Title: **Terms and Conditions for the Approval of Pressure Transducers**		
Effective Date: **2006-03-16**	Page: **1 of 2**	Revision:

1.0 Application

Except as may otherwise be allowed by a Notice of Approval, these terms and conditions apply to all electronic pressure transducers for use with metering assemblies incorporating automatic pressure compensators of the electronic type which cause the registration of a meter to be in pressure compensated units of volume[1].

2.0 Definitions

In this document:

Pressure transducer – means a device that provides a signal output of known relationship with the applied pressure.

Maximum design pressure range – means the specified pressure range over which a pressure transducer can be calibrated.

Operating pressure range – means the programmed pressure range over which a pressure transducer can be calibrated.

All other words and expressions used in this document have the same meaning as in the *Weights and Measures Regulations* and *Volumetric Ministerial Specifications*.

3.0 Design, Composition and Construction

Any means of adjusting a pressure transducer shall be sealable.

A pressure transducer shall have the following information clearly and permanently marked in such a way as to be easily legible:

(a) name of the manufacturer;

(b) model number and serial number;

(c) approval number;

(d) operating pressure range;

(e) maximum design pressure range if other than the operating pressure range;

(f) type and range of output signal; and

(g) such other information as is required by the Notice of Approval.

Where the operating range can be adjusted, a metal nameplate, tag, or other suitable means shall be provided for marking the pressure range for which the pressure transducer is calibrated.

[1] The requirements of these terms and conditions were included in draft specifications related to Electronic Pressure Transducers.

4.0 Performance

The limits of error set out in the following table apply to the signal output of the pressure transducers where the signal is converted using the specified output signal pressure relationship.

	Column I Indicated Pressure	Column II Limits of Error
1	less than 1 MPa	± 30 kPa
2	between 1 and 4 MPa	± 3% of known pressure
3	more than 4 MPa	± 120 kPa

The performance of a pressure transducer shall remain within the applicable limits of error when tested under the following conditions:

(a) an ambient temperature in the range of -30 °C to +40 °C; and

(b) a relative humidity in the range of 10 to 95 percent.

A pressure transducer that operates from the main power supply shall remain within the applicable limits of error when tested with voltages from 90 to 110 percent of the nominal voltage or within the specified voltage range.

5.0 Installation and Use

The pressure tap for a pressure transducer shall be located no more than 1 m downstream of the associated meter, as measured along the piping of the meter, and shall be installed so that no valves, pumps or other equipment that may significantly alter the pressure of the liquid are located between the tap and the meter.

A sealable needle valve shall be installed at the pressure tap on a pipe for a pressure transducer to permit isolating it from pressure pulsations and for use during inspection tests.

A 1/4" N.P.T. outlet shall be connected immediately adjacent to the pressure transducer for inspection purposes.

Alan E. Johnston
President
Measurement Canada