

# Agilent Cary 630 Purge Kit Installation Instructions

## For use with Agilent Cary 630 KBr engines and Cary 630 Transmission Modules

The Agilent Cary 630 Purge Kit (G8043-67012) is designed for use with the following:

- Agilent Cary 630 KBr engine (G8043-64001)
- Agilent Cary 630 Transmission module (G8043-68300)

### Why Use the Purge Kit?

1. Purging displaces carbon dioxide, water vapor, other atmospheric gases and ensures optimal humidity conditions for operation.
2. Purging will improve the life of the KBr optics as well as the quality of data collected. This is particularly important for KBr systems, as the optics are hygroscopic – the beamsplitter, engine window and IR detector window are irreversibly damaged when exposed to moisture. This damage is not covered under warranty.
3. Purging the Transmission module is recommended when measuring thin polymer films.

### When to Use the Purge Kit?

For KBr engines:

- When the cover has been removed for IR Source replacement
- After desiccant replacement
- When the cover has been removed for any onsite service repair or maintenance, for example after laser replacement or a preventative maintenance

**NOTE**

The Cary 630 Engine should only be purged when instrument is not in use.

For Transmission Modules:

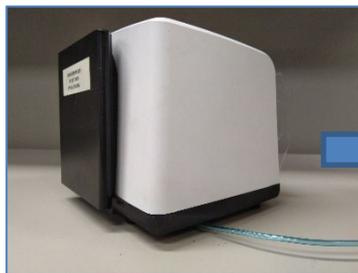
- When collecting spectra of thin polymer films, or as recommended for specific applications.
- The Transmission module may be purged during data collection.

**NOTE**

The Transmission module purge fitting is located either below the RFID chip of the accessory (Type 1) or the underside of the accessory (Type 2).



**Figure 1.** Purge Fitting, Type 1, positioned below Transmission Module RFID chip



**Figure 2a.** Purge fitting, Type 2, connected to underside of Transmission Module

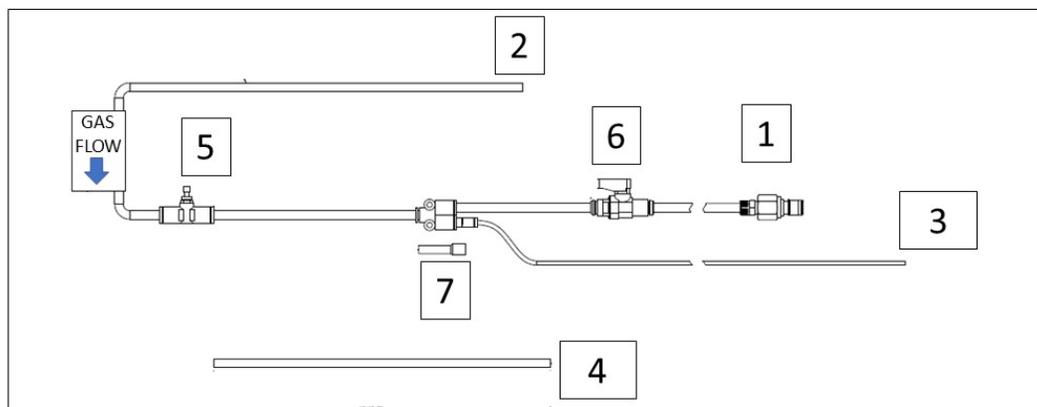


**Figure 2b.** Showing Purge Fitting, Type 2, on underside of Transmission Module

## Kit Contents

The Purge Kit comes fully assembled and ready for use.

There are several connection points; please refer to numbered list and Figure 3, below:



**Figure 3.** Cary 630 Purge Kit components

1. Purge fitting for Cary 630 engine
2. 1/4-inch tubing for purge gas source connection

Depending on the Transmission module, **one** of the following will be required:

3. 1/8-inch small diameter tubing (for Type 2)
4. The loose section of 1/4-inch diameter tubing (for Type 1)
5. A factory-preset flowmeter, to ensure correct flow rate (approximately 0.5 L/min)
6. A manual ON/OFF valve, which allows the engine purge to be switched on and off without disrupting the Transmission module purge
7. Y-joint connection with blanking plug. The plug may be used to convert the kit to a dedicated KBr engine purge line or dedicated Transmission module purge line.

**CAUTION** The preset flowrate reduces the risk of instrument damage. **Do not adjust this setting.**

Damage incurred by applying inappropriate gas pressure and/or gas quality is not covered under warranty. The Cary 630 engine should be purged only when instrument is not in use. Purging the engine while collecting spectra can compromise data quality and damage the interferometer.

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## Purge Gas Requirements

1. Purge Gas inlet pressure must be set between **50 psi and 70 psi** (between approximately 3.5-5.0 Bar) for the flowmeter to correctly regulate flow as per specification (0.5-1.0 L/min).
2. Liquid nitrogen (in conjunction with a heat exchanger) is recommended as this is generally less costly than compressed nitrogen and is of superior quality.
3. Using a bottled gas source is sufficient, given the small volume required.
4. Where compressed nitrogen must be used, the gas must be dry, oil-free and uncontaminated, with a purity value of 99.996% or better.

**CAUTION** Do not use compressed nitrogen from a supplier that uses oil or water in the compression process. These methods leave fine particles of oil or water suspended in the nitrogen that may be deposited on the instrument optics. Only use nitrogen from a supplier that fills containers from immersion pumps that are lubricated with liquid.

If purge gas is not available onsite, then the KBr engine must be Returned to Agilent (RTA) for services such as routine parts replacement, repair and Preventative Maintenance.

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5. Dry air may be used, but must be free from carbon dioxide, oil, silica, and other particulates. Nitrogen is recommended as it is more effective in eliminating carbon dioxide than dry air.

## Purge Configurations

Depending on preference and requirements, the purge kit can be set up to enable:

1. The engine purge to be switched on and off without disrupting the Transmission module purge, via the ON/OFF valve position (see Figure 4a and 4b);
2. A dedicated Transmission module purge line, using the blanking plug (see Figure 5) or
3. A dedicated engine purge line, using the blanking plug (see Figure 6)

Some example configurations are shown on the following page.



**Figure 4a.** Collecting data with engine purge disabled; Transmission module purge enabled



**Figure 4b.** Both Engine purge and Transmission module purge enabled. Instrument in stand-by mode (solid green LED), not collecting data



**Figure 5.** Dedicated Transmission module purge, using the blanking plug



**Figure 6.** Dedicated engine purge, using the blanking plug

This information is subject to change without notice.

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