decreased life expectancy, or in some cases, damage. O-rings themselves have limitations even though they are capable of temperatures higher than those we publish for the switches. Generally speaking, Buna-N and EPR are good up to 250°F (121°C), Viton up to 400 °F (204°C). The welded assemblies have no o-rings at all.

The main purpose of this bulletin is to advise the end user that the media temperature limitations of these switches can be overcome by simply increasing the distance of the switch from the source of the media. Since Neo-Dyn's pressure switches are "dead-ended" devices, the temperature at the diaphragm or piston will not be the same as it is at the media. Often a 1 ft. (30.46 cm) length of uninsulated 1/4 inch, SS tubing is enough to lower the temperature to within published specifications. The rule of thumb utilized for these applications is as follows:

For every 2 ft. (60.96 centimeters) of uninsulated-1/4 inch-SS tubing, you dissipate 100 °F (37.77 °C), in excess of +200 °F (+93.3 °C).

It will of course depend on the initial media temperature, type of media, ambient temperature, and piping size & material. In some cases a longer capillary may be the best solution. Typically the tubing is coiled, so as to conserve space (pig tail). There are also other methods for dissipating heat, such as condensate chambers or reservoirs filled with liquid, which will act in the same manner as a diaphragm seal in isolating and dissipating the heat. These methods are better explained in ISA, ASME or other such industry and engineering standard practice texts.

Should you have further questions or require additional information, please contact your Regional Sales Manager or the factory directly.

For more information, please visit www.neodyn.com