**P.E.D.** CONFIRMATION

97/23/EC

GENERAL NOTE

DELTA CONTROLS Ltd: pressure gauges have been designed and manufactured in strictly conformity to the safety requirements stated on the current international regulations.

In particular means the creation of the 97/23/EC (P.E.D.) directive for the following two categories:
- pressure up to 200 bar – designed and manufactured in accordance with the so-called "Sound Engineering Practice" and the mark C is not required
- pressure over 200 bar – designed and manufactured in conformity with the P.E.D. safety requirements, are classified under the Category 1 and are certificated as per Form A. The pressure must bear mark EC logo.

The recommendations and the notes below stand, which the user must know for a correct installation to the safety purpose, are an excerpt of what stated into the EN 837/1/2/3 and ANSI 6400.1 standard

Carefully select the instruments considering their use and installation on the under pressure process, with the purpose to get the highest possible safety degree and comply with the maintenance procedure suggested by the manufacturer Technical spec sheet for a correct selection of the instruments, see our web site.

The final user is the only responsible for a correct installation and maintenance of the instruments.

The choice of correct instruments and their installation must be done by qualified people, able to evaluate any process risk that may prejudice a correct operation of the instruments and consequently avoiding possible failure and置业.

ATEX CONFORMITY

DELTA CONTROLS Ltd is able to delivery, when required, instruments manufactured in accordance with the directive 94/9/EC in compliance with group II – category 2 G/D

SAFETY ASPECT, SELECTION CRITERIA OF PRESSURE GAUGES

As per UNI EN 837/1/2/3 paragraph 4.2.2 standard here below stated it’s suggested to select the proper type if instrument with suitable safety degree related to the specific application. DELTA CONTROLS pressure gauges belong to code X8 when furnished with safety baffle wall plug which open as soon as the pressure into the case is exceeding a certain safety value discharging it to the atmosphere and are of code S3 which is a further protection for the operator.

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LIQUID FILLED PRESSURE GAUGES

Must be avoid as much as possible, the instrument must be installed at a distance, in a free area, and connected to the pressure source by piping with O.D. of approx 6 mm, length 2 meters, which will fall down the pressure systems at a value close to the ambient temperature. When the pressure fluid composition or their temperature does not permit the connection with small diameter pipe it’s more advisable to use the pressure gauge a diaphragm seal, make sure that the diaphragm seal filling fluid is suitable with the pressure fluid temperature.

PORTABLE

Check before the installation that the instrument have not been damaged during transport, check that the pointer fell into the zero band. Pointer not returning to zero position may represents a significant damage to the instruments which must not be installed and must be check for correct calibration.

INSTALLATION

Final user must make sure before the installation that the selected pressure gauge is the correct one and also that range and accuracy are correct. It’s suggested to fit to the pressure gauge and the pressure side an isolating valve which will make easier any removal for maintenance or replacement.

The pressure connections must be made as follow:
- pressure gauges with socket parallel thread: sealing to the pressure is achieved on the top face by means of a ring gasket of proper material suitable with the pressure fluid data and an appropriate sealing fluid.
- pressure gauges with ring thread: sealing to the pressure is achieved by threading coupling; it’s common practice to wrap a PTFE tape around the male thread of the pressure gauge socket before coupling.
- pressure gauges with ring thread: sealing to the pressure is achieved on the top face by means of a ring gasket of proper material suitable with the pressure fluid data and an appropriate sealing fluid.
- pressure gauges with ring thread: sealing to the pressure is achieved by threading coupling; it’s common practice to wrap a PTFE tape around the male thread of the pressure gauge socket before coupling.
- pressure gauges with the pressure gauge from the cool or hot sources, when available. When pressure gauges with accuracy 0,6% or better is used for long time, the instrument have to be isolated from the system. Final user must make sure that the selected pressure gauge is the correct one and also that range and accuracy are correct. It’s suggested to fit to the pressure gauge and the pressure side an isolating valve which will make easier any removal for maintenance or replacement.

GENERAL NOTE

It’s not recommended that pressure gauges be moved from one application to another because system may have different process conditions.

Make sure that an unfailing dial pressure indication of the pointer for a long time, anomalous, is not due to the clogging of the connecting ports which must be cleaned with suitable 0.2 mm fine filter. The pressure gauge must be mounted as close as possible to the pressure sensor, the sensitivity of the pointer fall into the zero band, pressure testing before the installation that the instrument have not been damaged during transport, check that the pointer fell into the zero band. Pointer not returning to zero position may represents a significant damage to the instruments which must not be installed and must be check for correct calibration.

AMBIENT TEMPERATURE

It’s difficult to include the pressure gauge from an ambient temperature too high or too low. A solution consist in keep away the pressure gauge from the oil or hot sources, when available. When pressure gauges with accuracy 0,6% or better is used at ambient temperature different from the reference temperature of 20°C (± 2°C) proper correction must be applied.

REUSE OF PRESSURE GAUGES

It’s not recommended that pressure gauges be moved from one application to another because system may have different process conditions. This may cause chemical reactions, explosives due to the contamination of the wetted part. Remaining of the pressure fluid contained in the pressure sensing element may be hazardous or toxic. Take good care of this occurrence when handling and storing the removed pressure gauges to prevent personal injury.

OPERATION CHECK THROUGH THE INDICATING POINTER

Make sure that an unfailing dial pressure indication of the pointer for a long time, anomalous, is not due to the clogging of the connecting ports which must be cleaned with suitable 0.2 mm fine filter. The pressure gauge must be mounted as close as possible to the pressure sensor, the sensitivity of the pointer fall into the zero band, pressure testing before the installation that the instrument have not been damaged during transport, check that the pointer fell into the zero band. Pointer not returning to zero position may represents a significant damage to the instruments which must not be installed and must be check for correct calibration.

CLEANING

All applications require that pressure gauges are sealed with special cleaning compound. In this case the final user must check that the correct pressure gauge is correctly specified and installed for example (pressure gauges free of oil for oxygen applications).

MAINTENANCE

In all application the general safety of an installation or process plant often depend on the operating conditions of the instrument which control it. Reliability of the instruments is essential for safety purpose. Any instrument which may cause to the operator not perfectly operating must be removed from the application and check for calibration. Pressure gauges accuracy must be assured by scheduled check. Check and recalibrations must be done by qualified personnel, by using proper test equipments. The calibrating fluids must be compatible with the process fluid. Fluid containing hydrocarbon must not be used when process medium is oxygen or others oxidising media. Instrument s kept in its original standard packing (carton box) must be stored in a dry close room, the suggested storage temperature should be between ± 20 ± 20 °C, if not differently stated on catalogue sheet.

PRESSURE GAUGES FITTED WITH ELECTRICAL CONTACT

DELTA CONTROLS Ltd will supply upon request, the conformity declaration relating to electric contact assembled to gauges:
- snap action contacts – conformity to CE 72/23,
- electronic contacts – TÜV certificate № 207/2010,
- inductive contacts – PTB 99 ATEN 2018 X.

WARNING

The company DELTA CONTROLS LTD declines all responsibility for any direct or indirect damage to property or persons as well as for the consequences, the example, of loss production resulting from failure to observe the instructions in this leaflet, and all informations of our catalogue, see our web site.