

NRG 26-21

Level Monitoring

NRG 26-21

Description

The level electrode NRG 26-21 is used for continuous level monitoring in steam boilers and (pressurized) hot-water installations or in condensate and feedwater tanks.

In conjunction with the level switch NRS 2-.. and the level controller NRR 2-.. the electrode can be used as water level controller with MIN/MAX alarm.

The level electrode can be used in combination with the following level switches/controllers: NRS 2-50, NRS 2-51, NRR 2-50, NRR 2-51, NRR 2-52 and NRR 2-53.

Function

The level electrode and the preamplifier NRV 2-31 work according to the capacitance measurement principle and translate the level changes into a level-dependent current signal, with the length of the electrode rod determining the measuring range.

The level electrode is installed inside steam boilers, vessels or in an external level pot. If the equipment is installed inside the boiler or vessel, a protection tube provided on side ensures correct functioning.

The level electrode can be installed together with one GESTRA level electrode for water level limiting or for high-level alarm in a single protection tube or external level pot.

The level electrode can be used in electrically conductive and non-conductive fluids.

Potentially explosive areas

The equipment must **not** be used in potentially explosive areas.

Technical data

Service pressure

PN 40, 32 bar at 238°C

Mechanical connection

NRG 26-621: Screwed G ¾ A, ISO 228

Materials

Screw-in body: 1.4571, X6CrNiMoTi17-12-2

Electrode rod insulation: PTFE

Length of installation / measuring range

NRG 26-21	
Length of installation at 238° C	Measuring range
373	300
477	400
583	500
688	600
794	700
899	800
1004	900
1110	1000
1214	1100
1319	1200
1423	1300
1528	1400
1636	1500
2156	2000

Weight

NRG 26-621: approx. 1.8 kg (NRG 26-21 L=1000mm)

Pre-amplifier NRV 2-31

Supply voltage

12 V DC

Sensitivity of response

Range 1: Water $\geq 20 \mu\text{S/cm}$

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

Range 3: Fuel oil EL $\epsilon_r 2,3$

Output

$\geq 0 - \leq 7 \text{ V DC}$, level proportional

Adjustor

1 Code switch with two poles + 1 rotary knob

Housing

PA6 GF 30black / PSU grey transparent

Elastomer gasket for cover: EPDM

Electrical connection

1 Screw-type terminal strip with 3 poles, cable gland with integrated cable clamp M 16

Protection

IP 65 to DIN EN 60529

Max. admissible ambient temperature

Max. 70 °C

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Important Notes

Installation

- The level electrode NRG 26-21 can be installed together with one GESTRA level electrode for water level limiting or for high-level alarm in a single protection tube or external level pot (inside diameter 100 mm). If the level limiting electrode is installed inside the vessel, it must be at least 40 mm away from the upper vent hole.
- If installed outdoors the level electrode must be equipped with a weather protection cover.
- The angle of inclination of the electrode must not exceed 45°, with the length of the electrode rod being limited to 688 mm.
- Do not cut the electrode rod.

Electrical connection

- To connect the level electrode use screened multi-core control cable with a min. conductor size 0.5 mm², e. g. LiYCY 4 x 0.5 mm², max. length: 100 m.
- A maximum of 3 switches / controllers NRS /NRR 2-5.. can be connected to one level electrode.
- Connect the screen only once to the central earthing point (CEP) in the control cabinet.
- Make sure that the connecting cable is segregated and runs separately from power cables.

Key

- 1 Max. length of installation at 238 °C
- 2 Measuring range
- 3 Electrode thread G ¾ A, ISO 228
- 4 Thermal insulation, provided on site, d = 20 mm (outside of thermal insulation of steam boiler)
- 5 Wiring terminals NRG 26-21
- 6 Wiring terminal strip of level switch/controller NRS 2-5.. / NRR 2-5..

Dimensions

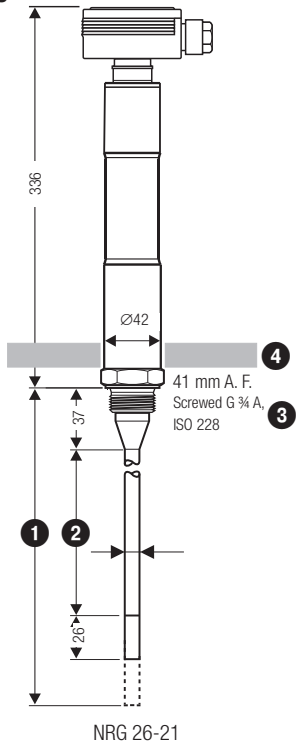


Fig. 1

NRG 26-21	
Length of installation at 238° C 1	Measuring range 2
373	300
477	400
583	500
688	600
794	700
899	800
1004	900
1110	1000
1214	1100
1319	1200
1423	1300
1528	1400
1636	1500
2156	2000

Electrical connection

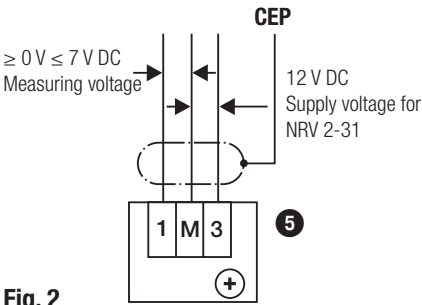


Fig. 2

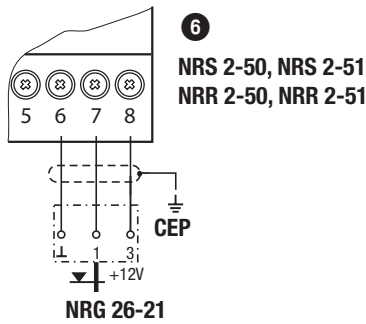
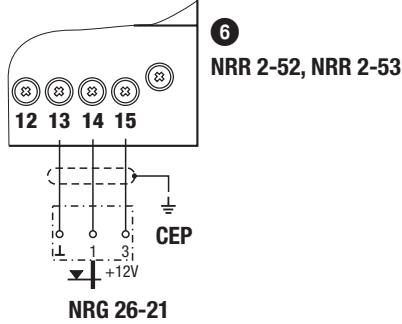


Fig. 3



Level Monitoring NRG 26-21

Order & Enquiry Specification

GESTRA Level electrode NRG 26-21
PN 40, screwed G 3/4
Length of installationmm
Fluid

Associated switch / controller, associated power supply unit

- n Level switch NRS 2-50, NRS 2-51
- n Level controller NRR 2-50, NRR 2-51
- n Level controller NRR 2-52, NRR 2-53
- n Power supply unit SITOP PSU100C 24V/0,6A

Key

- 12** Flange PN 40, DN 50, EN 1092-01
(for one electrode)
Flange PN 40, DN 100, EN 1092-01
(for electrode combination)
- 13** For the approval of the boiler standpipe with connecting
flange the relevant regulations must be considered.
- 14** Vent hole
Provide vent hole as close to the boiler wall as possible!
- 15** High water HW
- 16** Electrode rod
- 17** Protection tube DN 80
(in France according to AFAQ $\geq$ DN 100)
- 18** Protection tube DN 100
- 19** Distance between electrode rod and protection tube
 ≥ 14 mm
- 20** Distance between electrode tip (NRG 1...-50 or
NRG 1...-51) ≥ 14 mm (creepage distances and
clearances)
- 21** Low water NW
- 22** Reducer DIN 2616-2, K-88.9 x 3.2-42.4 x 2.6 W
- 23** Reducer DIN 2616-2, K-114.3 x 3.6-48.3 x 2.9 W
- 24** Level pot $\geq$ DN 80

Directives and Standards

You can find details on the conformity of the equipment and the applicable standards and directives in the Declaration of Conformity and the relevant certificates.

Supply in accordance with our general terms of business.

Examples of installation

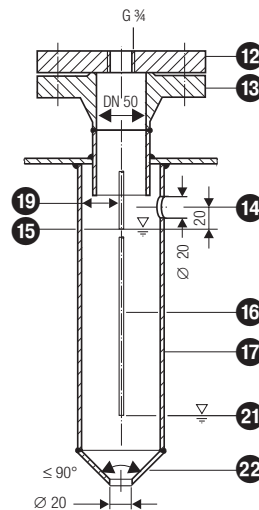


Fig. 4 Protection tube (provided on site) for installation inside the boiler

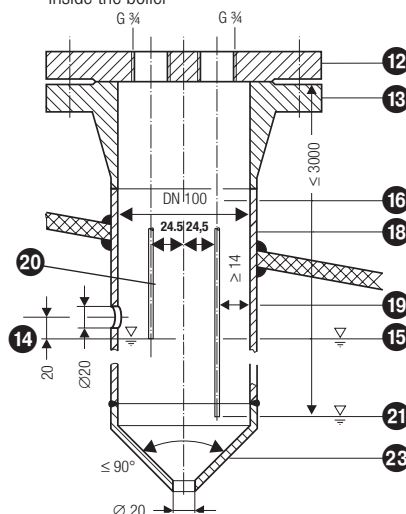


Fig. 6 Protection tube (provided on site) for installation inside the boiler and in combination with other GESTRA equipment

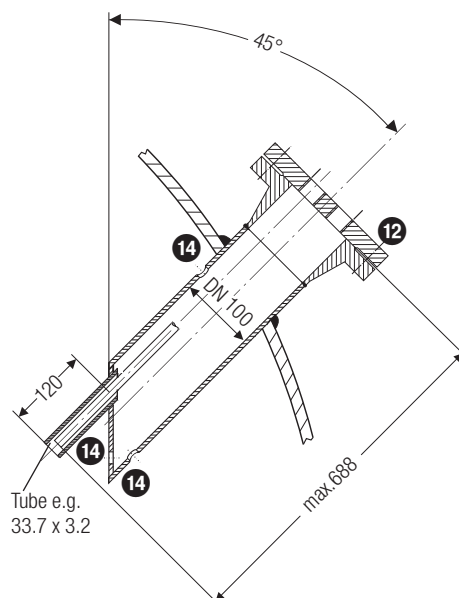


Fig. 8 Inclined installation, e. g. in steam boilers

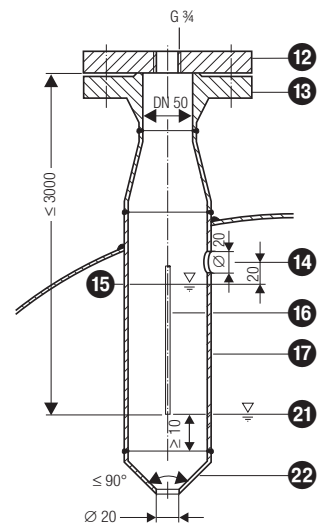


Fig. 5 Protection tube (provided on site) for installation inside the boiler

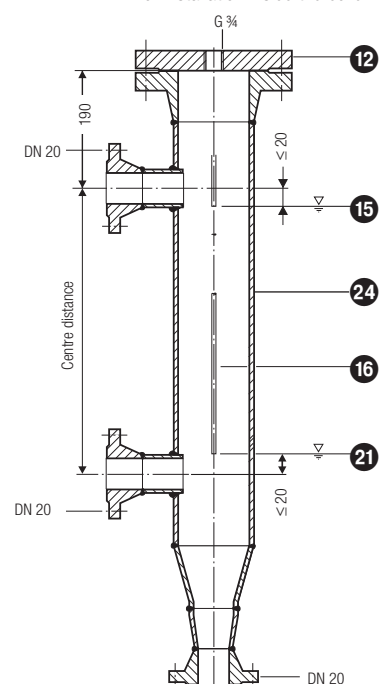


Fig. 7 External level pot

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