

## ETD4 – RELIABLE HANDLING OF FLOW CONTROL

### Automatic Endoscope Reprocessor

The flow control of the ETD4 supports the correct flow through the endoscope channels.

Incorrect connection of endoscope channels is the most common reason for insufficient flow. To ensure correct connection, please make sure you follow these steps:

- 1 Check the status of the adapters**  
Are the tubes okay? Are the sealings of the adapters okay?
- 2 Check the connections of the adapter**  
Did you connect the adapters to the endoscope as described below? Are all adapters connected? Was every channel of the endoscope connected to an adapter? Is the connection between the adapters and the basket okay?
- 3 Check the connection between basket and ETD4**  
Does the basket's black knob fit tightly with the black knob of the ceiling?

### Preparation and maintenance

Every day prior to first use, all adapters and the settings of the ETD have to be checked. The following steps shall be performed:



Check whether there is no gap between the connector on the basket and the connector on the ceiling.



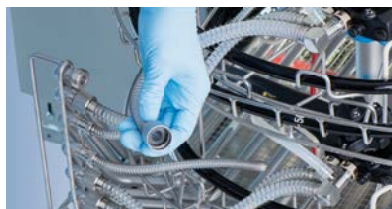
If there is a gap between the black knob and the top of the washing chamber, adjust the height of the black knob until it fits correctly.



Check the condition of the sealings of the adapters. All brackets and sealings must be in good condition.



If the sealings are worn, replace them. Always exchange complete sealing sets.



Make sure that the black sealings within the adapters are in place and that a tube or reduction plug is connected to each outlet.



Screw the adapters to the base module as shown. Always connect the upper endoscope with the upper tubes and the lower endoscope with the lower tubes.

### Connecting the endoscope

For each use of the ETD4 before starting the reprocessing program the adapters need to be connected correctly to the endoscope. To assure this, please follow these instructions:



Both connectors of the main adapter need to be connected tightly to the endoscope. Make sure the main adapter fits tightly and properly.

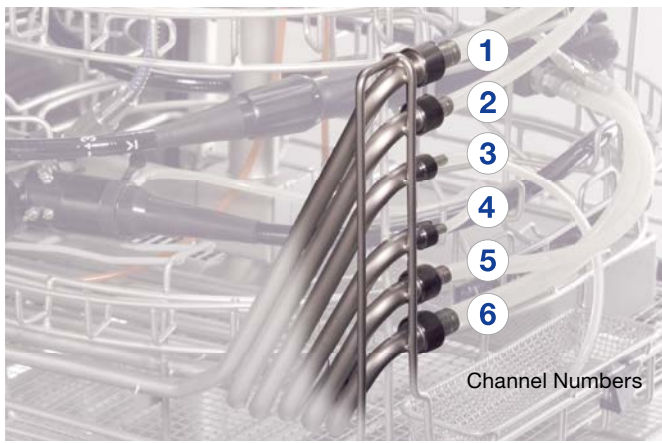


Connect the white tube to the auxiliary water channel at the light-guide section of the endoscope.



For duodenoscopes: connect the red tube to the elevator channel (either to lower or upper endoscope).

# ETD4 TROUBLESHOOTING



In case of error messages, perform the actions listed in the table below. If the error persists, most likely a channel is blocked.

Remove the endoscope, aspirate water through all channels and, if possible, brush all channels. If this is not successful either, call an authorized service center.

Error message	Description	Cause/Effect	Action
E838: FC CHANNEL1: FLOW TOO HIGH E839: FC CHANNEL2: FLOW TOO HIGH E842: FC CHANNEL5: FLOW TOO HIGH E843: FC CHANNEL6: FLOW TOO HIGH	Actual value in flow sensor higher than reference value	<ul style="list-style-type: none"> <li>• Adapter not connected to endoscope</li> <li>• Adapter incorrectly connected to endoscope</li> <li>• Adapter not connected to ETD4</li> <li>• Adapter incorrectly connected to ETD4</li> <li>• Biopsy adapter not connected to biopsy port</li> <li>• Sealing worn</li> <li>• Sealing missing</li> <li>• Erroneous teach-in</li> </ul>	<ul style="list-style-type: none"> <li>• Connect adapter to endoscope</li> <li>• Connect adapter correctly to endoscope</li> <li>• Connect adapter to ETD4</li> <li>• Connect adapter correctly to ETD4</li> <li>• Connect biopsy port adapter</li> <li>• Place new sealing onto adapter</li> <li>• Insert black sealing into adapter</li> <li>• Call authorized service. If erroneous teach-in is confirmed: perform teach-in again</li> </ul>
E840: FC CHANNEL3: FLOW TOO HIGH E841: FC CHANNEL4: FLOW TOO HIGH	Actual value in flow sensor higher than reference value	<ul style="list-style-type: none"> <li>• Adapter not connected to endoscope</li> <li>• Red tube connected instead of white tube</li> <li>• Connection channel 3 and 4 misplaced</li> <li>• Erroneous teach-in</li> <li>• Adapter not completely connected to ETD4</li> <li>• Broken tube</li> <li>• Broken bracket</li> </ul>	<ul style="list-style-type: none"> <li>• Connect adapter to endoscope</li> <li>• Connect the correct adapter 3 to endoscope</li> <li>• Connect adapter 3 to upper endoscope and adapter 4 to lower endoscope</li> <li>• Call authorized service. If erroneous teach-in is confirmed: perform teach-in again</li> <li>• Connect adapter correctly to ETD4</li> <li>• Replace tube or adapter</li> <li>• Replace bracket</li> </ul>
E844: FC CHANNEL1: FLOW TOO LOW E845: FC CHANNEL2: FLOW TOO LOW E848: FC CHANNEL5: FLOW TOO LOW E849: FC CHANNEL6: FLOW TOO LOW	Actual value in flow sensor lower than reference value	<ul style="list-style-type: none"> <li>• Endoscope channel blocked</li> <li>• Adapter blocked</li> <li>• Black knob at top of basket washing chamber not correctly adjusted</li> <li>• Erroneous teach-in</li> <li>• Damaged metal spiral</li> <li>• Kinked tube</li> </ul>	<ul style="list-style-type: none"> <li>• Brush endoscope channel</li> <li>• Remove blockage</li> <li>• Adjust black knob to ensure a connection without gaps</li> <li>• Call authorized service. If erroneous teach-in is confirmed: perform teach-in again</li> <li>• Replace adapter</li> <li>• Replace tube or adapter</li> </ul>
E846: FC CHANNEL3: FLOW TOO LOW E847: FC CHANNEL4: FLOW TOO LOW	Actual value in flow sensor lower than reference value	<ul style="list-style-type: none"> <li>• Endoscope channel blocked</li> <li>• Adapter blocked</li> <li>• Adapter tube kinked</li> <li>• Black knob at top of washing chamber not correctly adjusted</li> <li>• Channel 3 or 4 misplaced</li> <li>• Erroneous teach-in</li> <li>• Damaged metal spiral</li> <li>• Kinked tube</li> </ul>	<ul style="list-style-type: none"> <li>• Brush endoscope channel</li> <li>• Remove blockage</li> <li>• Avoid kinking of tubes</li> <li>• Adjust black knob to ensure a connection without gaps</li> <li>• Connect adapter 3 to upper endoscope and adapter 4 to lower endoscope</li> <li>• Call authorized service. If erroneous teach-in is confirmed: perform teach-in again</li> <li>• Replace adapter</li> <li>• Replace tube or adapter</li> </ul>