

# Transducers Direct Monthly Tech Notes - February 2010

## Proof Pressure, Burst Pressure and Over Pressure



### Proof Pressure and Burst Pressure - How to Deal with Over Pressure



Regarding pressure transducers, there are two specifications dealing with "over pressure". They are proof and burst pressure. Over pressure is applied pressure that goes beyond the transducers specific range.

Pressure Type	Description & Specification
<b>Proof Pressure</b>	The maximum amount of applied pressure to the transducer without causing damage to the diaphragm.  Typical proof pressure specs are 2 x full scale (FS) for units up to 4000psi and 1.5 x FS for units with a range of 5000psi and above.
<b>Burst Pressure</b>	The maximum amount of applied pressure to the transducer before a physical rupture occurs. The maximum amount of applied pressure to the transducer before a physical rupture occurs.  Typical burst pressure specifications are 35 x FS for units up to 100psi, 20 x FS for units 100 to 1000psi, and 5 x FS for units 1000 to 6000psi.
<b>Example</b>	A unit with a range of 0-3000psi will have a proof pressure of 6000psi and a burst pressure of 15000psi.

These specifications are important to consider if you have an application where

pressure transients (spikes) are present. Pressure spikes can reach above the transducers proof pressure rating. This can cause the diaphragm to become deformed and when the pressure returns to zero the diaphragm will not return to a normal flat shape. It will now have a bulge or slight dome shape at zero pressure causing the unit to show an output instead of reading zero. Now the unit may not read accurately under any pressure. It will have to be replaced.

One way to prevent this kind of damage is by using a "snubber". This piece fits inside the orifice of the unit reducing the size of the orifice thereby slowing the time it takes the spike to reach the diaphragm. By the time the spike has peaked and gone back down, this damping effect will keep the diaphragm from incurring the full brunt of the spike.

Another way is to use a transducer with a thicker diaphragm. This will increase the Proof Pressure to 4 x FS instead of 2 x FS.

Also, using a unit with a higher pressure range will give it more "headroom" to deal with transients.

### Pressure Transducer Applications

Our [Pressure Transducers](#) are used successfully in many industrial [applications](#).

Hydraulic / Pneumatic Systems

Food and Beverage Industry

Energy and Water Management

Pumps and Compressors

Construction Equipment

High Pressure Wash Down Applications

Agricultural Equipment

### Transducers Direct - TDH30 - ULTRA Low Cost Pressure Transducer

#### TDH30 Pressure Transducer



#### [TDH30 by Transducers Direct](#)

- New Product - [Released February 2010](#)
- Low Cost - Starting at \$79
- Industrial Grade
- 1.5x Over Pressure
- 0-5V and 4-20mA Outputs
- 9.4 Mini Din Electrical Connector
- 1% Accuracy
- [TDH30 Data Sheet](#)
- [Configure & Price TDH30](#)
- Many Pressure Ranges
- Manufacturers Guarantee



- [All Products](#)
- [Pressure Transducers](#)
- [Linear Position Transducers](#)
- [Melt Pressure Transducer](#)
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- [Flow Meters and Switches](#)
- [Liquid Level Switches](#)
- [Tire Pressure Gauges](#)
- [Industrial Surplus Overstock](#)

#### New International Distributors

**Taiwan, China, Hong Kong**  
*Lichaning Industrial Co. Ltd.*

Contact: Chien C. Lu, Sales Manager  
Phone: 886-2-27213332  
Fax: 886-2-27311841  
<http://lichaning.diytrade.com>

#### Free Trial



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- 2009 Annual Customer Satisfaction  
Survey Comments

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