INSTRUCTION MANUAL
Pressure transducers

THERMIS MĚŘÍCÍ A REGULAČNÍ TECHNIKA

➢ Safety instructions

Pressure transducers can be used for pressure measurement of environment they are designed for and have labels for. If the pressure environment is not determined, the transducer can be used for such enviroments, that do not form crystals and does not have a corrosive effect on parts. Pressure transducers designed for oxygen measurement must not come in contact with oil or fat.

➢ Mechanical connection

Copper sealings of matching thread is used for attachement of pressure gauge connectors. The sealing surface of the part must have a impeccable surface. The sensor must be screwed to the thread by hand. Screw by wrench in the place designed for its fitting. While attaching with the front mambrane check, if the „O“ ring is settled in the groove. The sealing surface of the welded-on piece must be without scratches and must be perpendicular to the axis of the thread.
Electric connection of the pressure transducer must be done by a qualified person only, which guarantees conformity with regulations and standards.

➢ Installation requirements

Fitting should be done by square wrench or allen on soldering pin only, never by the case of the pressure transducer itself. The pressure transducer must be easily accessible, must not be subjected to influence of radiating heat, vibration, pressure shocks and major pressure variations. Must be installed in position marked on the tag. While measuring the pressure in hydraulic systems, the pressure sensor must be orientated in the way, that the pressure connector is pointing upwards – bleeding. If applied in steam piping it is neccessary to determine the means of cooling prior the operation. The pressure transducer must be protected by a condensation loop or other cooling element if used with boiling or over-heated liquids or steam. The pressure transducer must be placed in the same height as the pressure offtake. If it is impossible to meet this requirement, ex. with low pressure values due to height difference, pressure gauge cock (max working pressure 2,5MPa) or valve (60MPa) should be inserted in between soldering pipes and the pressure transducer as a bleeding and blow-through element.

➢ Working conditions

Pressure transducers can be used in basic, hot and cold environments as well as in closed areas in dry and wet climate. Pressure transducers may not be used in environments with increased of extreme corrosivity. IP 65.

➢ Storing

Pressure transducers should be transfered of stored in original packings up to the point of installation. Pressure transducers must be protected from outer damage. Storing temperature: -40°C+70°C. Pressure transducers removed from the operation should be protected from dust and humidity.

➢ Maintanance and use

The device requires no maintanance. In case of sensor impurities it is neccessary to regularly clean the pressure connector independently from the medium. Do not use corrosive cleaning solvents. It is forbidden to touch the membranes of the sensors with stainless steel separating membranes.
Particular caution is required for front membrane type sensors and sensors in process design with front membrane.

	bar	mbar	Pa	kPa	MPa	kp/mm²	kp/cm²	atm	mmHg	mWS	psi
1 bar	1	1000	10000	100	0,1	0,01019716	1,019716	0,986923	750,062	10,19716	14,50377
1 mbar	0,001	1	100	0,1	0,001	0,0000101972	0,001019716	0,000986923	0,750062	0,01019716	0,01452377
1 Pa	0,00001	0,01	1	0,001	0,000001	0,000000102	0,000010197	0,000009869	0,00750062	0,00001019716	0,000145038
1 kPa	0,01	10	1000	1	0,001	0,0001019716	0,01019716	0,00986923	7,50062	0,1019716	0,1450377
1 MPa	10	10000	1000000	1000	1	0,1019716	10,19716	9,86923	7500,62	101,9716	145,0377
1 kp/mm²	98,0665	98066,5	9806650	9806,65	9,80665	1	100	96,7841	73555,9	1000	1422,3344
1 kp/cm²	0,980665	980,665	98066,5	98,0665	0,0980665	0,01	1	0,967841	735,559	10	14,223344
1 atm	1,01325	1013,25	101325	101,325	0,10325	0,01033227	1,033227	1	760	10,33227	14,6959
1 mmHg	0,00133324	1,333224	133,3224	0,1333224	0,000133322	0,000013951	0,00135951	0,001315789	1	0,01360	0,019336
1 mWS	0,0980665	98,0665	9806,65	9,80665	0,00980665	0,001	0,1	0,0967841	73,556	1	1,422327
1 psi	0,06894757	68,94757	6894,757	6,894757	0,006894757	0,0070307	0,070307	0,068046	51,715217	0,70307	1l