Teletube Type-SR Sensor Probe
Parts List and Assembly Guide

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About Rheonics Teletube Sensors

For installations where the insertion length required for the Rheonics SRV or SRD sensors is ultra-long (above 600mm), Rheonics offers the Teletube sensor variants. This variant 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 ¾" G male thread at the back. This variant simplifies the delivery and assembly, as well as reduces the costs of using a long insertion standard probe.

For the Type SR-TT probes, the user should define the process connection, total length (if not defined, the smallest possible is used), insertion length (distance from probe's tip to flange), and the back-end variant. The back-end variant can be -TR for SME-TR(D) mounting adapter or -CAB for a metal Cable Gland.
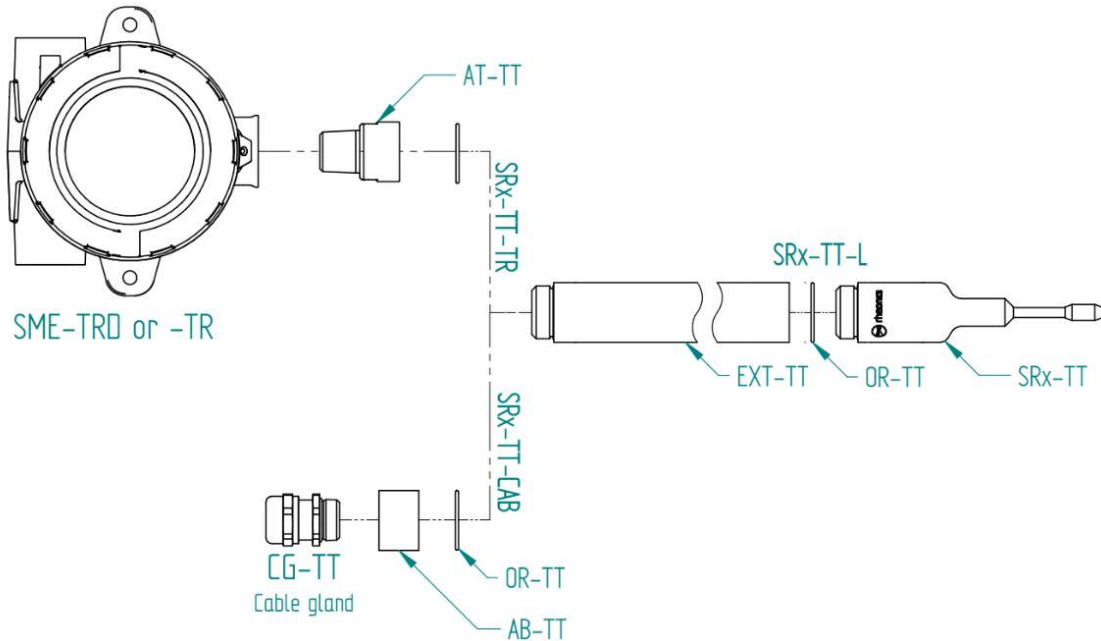

Figure 1: Rheonics Teletube Sensor Components

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

Rheonics Teletube Sensor Probe - Parts List

The next table details all parts that can be used for the assembly, depending on the sensor configuration some parts may not be included and quantities can 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	Ø27X1.5 O-ring Select the right material for your process fluid and operational temperature compatibility.	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	End back adapter Female G3/4" - Female NPT 1/2". Only for -TT-CAB option.	AB-TT
CG-TT	1	Only for -TT-CAB option (Cable gland for sensor cable)	CG-TT
AT-TT	1	End back adapter Female G3/4" - Male NPT 1/2". Only for -TT-TR option (Transmitter mount adapter).	AT-TT

Note: The OR-TT is a standard O-Ring that is used for sealing all the G threaded in the Teletube assembly. This 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**.

Follow the specified temperature for your probes as components are only rated for the temperature that was ordered. The use of probes outside of their specified operational range will result in irreversible damage.
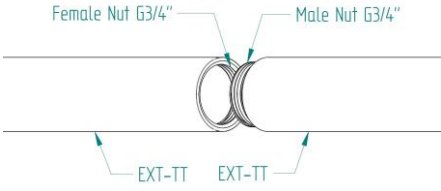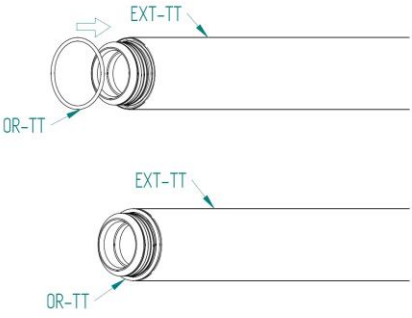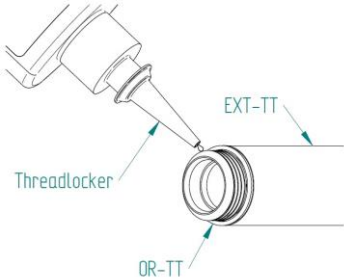
Assembly Tools Included

Tools	Quantity	Comment	Images
TOW-M12	1	Torque Wrench for M12 connector	TOW-M12
TLG	1	Thread Locker Glue Standard: LOCTITE 242 For High Temperatures: LOCTITE 2422 HI TEMP TL MS 30G	TLG

Note: It is recommended to use TLG (Thread Locker Glue) 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.

Assembly Instructions

N	Instruction	Drawings	Pictures
Verify all parts for assembly and tools to be used.			

N	Instruction	Drawings	Pictures
I. Prepare extension Tubes: If only one extension tube EXT-TT is delivered, no preparation is required, go to step 5. If multiple EXT-TT parts are delivered, follow next steps.			
1	Identify female and male G3/4" thread port of the EXT-TT part. Identify the EXT-TT with flange, this will be the last tube to assemble - not applicable if APC adapter is used.		
2	Place an O-Ring OR-TT at the male thread port base.		
3	Apply some of the TLG paste in the male G3/4" threads for secure thread lock. **Not applicable for rentals.**		

4	Thread in the G3/4" male and female port until faces get in contact and O-Ring is compressed. Hand tightening is enough. Repeat the process (step 2 to 4) for all EXT-TT delivered in the assigned order. If there is a tube with a process connection, this one will be the last in the assembly.		
5	Place an OR-TT on the G3/4" male port base of the last EXT-TT. Piece may look different depending on the process connection you ordered.		
6	Apply some TLG paste in the male G3/4" threads **Not applicable for rentals.**		
7A	**A. For -TT-CAB only** Thread in the AB-TT G3/4" female port to the last EXT-TT G3/4" male port.		

7B	**B. For -TT-TR only** Thread in the AT-TT G3/4" female port to the last EXT-TT G3/4" male port		

II. Sensor probe and cable

8	Insert the sensor cable through the assembled extension tube. NOTE: If you used the AT-TT part the back-end will look different.		
9	Place an OR-TT at the base of the G3/4" thread port of the sensor probe SRV-TT or SRD-TT.		

10	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		
11	Apply some TLG paste in the male G3/4" threads of the sensor probe. **Not applicable for rentals.**		
12	Thread in the sensor probe G3/4" port into the extension tube assembly.		

13	**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 NPT 1/2" port. Your probe is now ready. Once assembly is installed, connect the sensor cable to the appropriate electronics unit (SME-XXX). Refer to the SME wiring guidelines to connect the sensor cable wires to the appropriate terminal block in the Transmitter.		
	B. For -TT-TR Wire the sensor cable in the SME-TRD or -TR electronics, add PTFE tape to the 1/2" NPT thread, and thread the sensor probe to the SME. Refer to the SME wiring guidelines to connect the sensor cable wires to the appropriate terminal block in the Transmitter.		

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