MANUAL

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Type-SR Teletube

Assembly Guideline

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EUROPE/GLOBAL
Rheonics GmbH
Winterthur, Switzerland
Tel: +41 52 511 32 00

USA
Rheonics, Inc.
Sugar Land, TX, USA
Tel: +1 713 955 7305

Website: https://rheonics.com
Support Portal: https://support.rheonics.com
Sales E-Mail: info@rheonics.com
Support E-Mail: support@rheonics.com

Manual conforms to IEC 82079-1:2019

SR-TT-AG-2611	Teletube Assembly Guideline	

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Contents

1 About Rheonics Teletube Sensor **2**

2 Rheonics Teletube Sensor Probe - Parts List **3**

3 Assembly Tools Included **5**

4 Assembly Instructions **6**
4.1 Teletube Preparation 6
4.2 Sensor Probe and Cable Preparation 9

5 Index **12**
5.1 Tables Index 12
5.2 Figures Index 12

6 Notes/Errata **13**

7 Revision and Approvals **16**

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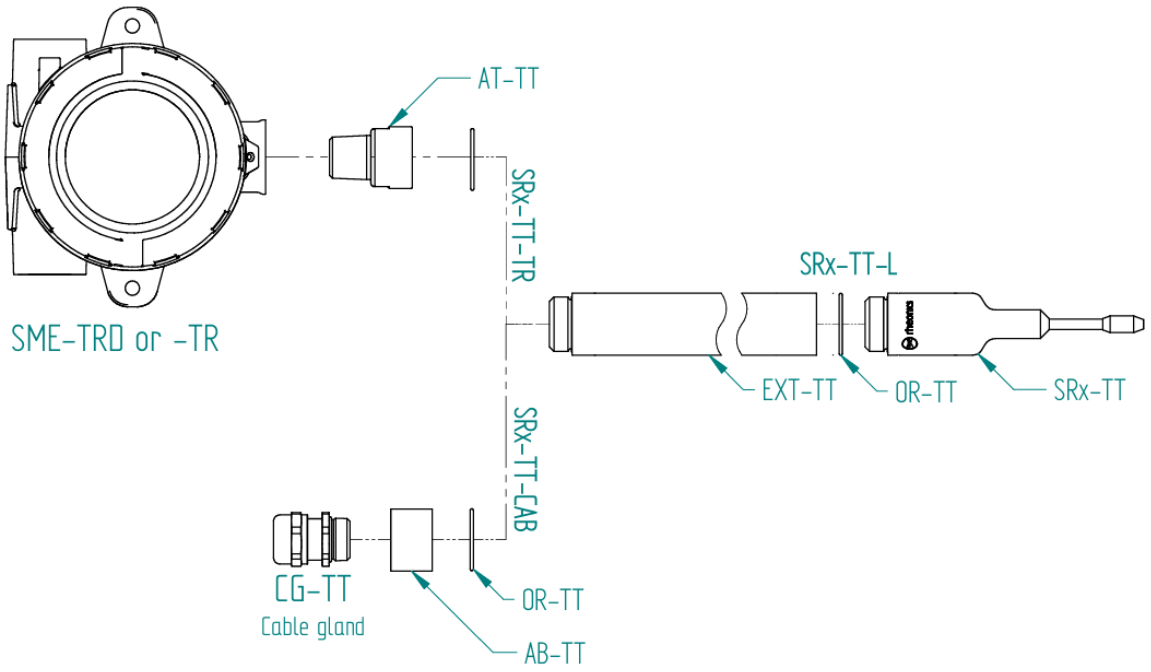
1 About Rheonics Teletube Sensor

For installations where the insertion length required for the Rheonics SRV (Inline Viscometer) or SRD (Inline Density and Viscosity meter) sensors is ultralong (above 600 mm), Rheonics offers the Teletube sensor variant. It allows the unit to be delivered in smaller parts that are assembled by the user prior to final installation on site. Assembly is straightforward and simplified based on G-threaded joints. Sensor probes used for this assembly are called Teletube probes (SR-TT). These probes have a G ¾ male thread at the back end. This variant simplifies delivery, assembly and costs less than a standard long-insertion probe.
For the Type SR-TT probes, the customer must specify the following when ordering:

- Process connection
- Total length (if not defined, the smallest possible is used)
- Insertion length (distance from probe's tip to the process connection)
- Back-end variant

The back-end variant can be -TR for SME-TR(D) mounting adapter or -CAB for a metal cable gland.

Figure 1: Rheonics Teletube Sensor Components



NOTE

The Type SR-TT probes can also be ordered alone without extension tubes or process connection flanges. In this case, the client needs to create a custom pipe to thread at the probe's back end. Using the AT-TT on the probe back end, the custom pipe requires a standard 1" NPT female port for mounting.

Contact the Rheonics Support Team for more information at support@rheonics.com

2 Rheonics Teletube Sensor Probe - Parts List

Table 1 lists all parts that may be used in the assembly. Depending on the sensor configuration, some parts may not be included and quantities may vary.

Part	Quantity	Comment	Images
SRV-TT or SRD-TT	1	Sensor Probe	SRV-TT or SRD-TT
OR-TT	1 for probe 1 for Back-end connector 1 for each extension tube	⌀27 x 1.5 mm (ID x cross-section) O-ring Select an O-ring material that is compatible with your process fluid and operating temperature.	OR-TT
EXT-TT	Defined by insertion length	Extension tubes: May be one or many. These parts are numbered from 1 to X. The part with the process connection flange is generally the last one.	EXT-TT
AB-TT	1	Back-end adapter, G 3/4 female to 1/2” NPT female. -TT-CAB option only.	AB-TT
CG-TT	1	Cable gland for the sensor cable. -TT-CAB option only	CG-TT
AT-TT	1	Back-end adapter, G 3/4 female to 1/2” NPT male. Only for -TT-TR option only (Transmitter mount adapter).	AT-TT

Table 1: Parts List

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NOTICE

The OR-TT is a standard O-ring that is used for sealing all G-threaded joints in the Teletube assembly. It is available in various materials from Rheonics and third-party O-ring suppliers. **Order the correct O-ring material that is compatible with your process fluid and operational temperature.**

Do not operate the probe outside the temperature range specified at order. Components are rated only for that range; operating outside it causes irreversible damage.

3 Assembly Tools Included

Tool	Quantity	Comment	Images
TOW-M12	1	Torque Wrench for M12 connector	TOW-M12
TLG	1	Threadlocker Standard: LOCTITE ®242 For High Temperatures: LOCTITE ®2422 (up to 343 °C, 30 g)'	TLG

Table 2: Tool List

⚠ WARNING

It is recommended to use TLG (Threadlocker) to avoid the threads coming loose. However, when the sensor needs to be disassembled, then you can assemble the Teletube sensor without the TLG and only apply TLG when the permanent configuration is fixed. TLG is reworkable in some cases - **check the TLG is appropriate for your use case and process fluid.**

For sensor rentals the TLG is not included as the installation is intended to be disassembled later.

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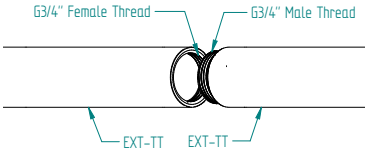
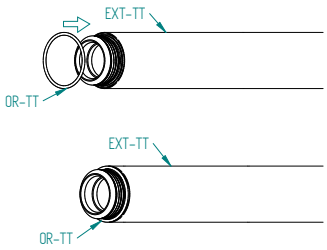
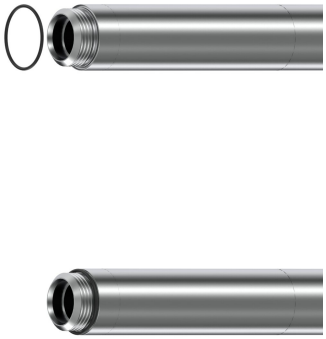
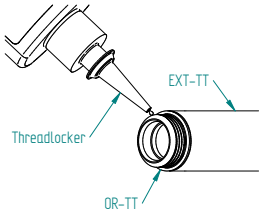
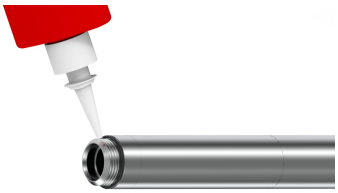
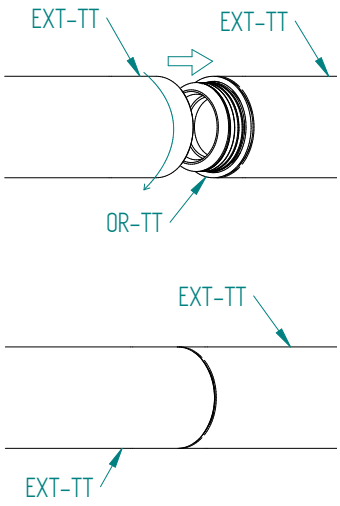
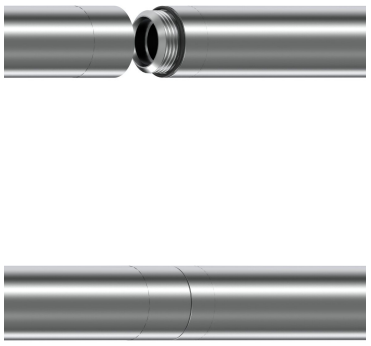
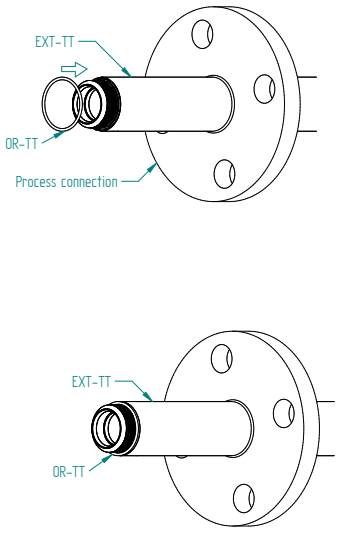
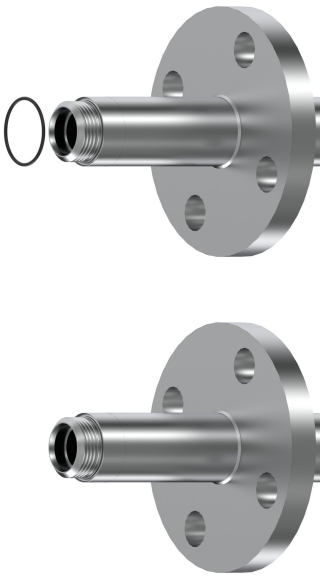
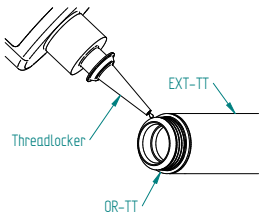
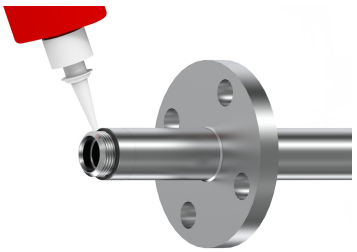
4 Assembly Instructions

4.1 Teletube Preparation

Before starting, check that all parts and tools listed in Table 1 and Table 2 are present. If only one extension tube (EXT-TT) is delivered, skip to step 6. If several are delivered, follow the steps below.

Step	Instruction	Drawings	Pictures
1	Identify female and male G 3/4 thread port of the EXT-TT part. Identify the EXT-TT with the flange; this is the last tube to assemble (not applicable if an APC adapter is used).		
2	Place an O-ring OR-TT at the male thread port base.		
3	Apply a few TLG drops on the first male G 3/4 threads for a secure thread lock; keep TLG off the O-ring. Also, wait at least 10 minutes before putting the sensor into operation. **Not applicable for rentals.**		

4	Screw the male thread into the female thread until the faces meet and the O-ring is compressed. Hand tightening is enough.		
5	Repeat steps 2 to 4 for each remaining EXT-TT, in numerical order.		
6	Place an OR-TT on the G 3/4 male port base of the last EXT-TT. The part may look different, depending on the process connection ordered.		
7	Apply a few TLG drops on the first male G 3/4 threads for a secure thread lock; keep TLG off the O-ring. Also, wait at least 10 minutes before putting the sensor into operation. **Not applicable for rentals.**		

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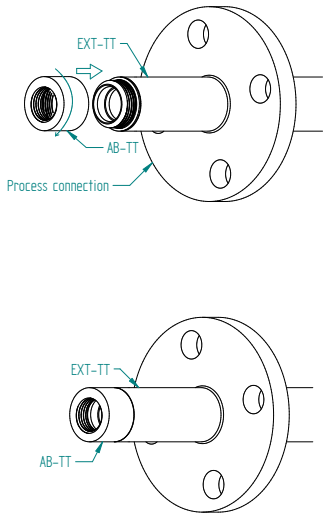
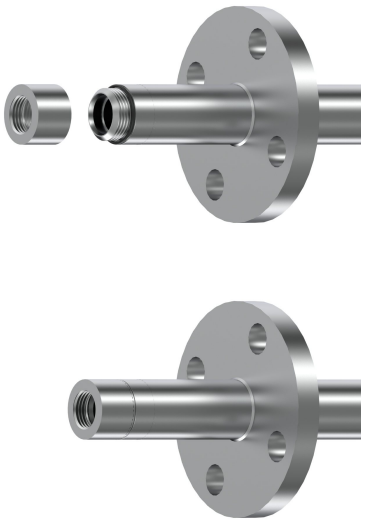
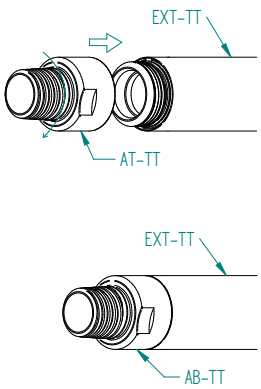
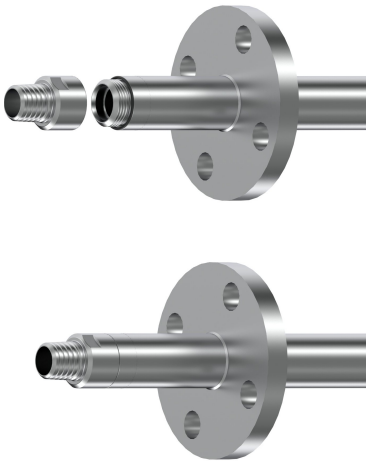
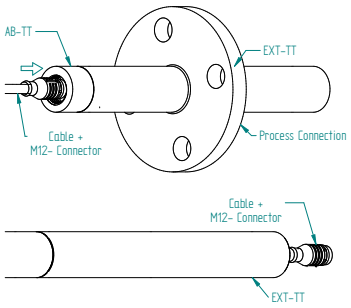
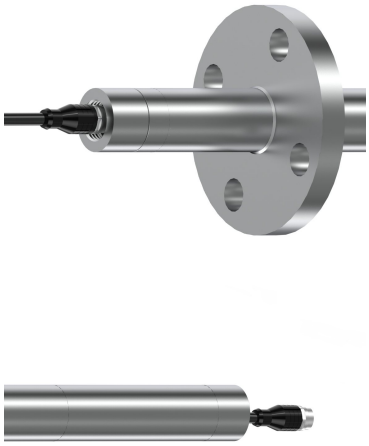
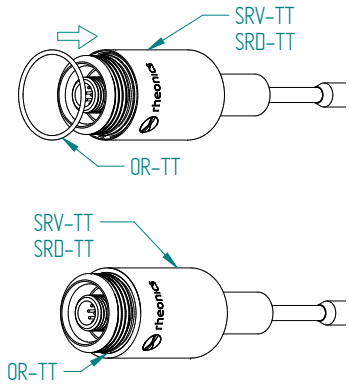
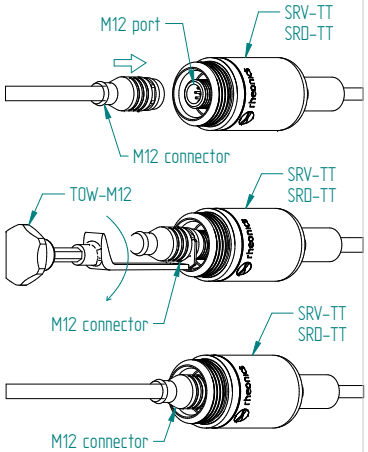
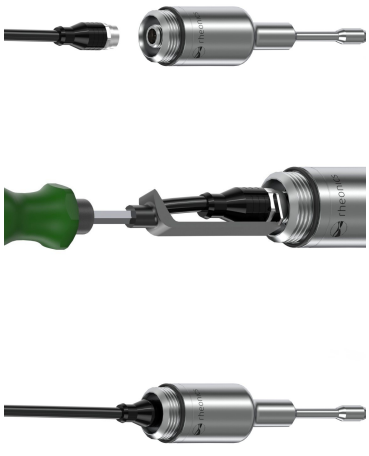
8A	**A. For -TT-CAB only** Screw the AB-TT (G 3/4 female) onto the G 3/4 male thread of the last EXT-TT. Hand tightening is enough.		
8B	**B. For -TT-TR only** Screw the AT-TT (G 3/4 female) onto the G 3/4 male thread of the last EXT-TT. Hand tightening is enough.		

Table 3: Instructions - Teletube Preparation

4.2 Sensor Probe and Cable Preparation

Step	Instruction	Drawings	Pictures
9	Insert the M12 connector end of the sensor cable at the back end (AB-TT/AT-TT) and push it through until it comes out at the probe end. NOTE: If the AT-TT is used, the back end looks different.		
10	Place an OR-TT at the base of the G 3/4 thread port of the sensor probe SRV-TT or SRD-TT.		
11	Thread in the sensor cable M12 connector to the M12 port at the sensor probe back end. Use the TOW-M12 tool for a secure connection.		

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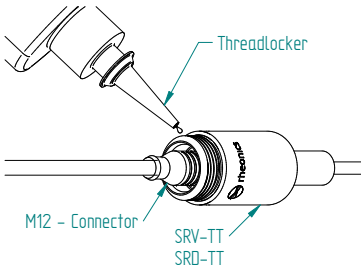
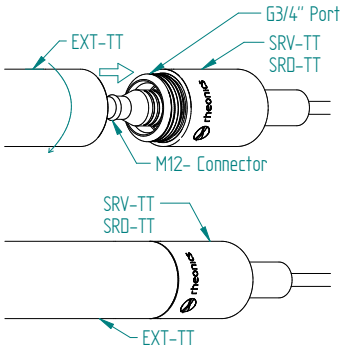
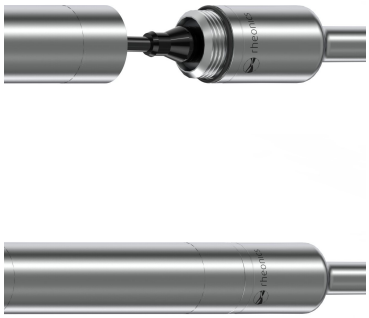
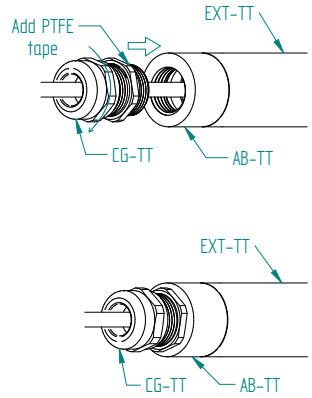
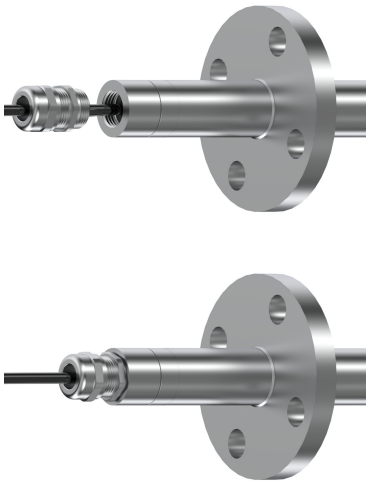
12	Apply a few TLG drops on the first male G 3/4 threads for a secure thread lock; keep TLG off the O-ring. Also, wait at least 10 minutes before putting the sensor into operation. **Not applicable for rentals.**		
13	Screw the G 3/4 female thread of the extension-tube assembly into the G 3/4 male thread of the sensor probe. Hand tightening is enough.		
14	**A. For -TT-CAB** Pass the cable through the CG-TT Cable Gland, add PTFE tape to the thread, and thread it in the AB-TT 1/2" NPT port. Mechanical assembly is complete. Once assembly is installed, connect the sensor cable to the sensor electronics unit (SME-XXX). Refer to the SME wiring guidelines or section 11 on the SRV or SRD manual to connect the sensor cable wires to the appropriate terminal block in the transmitter.		

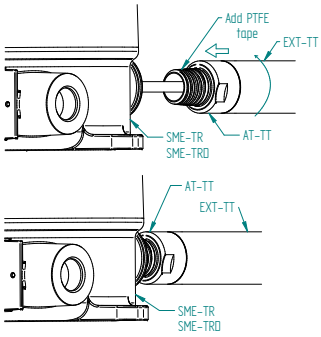
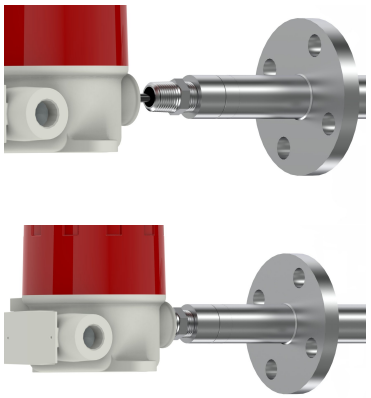
	B. For -TT-TR First wrap PTFE tape on the AT-TT 1/2” NPT thread, then screw the AT-TT into the SME (state orientation of display/housing), finally wire the sensor cable in the SME-TRD or -TR electronics. Refer to the SME wiring guidelines or section 11 on the SRV or SRD manual to connect the sensor cable wires to the appropriate terminal block in the transmitter.		

Table 4: Instructions - Sensor Probe and Cable Preparation

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5 Index

5.1 Tables Index

Table 1. Parts List . . . 3
Table 2. Tool List . . . 5
Table 3. Instructions - Teletube Preparation . . . 8
Table 4. Instructions - Sensor Probe and Cable Preparation . . . 11
Table 5. Revision History . . . 16

5.2 Figures Index

Figure 1. Rheonics Teletube Sensor Components . . . 2

6 Notes/Errata

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7 Revision and Approvals

Version	Nature of Changes	Approvals	Date
1.0	Original version	SK, DB, DL	03.12.24
1.1	Format Update	DB, DL	05.08.26
1.2	Assembly instructions updated	DB, DL	11.11.26

Table 5: Revision History

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