

## GESTRA Steam Systems

### Compact System for Level Monitoring

#### NRGS 11-2

#### NRGS 16-2

### Product Range B1

#### NRGS 11-2

#### NRGS 16-2

#### Description

The compact system NRGS 11-2, NRGS 16-2 works according to the conductivity measurement principle. With the NRGS 1...-2 a maximum of 3 levels can be signalled in conductive liquids:

- Low level alarm, pump ON, pump OFF with one normally open contact.

The NRGS 1...-2 has its level switch integrated in the electrode case for the control of all functions. An external switching device is **not** required.

The NRGS 1...-2 has two electrode tips for the detection of low-water level. The low-level alarm is signalled via two separate switching channels.

The NRGS 1...-2 is designed to detect and signal different levels in conductive liquids. It is appropriate for use in the power supply, water and chemical industries and particularly suitable for applications in steam boilers and feedwater tanks.

#### Function

The conductivity of the liquid is used to signal the liquid level. Some liquids are conductive, which means that they allow an electric current to flow through them. For the safe functioning of this device a minimum conductivity of the liquid to be measured is required.

The conductivity measurement method can detect two conditions: electrode rod submerged or exposed, meaning switchpoint reached or not reached. Before installation, the length of the electrode tip must be cut to the required switching levels, e. g. for max./min. alarm, controlling of a valve or pump.

#### Design

- NRGS 1...-2 screwed 1", EN ISO 228-1
- Flange DN 50, DN 100 (optional)

#### Technical Data

##### Type approval n°

TÜV · WR/WB · 02-392

##### Max. service pressure

NRGS 11-2: 6 bar g at 159 °C

NRGS 16-2: 32 bar g at 238 °C

##### Connections

Screwed 1", EN ISO 228-1

##### Materials

Terminal box: 3.2161 G AISi8Cu3

Stem: 1.4571 CrNiMoTi17-12-2

Housing: 1.4571

Flange 1.0460 C22.8

Measuring electrodes: 1.4571 CrNiMoTi17-12-2

Electrode insulation: PTFE

Spacer disc: PTFE

##### Lengths supplied

500 mm

1000 mm

1500 mm

#### Technical Data continued

##### Mains supply

230 V +/- 10 %, 50/60 Hz

115 V +/- 10 %, 50/60 Hz

24 V +/- 10 %, 50/60 Hz (optional)

##### Power consumption

5 VA

##### Fuse

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

##### Sensitivity

Range 1: 10  $\mu\text{S/cm}$

Range 2: 0.5  $\mu\text{S/cm}$

##### Electrode voltage

10  $V_{SS}$

##### Output

4 volt-free change-over contacts for low level alarm,

1 normally open contact (e.g. for pump)

Max. contact rating with a switching voltage of 24 V,

115 V and 230 V a. c.: resistive 4 A, inductive 0.75 A at

$\cos \phi 0.5$ . Max contact rating with a switching voltage of 24 V d. c.: 4 A.

Contact material: silver, hard-gold plated.

##### Indicators and adjusters

2 red LEDs for signalling "low water",

1 green LED "pump ON",

1 four-pole code switch for changing sensitivity,

1 button for testing the function of low-level alarm

1 button for resetting the low-water alarm.

##### Cable entry

Cable gland with integral cable clamp

M 16 (PG 9)

M 20 (PG 16)

##### Protection

IP 65 acc. to DIN 40050

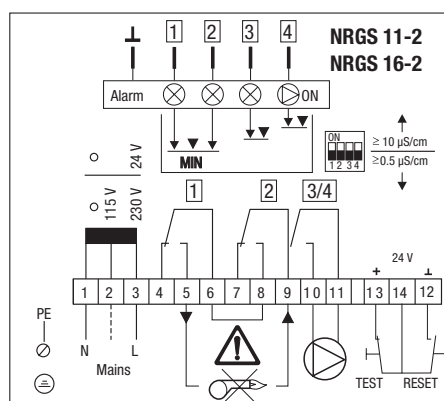
##### Max. admissible ambient temperature

70 °C

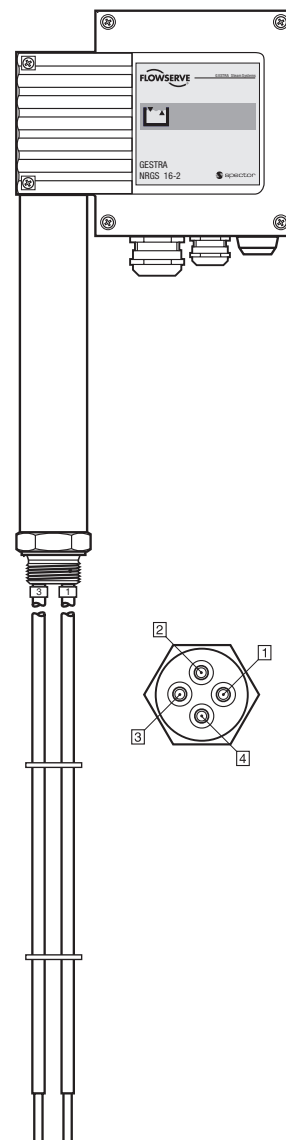
##### Weight

approx. 0.8 kg

#### Wiring Diagram



Relays are shown in the "power-off" position (alarm condition)



Compact System for Level Monitoring  
**NRGS 11-2**  
**NRGS 16-2**

# Dimensions

Important Notes

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

Order and Enquiry Specification

GESTRA Level electrode type <b>NRG 11-2</b> , PN 6	
Mains supply .....	
Connection .....	
Acceptance inspection .....	
Length supplied .....	mm
GESTRA Level electrode type <b>NRGS 16-2</b> , PN 40	
Mains supply .....	
Connection .....	
Acceptance inspection .....	
Length supplied .....	mm

The certificate in accordance with EN 50049-2.1, -2.2 and -3.1B can be issued on request, at extra cost.

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

Lengths supplied:

500 mm  
1000 mm  
1500 mm
- A

Flange PN 40, DN 50 DIN 2527  
Flange PN 40, DN 100, DIN 2527
- B

For the approval of the boiler standpipe with connecting flange the relevant regulations must be considered.
- C

Vent hole
- D

High water (HW)
- E

Electrode rod d = 5 mm
- F

Protection tube ≥ DN 100
- G

Electrode distance
- H

Low water (LW)
- I

Reducer K-88.9 x 3.2 - 42.4 x 2.6 W to DIN 2616, part 2

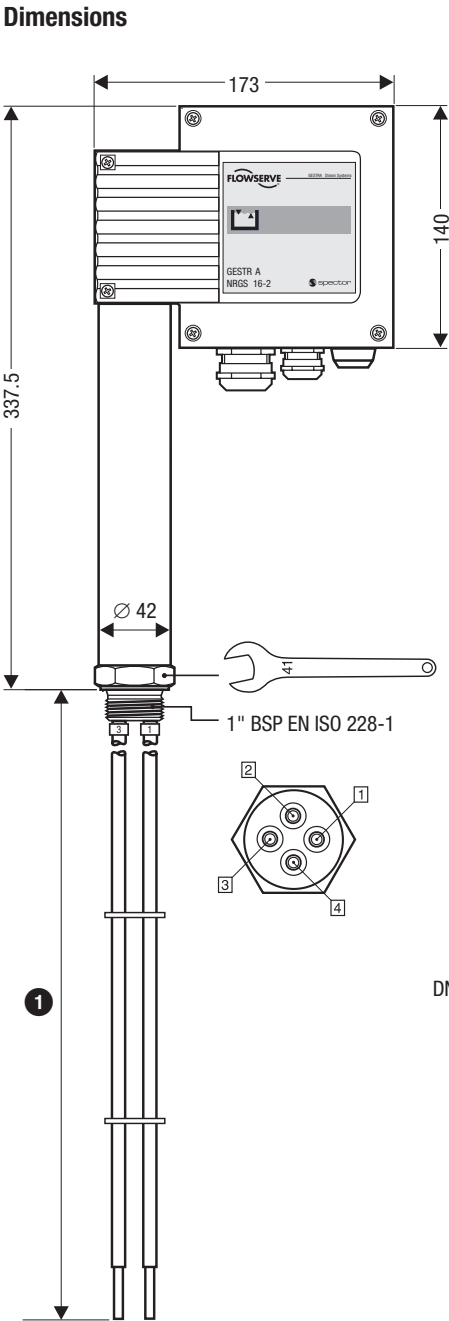


Fig. 1 NRGs 11-2, NRGS 16-2

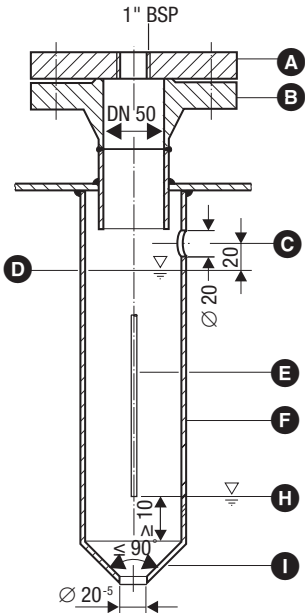


Fig. 2 Protection tube for installation of electrode inside the boiler

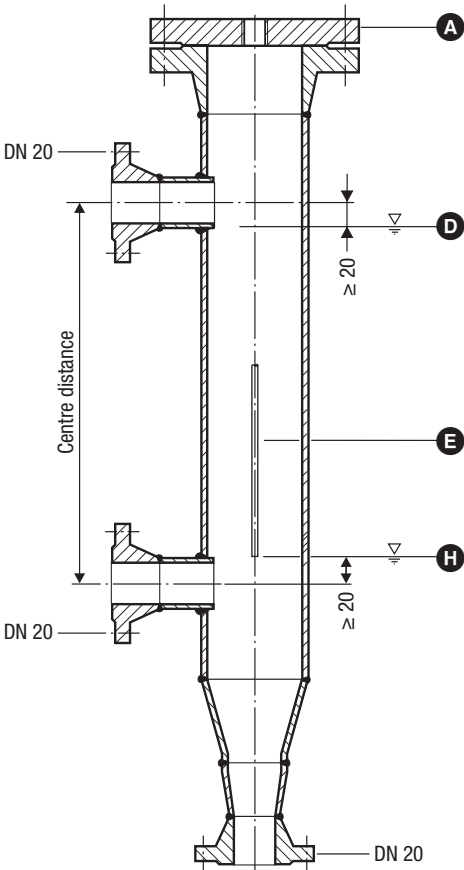


Fig. 3 External measuring pot

Supply in accordance with our general terms of business.