2. CONDUCTIVITY ELECTRODE; BD5400-T BD5600-T

2.1 DESCRIPTION

The TDS (Total Dissolved Solids) level in steam boilers is controlled using TDS Blowdown Control System more accurately and precisely. Also water temperature will be measured via resistance thermometer and the conductivity readings can be referenced to the standard reference temperature of 25 C and the conductivity value will be automatically compensated for temperature.

TDS Blowdown Controller BK 5000-T detects the electrical conductivity and water temperature of boiler water via the integrated resistance thermometer for detecting the fluid temperature in Conductivity Probe BD 5400-T, 5600-T. The electrode is positioned so that it continuously senses the boiler water condition and can take a direct conductivity reading. The electrical conductivity produces a proportional current provided that measuring surface and voltage supply remain constant.

3. TECHNICAL SPECIFICATIONS BD5400T

Max. operating pressure	: 32 bar g,
Nominal pressure	: PN40,
Max. operating temperature	: 239 °C- 260 °C
Conductivity measuring range	: 1 - 10000 µS/cm
Connection	: 1/2” BSP Screwed, DIN 2999
Wiring	: 5x1 mm^2 shielded, PG9
Lengths (L)	: 100, 200, 300, 400, 500 mm
Weight	:

Materials

Cable Connection Box	: Plastic
Probe Body	: Stainless Steel
Probe Tips	: Stainless Steel
Probe Tip Steady	: PFTE

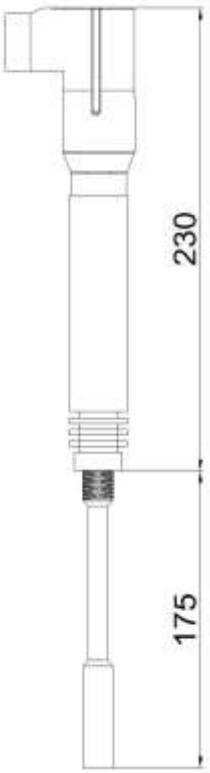


Figure 1 BD 5400-T Conductivity Probe

3. TECHNICAL SPECIFICATIONS BD5600T

Max. operating pressure	: 60 bar g,
Nominal pressure	: PN63,
Max. operating temperature	: 260 °C
Conductivity measuring range	: 1 - 10000 µS/cm
Connection	: 1” BSP Screwed, DIN 2999
Wiring	: 5x1 mm^2 shielded, PG9
Lengths (L)	: 30 mm
Weight	:

Materials

Cable Connection Box	: Plastic
Probe Body	: Stainless Steel
Probe Tips	: Stainless Steel
Probe Tip Steady	: PFTE

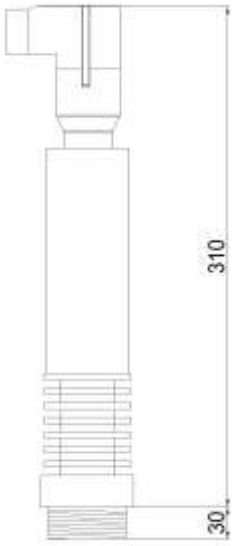


Figure 2 BD 5600-T Conductivity Probe

4. INSTALLATION and WIRING

4.1. Installation

- Probe must be installed with a minimum 20 mm clearance around the probe tip like the following Figure 7.
- There is minimum 150 mm distance between probe direction and low water level.
- Probe tip has insulation sleeving and avoid damage while installation.

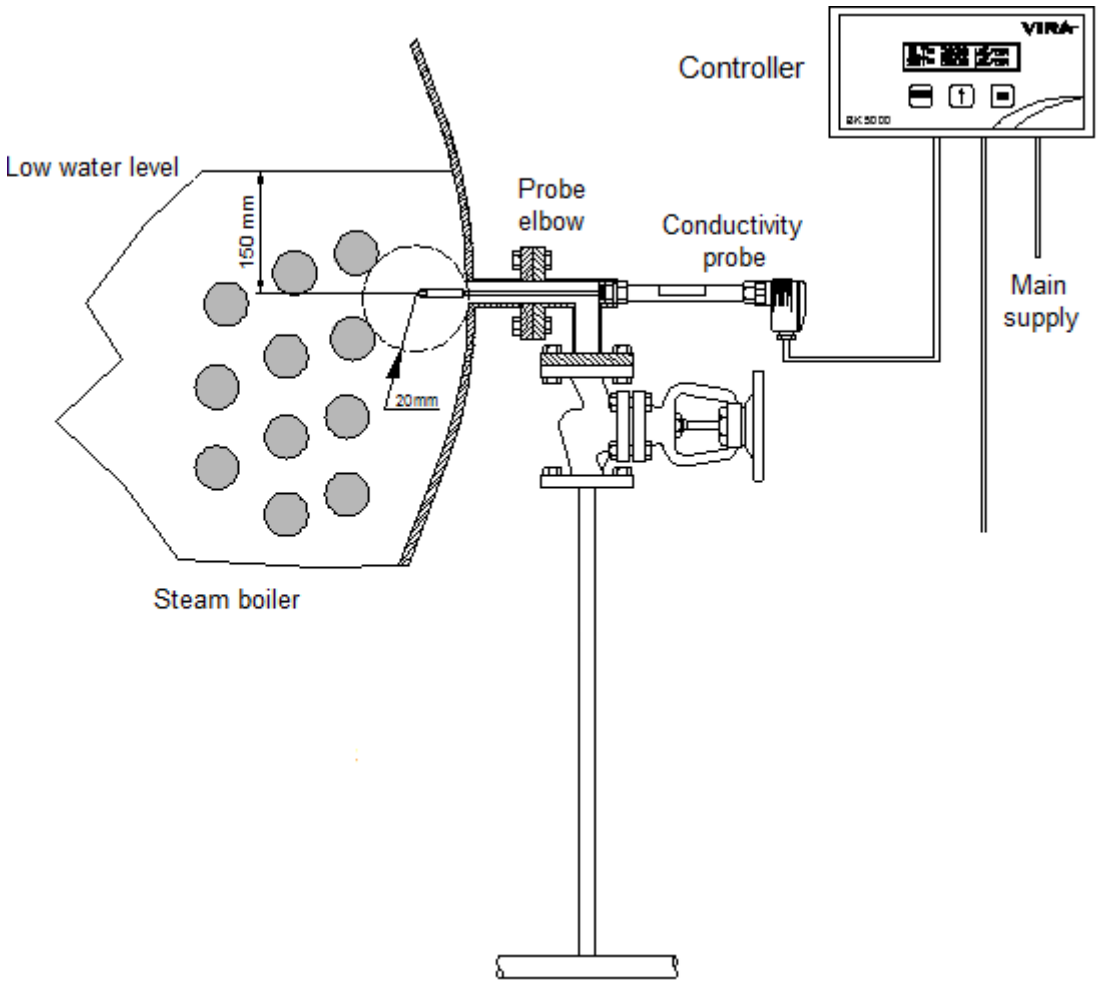


Figure 3 Horizontal installation of BD 5400-T Conductivity Probe

4.2. Installation

- Probe tip has insulation sleeving and avoid damage while installation.

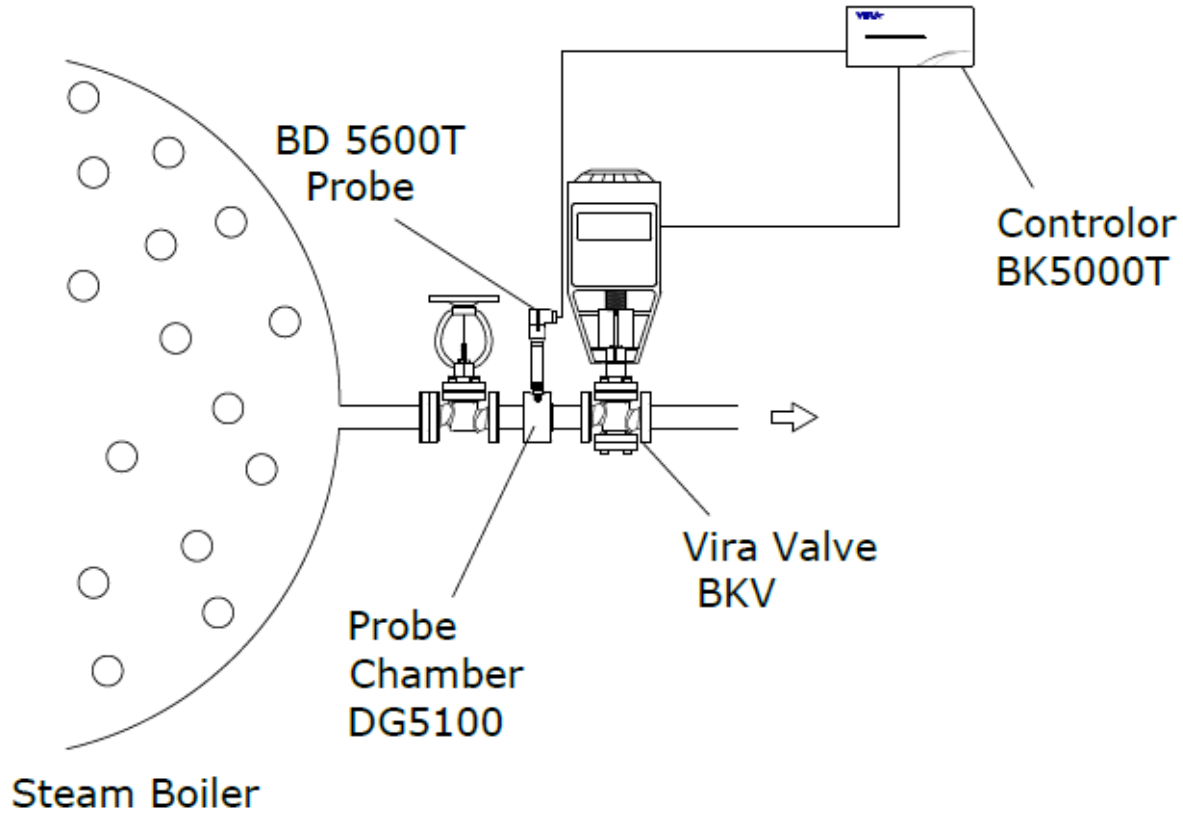


Figure 8 Vertical installation of BD 5600-T Conductivity Probe

4.2. Wiring

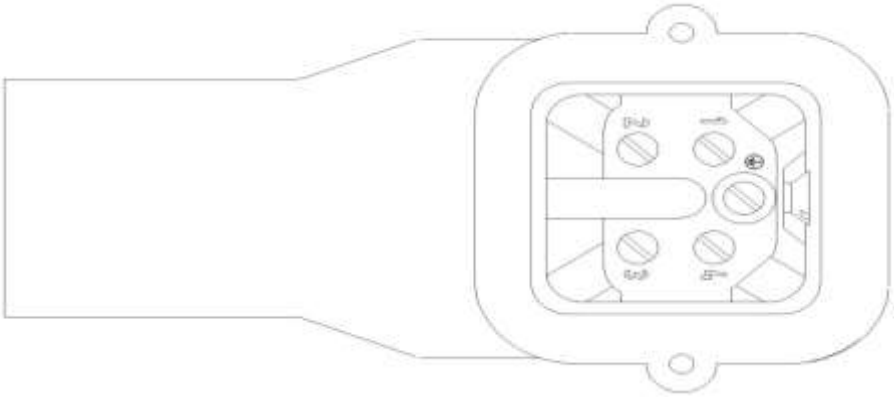
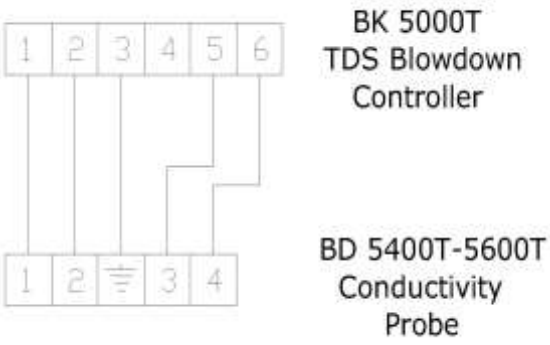


Figure 4 Cable connector of probe

Remove the screw (1) on the cable connector and remove the cover (2) shown in Figure 8. Make the cable connections between BK 5000T and BD 5400T cable connector with 5x1 mm^2 screened cable like in Figure 9.



Note: Connect cable screen (shield) to probe side using ⏚ terminal goes to 3th terminal in controller.

Figure 5 Wiring between controller and probe

5. COMMISSIONING

After all mounting and cable connections are finished, wait till the boiler reaches the operating pressure and temperature. Then take sample water from boiler properly and make conductivity calibration of BK 5000-T TDS Blowdown Controller (for more information about calibration, please refer to BK 5000-T TDS Blowdown Controller Installation and Operating Instructions). To take sample water properly, its recommended to use VİRA NK Sample Cooler.

6. MAINTENANCE

Warning!

Before unmount the probe, boiler pressure must be reduced to atmospheric pressure (0 bar g) and boiler temperature must be at a safe level.

Do not unmount the probe before disconnect the cables. Otherwise cables may be damaged.

- Conductivity probe must be unmounted approximately 6 month periods and probe tip must be checked. If necessary tip must be cleaned gently without damage the tip insulation sleeving.
- It is recommended to make function tests regularly.
- When any fault situation occurs or maintenance is necessary, please contact with "**Vira Valf Service Department**"

CHINA AREA

WUXI NORDIC ENERGY TECH CO.,LTD
A-710 ,100# DICUI ROAD,BINHU DISTRICT
WUXI ,JIANGSU 214072

nordictech@nordictech.com.cn
http://www.nordictech.com.cn

Tel: 0510-85135958
Fax: 0510-85131358