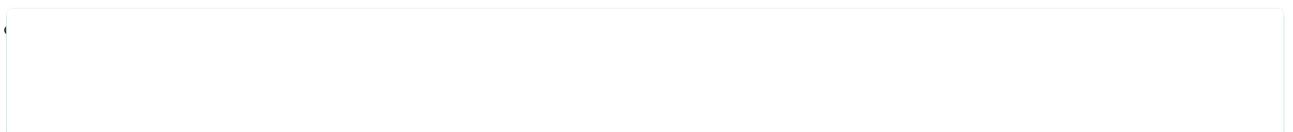




Toshiba LQ500 Installation Manual

Density (consistency) meter

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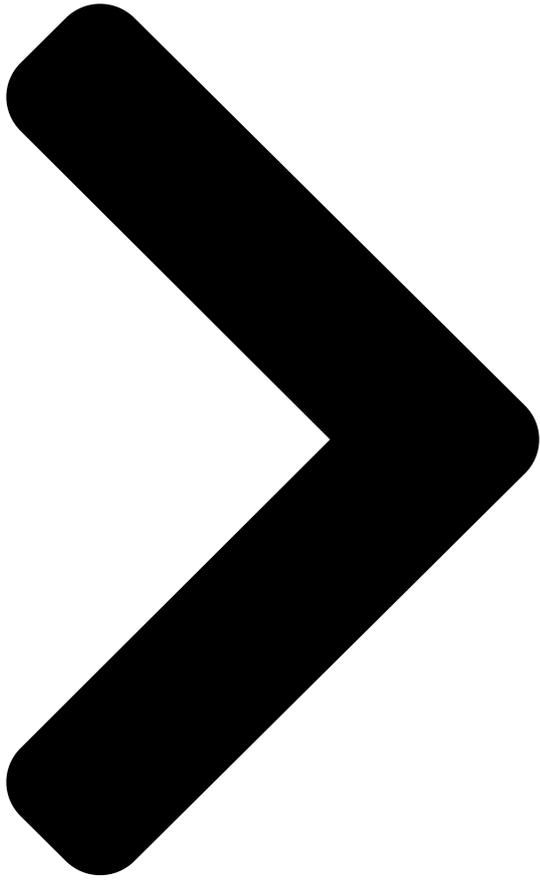
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Density (Consistency) Meter LQ500

Introduction **TOSHIBA**

The LQ500 density (%TS, consistency) meter uses microwave phase shift technology to determine concentrations of solids in the material to be measured flowing through pipes. It can perform a stable and realtime density (%TS, consistency) measurement because this technology is not affected by flow velocity along with fluid color, and also is not easily affected by contaminants and low process pressure rate. As the LQ500 has no moving parts, it is reliable and virtually maintenance free.



Since the output of the LQ500 is theoretically linear, it can be applied to a wide range of density (%TS, consistency) measurement.

TOSHIBA

The LQ500 requires a full pipe to measure the density (%TS, consistency). If certain amount of bubbles are obviously mixed in measuring media, there are possibilities of causing measuring error. Contact Toshiba before installation in the following cases:

- <Possibility of unfilled condition>
- (a) When it is installed at the discharge of a pump.
- (b) When installation is horizontal, and unfilled condition occurs inside the pipe.
- (c) A process where the pipe becomes unfilled when the operation is stopped.

Cable for power supply
(Detector/converter)

Figure 1. LQ500 Configuration Diagram

External Sync control
contact input

DI / DO

Density (consistency)
measurement output

AC power supply
4-20mA

Ground resistance
100 ohm or less

Cable for communication
(Detector/converter)

Figure 2. LQ500 Density (%TS, consistency)

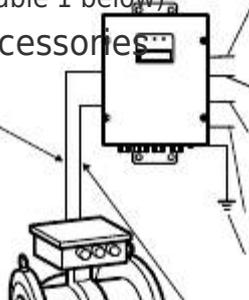


Standard Configuration

- Density (%TS, Consistency) Meter: 1 set
(Detector and converter separate mounted)
- Accessories: 1 set (see Table 1 below)

Table 1. Standard Accessories

Items
Power supply
Between detector and
cable
Communication



Between detector and
cable

Fuse

(glass tube 5.5 dia. x 20 mm)

Document

Instruction manual

Note 1: Need to prepare a power supply cable for the LQ500.

Refer to the section of cable specifications at the
overall specifications in detail.

Meter

Specifications

Quantity

converter (*1)

(32.8 ft)

converter (*1)

(32.8 ft)

2A(T), 250 V

EJL- 106j

10 m

10 m

2

1



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Related Manuals for Toshiba LQ500

[Measuring Instruments Toshiba LQ500 Operation Manual](#)

Density meter (113 pages)

[Measuring Instruments Toshiba Density \(Consistency\) Meter LQ500 User Manual](#)

Toshiba density (consistency) meter user guide (9 pages)

[Measuring Instruments Toshiba LF410 Manual](#)

Field intelligent device - mount-anywhere series - wafer electromagnetic flowmeter (15 pages)

[Measuring Instruments Toshiba LF470 Quick Start Manual](#)

Electromagnetic flowmeter field intelligent device (8 pages)

[Measuring Instruments Toshiba Electromagnetic Flowmeter LF470/LF612 Specification Sheet](#)

Electromagnetic flowmeter (8 pages)

[Measuring Instruments Toshiba LF434 /LF620 Manual](#)

Electromagnetic flowmeter (12 pages)

[Measuring Instruments Toshiba Sanitary Electromagnetic Flowmeter TIC-LF494B User Manual](#)

Field intelligent device series sanitary electromagnetic flowmeter (17 pages)

[Measuring Instruments Toshiba LF516 Instruction Manual](#)

Electromagnetic flowmeter capacitance type (157 pages)

[Measuring Instruments Toshiba LF232*F Series Instruction Manual](#)

Electromagnetic flowmeter for partially-filled pipes 6" to 24" (150 to 600 mm) (8 pages)

[Measuring Instruments Toshiba LF620 B Series Instruction Manual](#)

Electromagnetic flowmeter converter (167 pages)

[Measuring Instruments Toshiba LF654 Instruction Manual](#)

Lf654 series electromagnetic flowmeter detector (51 pages)

[Measuring Instruments Toshiba RD-97DTKB Owner's Manual](#)

Hdd & dvd video recorder (96 pages)

[Measuring Instruments Toshiba GF630 Manual](#)

Electromagnetic flowmeter (18 pages)

[Measuring Instruments Toshiba GF642 Manual](#)

Electromagnetic flowmeter (11 pages)

[Measuring Instruments Toshiba LF622 Quick Start Manual](#)

Magmeter (13 pages)

[Measuring Instruments Toshiba LF620F Instruction Manual](#)

Electromagnetic flowmeter converter (162 pages)

Summary of Contents for Toshiba LQ500

Page 1 Document Instruction manual (c) A process where the pipe becomes unfilled Note 1: Need to prepare a power supply cable for the LQ500. when the operation is stopped. Refer to the section of cable specifications at the overall specifications in detail.

[Page 2: Overall Specifications](#)

*1 TS: Total Solids <Notice> *2 Span = Upper range - Lower range 1. Install a sample tap near the LQ500 as close as *3 The material to be measured must be fluid and be filled evenly with no voids.

[Page 3: Detector Specifications](#)

300 mm (12") 6 mS/cm maximum suitable for use in non-hazardous location only Note 1: The LQ500 can not have an accurate density (%TS, consistency) measurement when it is over the specification according to reduce the microwave signal. Note 2: The LQ500 density (%TS, consistency) Weight: Refer to Outline Dimensions (Table 3).

[Page 4](#) Polysulfone (*4) Applicator window sealant Fluoric rubber *1 Avoid using the LQ500 for applications where harmful liquids that cause corrosion, deterioration, or changes in quantity for the wetting materials are used. Make sure all materials at these wetting parts that are suitable for your CIP or not before cleaning.

[Page 5](#) Input resistance: Approx. 3k ohm opens when an error occurs in the converter or • Internal conductivity correction function: when the LQ500 is in the setting change mode, This function reduces the influence (density otherwise the contact remains closed. variation) of the conductivity changing by using •...

[Page 6](#) • Moving average function: Because the phase is limited from 0 degree to 360 degrees, LQ500 use the rotation N when the phase In order to keep the average density (%TS, is over 360degree. But the range of density is wide...

[Page 7: Installation](#)

LQ500 Installation ■ Outline Dimensions Unit: mm (inch) 250 (9.8") 190 (7.5") Figure 3. LQ500 detector outline dimensions Table 3. LQ500 detector outline dimensions Dimensions, Unit: mm (inch) Weight, Unit: kg (lbs) Size DIN 16 mm (inch) DIN 10 ANSI 150 JIS 10K Approx.

[Page 8: Installation Precautions](#)

(in other words, so that the paired (13) If the density changes rapidly (less than 1second), applicator sections are placed directly side by the LQ500 may not measure accurately. The range side). of measurable density (less than 1 second) (7) This density meter does not distinguish between (c = 1.000)

[Page 9](#) LQ500 prepare a loose mechanism in advance. (9) To minimize the impact of the bubbles, it is Note: If valve water pipe is connected to this valve, air recommended that the meter be installed on a cannot be extracted. Therefore, another valve (vent location as far as possible from the pipe outlet for valve) is needed to extract air.

[Page 10: Wiring Precautions](#)

(2) Ground the LQ500 with 100 ohm or less ground (8) As the cable port is made air-tight using a packing, resistance. Do not use a common ground shared by tighten the cable gland securely when all the wiring other power equipment.

[Page 11: Ordering Information](#)

Instrument (load) The optional BF100 configurator is a software Density meter output package that you can operate the LQ500 from remote places. Please prepare the personal computer. Before you use the BF100 software package, you install the BF100 software package to the personal...

[Page 12](#) None (Note 2) Note 1: The differences between standard type are RTD sensor and Applicator window. Note 2: Toshiba recommends to using our specified cable. ISO9001 and ISO14001 are certified. Specifications are subject to change without notice. © Toshiba Infrastructure Systems & Solutions Corporation 2019 Misuse of this product can result in damages to property or human injury.

