Tank management

SCANPRESS S990

Introduction

The Scanjet SCANPRESS S990 Level and Pressure Transmitter is a compact, fully submersible, and intrinsically safe instrument for continuous level and pressure monitoring. Designed for the demanding conditions of the marine industry, it features a robust welded construction, high accuracy, and long-term stability, providing dependable performance for ballast, service, fuel, and chemical tank applications.

Application

The level and pressure transmitter is suitable for a wide range of marine and land-based applications, including:

- Ballast and draught measurement in vessels.
- Service, fuel, and lubrication oil tanks.
- Chemical storage and processing tanks.
- Freshwater, greywater, and wastewater systems.
- Process pressure monitoring in industrial installations.

Working principle

The transmitter operates using a piezoresistive sensor element coupled to a stainless steel, titanium, or hastelloy diaphragm. Applied pressure is transferred through the diaphragm, converting mechanical deflection into an electrical signal. The signal is conditioned and transmitted as a 4-20 mA output (2-wire loop-powered).

The design provides full temperature compensation between -20 °C and +70 °C, ensuring stable and accurate measurement under varying ambient and process conditions. When mounted internally, the transmitter can operate with process temperatures up to +85 °C. For externally mounted installations, the design permits exposure to process temperatures up to +125 °C, as heat transfer to the sensing element is limited through the process connection. Versions are available in both vented gauge and absolute pressure configurations.

Benefits

- Proven reliability: Fully welded, encapsulated construction designed for long-term immersion and corrosive environments.
- High accuracy: ±0.2% of full range with long-term stability better than ±0.1% per annum.
- Flexible ranges: Nominal measurement ranges from 0.5 to 60 bar, with factory calibration and 2:1 turndown capability.
- Material choice: Stainless steel, titanium, or Hastelloy/Tantalum diaphragms ensure compatibility with a wide variety of fluids.
- Safety certified: ATEX, IECEx, and UKEx approvals for Zone 0 hazardous area installations.
- Marine approved: Mutual recognized for use across international fleets.
- Ease of installation: Compact design with multiple mounting adapters available for both newbuild and retrofit installations.

Accessories

To simplify integration and maximize flexibility, the following accessories are available:

- Mounting adaptors and flanges for internal and external tank installation.
- Protective nosecones and stilling well clamps for challenging tank conditions.
- Heavy-duty vented cables with optional coatings (PTFE, FEP, flame retardant).
- Pole adaptors for retrofit to legacy systems.
- Optional service kits including seals, gaskets, and protective housings.
- One additional accessory is the “Pressure Spike Reducer”, typically supplied for line pressure measurement applications.

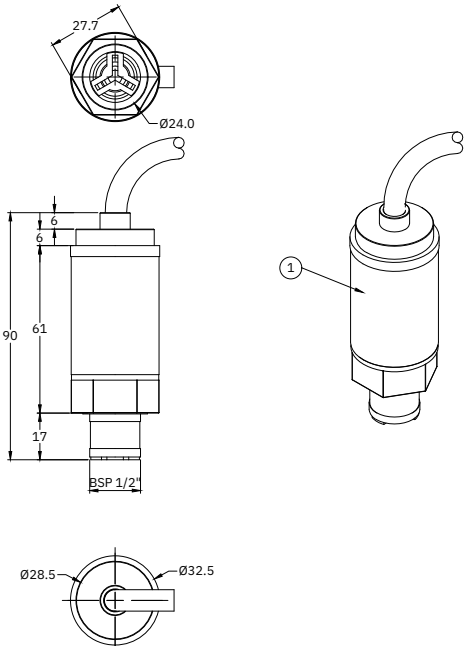
Technical data

Performance	
Measurement ranges:	0.5, 1.0, 2.5, 4.0, 10, 25, 40, 60 bar (others on request)
Measurement type:	Vented gauge or absolute
Overload tolerance:	2 × nominal range
Accuracy:	±0.2% of full scale
Zero/span setting accuracy:	±0.2%
Measuring interval:	< 1 s
Long-term stability:	≤ ±0.1% per annum
Thermal effect:	±0.0075% of full scale/°C (zero & span)
Output signal:	4-20 mA, 2-wire loop-powered
Supply voltage:	18-30 VDC
Load resistance:	(Vs - 18) / 0.02 Ω
Environmental	
Operating temperature:	-30 °C to +85 °C
Process temperature:	-30 °C to +85 °C
Storage temperature:	-40 °C to +100 °C
Ingress protection:	IP68, suitable for continuous immersion
Materials	
Sensor body:	316L Stainless Steel / Titanium / Hastelloy C276
Diaphragm:	316L Stainless Steel / Titanium / Tantalum
Seals:	Viton (others available on request)
Cable:	Heavy-duty marine grade, vented with hydrophobic filter
Electrical Safety & Approvals	
ATEX:	Ex ia IIC T4 Ga (-30 °C ≤ Ta ≤ +85 °C)
IECEx:	Ex ia IIC T4 Ga (-30 °C ≤ Ta ≤ +85 °C)
UKEx:	Ex ia IIC T4 Ga (-30 °C ≤ Ta ≤ +85 °C)
Marine type approvals:	DNV Mutual Recognition
Reverse polarity protection:	Yes
Mechanical	
Weight:	~0.3 kg (sensor body), ~0.1 kg per meter of cable
Process connections:	G1/2", G1" BSP male ANSI 150 lb flange Pole adaptors for retrofit

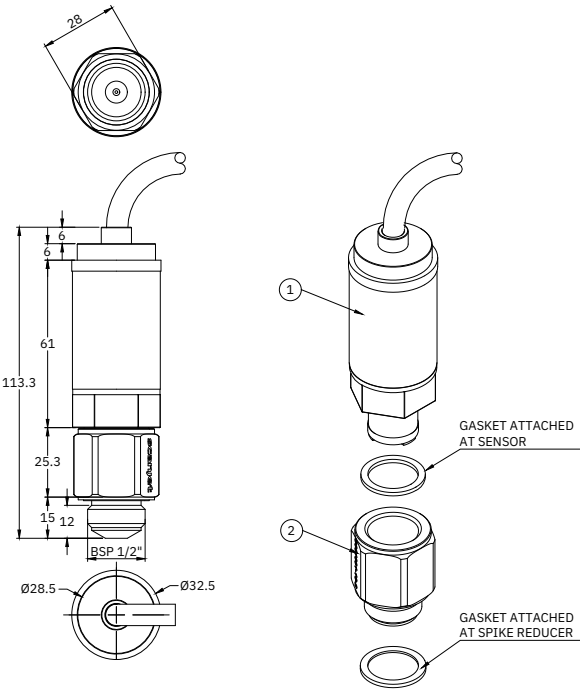
Dimensions

Item	Description
1	Pressure transmitter
2	Spike reducer

Pressure transmitter



Pressure transmitter with spike reducer



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