

Installation, Operation & Maintenance Instructions



8000 and 8000SAN Series Flow Transmitters

GENERAL

Series 8000 Pressure Transmitters employ a piezo-resistive sensor operated from a flush diaphragm specially designed for paper, food and drugs industries where viscous and/or biologically active fluids are encountered.

A monolithic amplifier provides a 4-20 mA current output capable of being used in control and indicating loops without further application.

The instruments are adjustable for zero and span: the span adjustment having sufficient turn down to enable all intermediate ranges to be accommodated.

INSTALLATION

Ensure that the pressure range and maximum working pressures selected are compatible with the expected pressures in the system. While the instruments are fully calibrated in the works, it is advisable to check zero and span before installation, if possible with the instruments in the attitude in which they are to be mounted.

As these instruments are designed for direct contact with the process medium their sophisticated temperature compensation enables accurate operation over a wide range of temperatures. Care should be taken however during cleaning processes.

Processes, that the maximum permissible temperatures are not exceeded. An addendum to these instructions gives hints for installation and cleaning-in-situ.

The instrument may be mounted in any position and is normally self supporting by the pipework.

While the instruments have high resistance to EM and RF interference, it is strongly recommended that for long cable runs, the instrument leads be screened.

OUTPUT SIGNAL

The transmitters use the standard 4 to 20 mA two wire system in which the power supply, transmitter and load are in series. This means therefore, that for a constant voltage at the power supply, as the signal level rises, the drop across the load reduces the voltage available at the transmitter. This voltage should at all times be within the range 13 to 40 V and the attached load / voltage diagram shows the permitted range of supply voltage for the satisfactory operation of the instrument.

ADJUSTMENT

Zero and span controls are accessible by removal of the threaded lid. Disconnection of the electrical wiring is not necessary for the functioning of the instrument, but proper site practices should be followed when working on the instrument which is 'live' with respect to power or process.

MAINTENANCE

No maintenance is normally necessary or required on these instruments.

Should the cover be removed for adjustment, ensure that the O-ring seal is not damaged. Light greasing is recommended.

HINTS ON INSTALLATION

The mounting position of the level transmitter in a tank is important; incorrect positioning may lead to inaccuracies, particularly during filling or discharging.

In general, the unit should avoid inlets and outlets, and be protected against direct impact from cleaning jets.

The installer should also avoid mounting directly upstream or rapidly closing valves, which may create shock waves in excess of the instrument's over-range capability.

Piston pumps and homogenizers also create pressure fluctuations which may damage or shorten the life of the units.

WELDING INSTRUCTIONS

The fitting of Delta type 8000 level/pressure transmitters with mounting 'W', requires that the mating part be welded to the tank or pipe of the process plant.

NB These instructions also apply for the fitting of 1:1 repeaters which use the same fittings.

The units may have, according to the model, a push-in nipple secured by a side bolt, or, in the case of the hygiene units, a fine thread and locking.

It is very important that during the welding operation, no deformation of the push-fit boss or the M56 x 1.25 thread should take place. The following procedure minimises this possibility.

1. Cut a close fitting hole for the nipple in the pipe or tank. Bevel the inside of that hole.
2. Attach copper/aluminium mandrel to the weld nipple with the bolt or locking provided.
3. Using MIG techniques and a fine electrode, weld the nipple in place.

DO NOT ATTEMPT THE COMPLETED WELD IN A SINGLE OPERATION.

First weld two spots opposite to each other and allow to cool. Next weld two more spots at right angles to the first and allow to cool. Complete the weld, welding opposite quadrants.

WARRANTY

We guarantee this instrument against faulty workmanship and material for a period of one year from the date of delivery. The company undertakes to repair, free of charge, ex-works any instrument found to be defective within the specified period provided the instrument has been used within the specification in accordance with these instructions and has not been misused in any way. Detailed notice of such defects and satisfactory proof thereof must be given to the company immediately after the discovery and the goods have to be returned free of charge to the company, carefully packed and accompanied by a detailed failure report.

To comply with health and safety requirements, the instrument must be clean and safe to handle and accompanied by a formal statement

