

GESTRA Steam Systems

Compact System for Level Monitoring

NRGT 26-1

NRGT 26-1S For Marine Applications

Product Range B

NRGT 26-1

NRGT 26-1S

Description

The compact system NRGT 26-1 works according to the capacitance measurement principle. The NRGT 26-1 is designed for signalling different levels in conductive and non-conductive liquids:

- Water level maintained within the control band defined by two preset limits.

The NRGT 26-1 has a level transmitter integrated in the terminal box which produces a standard output signal of 4-20 mA. External switchgear is **not** required.

Function

The principle of capacitance measurement is applied to determine the level. The electrode rod and the vessel wall form a capacitor. If the level of the dielectric located between the two capacitor plates changes, the current which flows through the plates changes proportionally to the level. A dielectric is defined as an insulating substance, which excludes many liquids such as water. In order to receive a useful measuring result the measuring rod, which is completely submerged in the liquid, must be completely insulated. After calibration of the zero point/measuring range (0% - 100%) of the control unit, the level can be read off from a remote display unit. The level measuring range can be changed during operation.

Design

NRGT 26-1:

Electrode with screwed connection 3/4" BSP, DIN ISO 228-1.

NRGT 26-1S:

Flanged design for marine applications DN 50, PN 40, DIN 2635.

Technical Data

Type approval no.

NRGT 26-1: TÜV · WRS · 02-391
 NRGT 26-1S: LR 98/20075 RINA ELE/30298/2
 GL 99249-96HH BV 10617/AO BV
 NKK A-556 DNV A-8394
 KR HMB 06190-MS002

Service pressure

32 barg at 238°C

Connection

NRGT 26-1: Screwed 3/4" BSP, DIN ISO 228-1
 NRGT 26-1S: Flanged DN 50, PN 40, DIN 2635

Materials

Case 3.2161 G AlSi8Cu3
 Stem 1.4571 CrNiMoTi17-12-2
 Flange 1.0460 P250GH
 Measuring electrodes 1.4571 CrNiMoTi17-12-2
 Electrode insulation PTFE
 Spacer disc PTFE
 (design for marine applications)

Mains supply

230 V +/- 10 %, 50/60 Hz
 115 V +/- 10 %, 50/60 Hz (optional)
 24 V +/- 10 %, 50/60 Hz (optional)
 24 V d.c. (optional)

Overall length / measuring range

See table overleaf

Power consumption

5 VA

Fuse

Thermal fuse $T_{max} = 102^\circ\text{C}$

Sensitivity

Range 1: Water $\geq 0.5 \mu\text{S/cm}$
 Range 2: Water $\geq 20 \mu\text{S/cm}$
 Range 3: Fuel oil EL $\epsilon_r 2.3$

Output

4-20 mA level-proportional.
 Volt-free, max. load 500 Ω

Indicators and adjustors

2 red LEDs for signalling "Level 0%" or "Level 100%" within the measuring range,
 1 green LED for signalling "Level between 0% and 100%" of measuring range.
 1 code switch for selecting the measuring range.
 2 trimmer potentiometers for small-percentage adjustment of the measuring range.
 2 terminal lugs for voltage metering.

Cable entry

Cable gland with integral cable clamp
 M 20 (PG 16) (2 x)

Protection

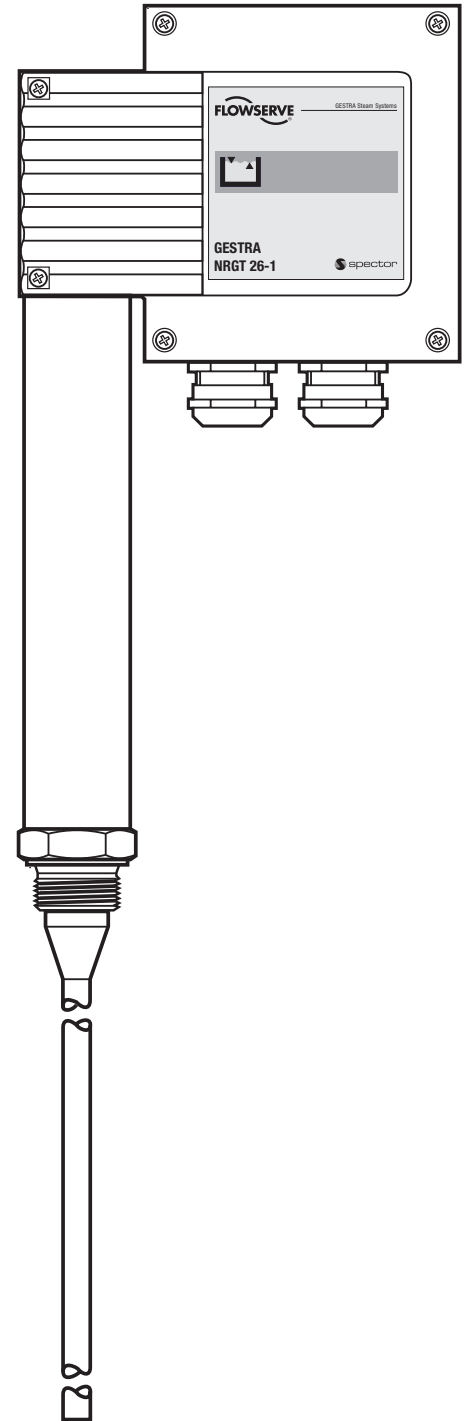
IP 65 to DIN EN 40050

Max. admissible ambient temperature

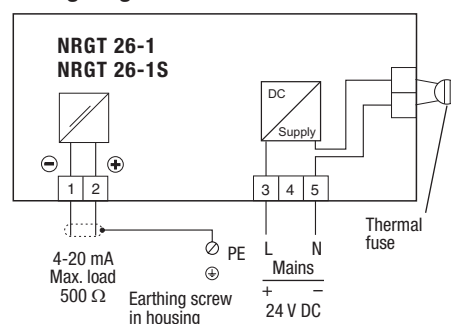
70 °C

Weight

NRGT 26-1: Approx. 1.8 kg
 NRGT 26-1S: Approx. 8.0 kg



Wiring diagram



Compact System for Level Monitoring NRGT 26-1 NRGT 26-1S For Marine Applications

Important Notes

Cable required for wiring: flexible multi-core control cable, min. conductor size 1.5 mm².

Order and Enquiry Specification

GESTRA Level electrode **NRGT 26-1**, PN 40

Mains supply.....
Connection.....
Inspection.....
Length supplied..... mm
Fluid.....

GESTRA Level electrode **NRGT 26-1 S**, PN 40 for marine applications

Mains supply.....
Connection.....
Inspection.....
Length supplied..... mm
Fluid.....

The following test certificates can be issued on request, at extra cost: In accordance with DIN EN 10204-2.1, -2.2 and -3.1B.

All inspection requirements have to be stated with the order. After supply of the equipment certification cannot be established. For tests and inspection charges please consult us.

Key

- 1 NRGT 26-1: Max. length of installation at 238 °C
- 2 NRGT 26-1: Measuring range
- 3 NRGT 26-1S: Max. length of installation at 238 °C
- 4 NRGT 26-1S: Measuring range

- 1 Flange PN 40, DN 50, DIN 2527
Flange PN 40, DN 100, DIN 2527
- 2 For the approval of the boiler standpipe with connecting flange the relevant regulations must be considered.
- 3 Vent hole
- 4 High water (HW)
- 5 Electrode rod d = 15 mm
- 6 Protection tube DN 80
- 10 Low water (LW)
- 11 Reducer DIN 2616, part 2
K - 88.9 x 3.2 - 42.4 x 2.6 W

ATEX (Atmosphère Explosible)

According to the European Directive 94/9/EC the equipment must not be used in potentially explosive areas.

Supply in accordance with our general terms of business.

Dimensions

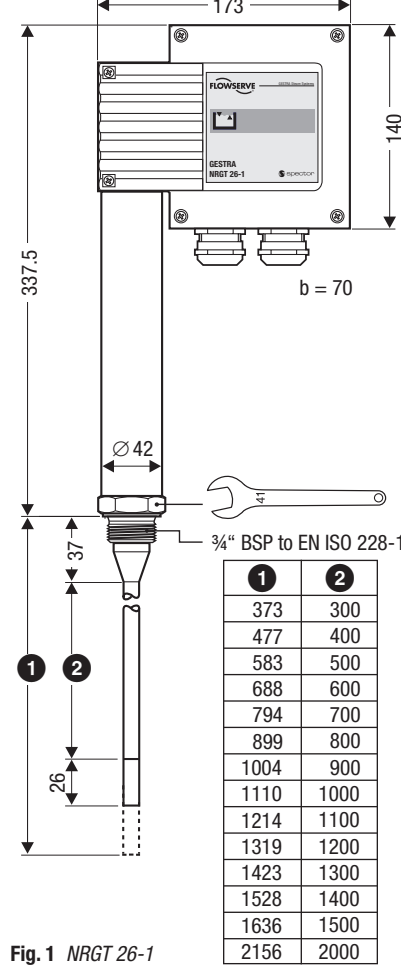


Fig. 1 NRGT 26-1

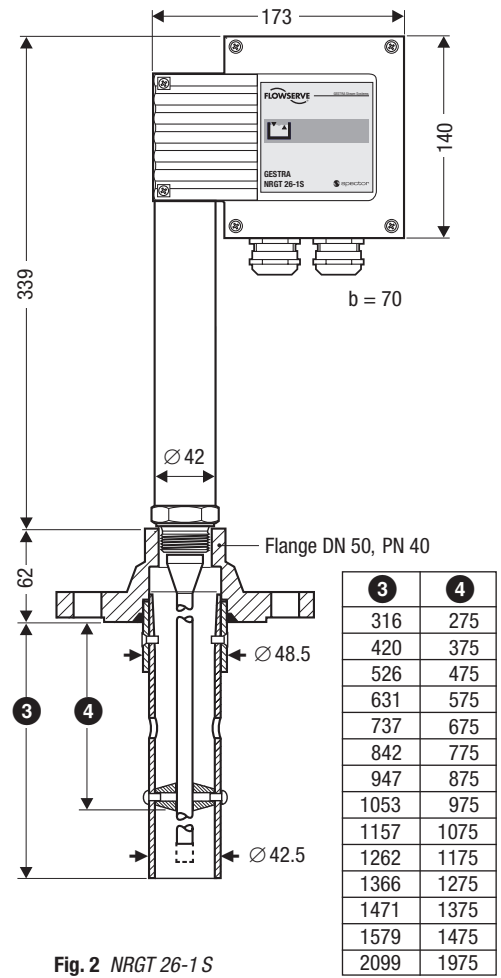


Fig. 2 NRGT 26-1 S

Examples of Installation

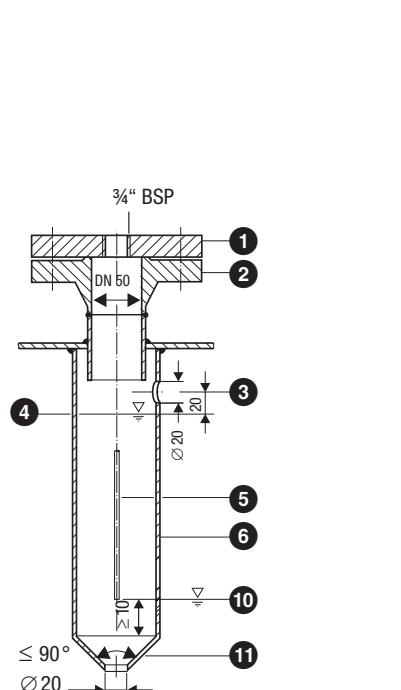


Fig. 3 Protection tube for installation of electrode inside the boiler

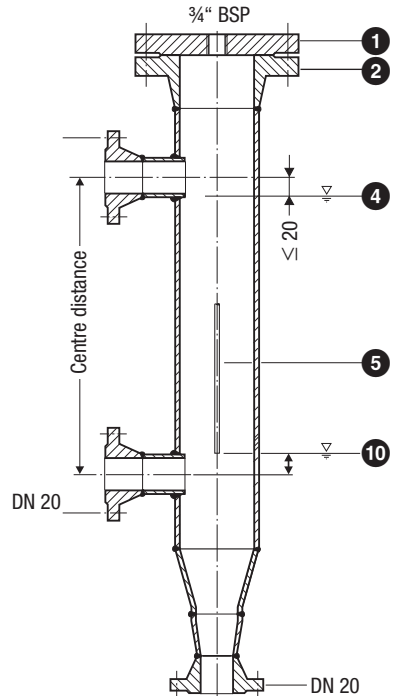


Fig. 4 External measuring pot

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