ANALYT MESSTECHNIK



INSTRUCTIONS FOR USE

SKC DPM Cyclone Sampler

Parts, assembly with the DPM cassette, flow-rate setting at 2.0 L/min and sample handling for the SKC DPM cyclone sampler 225-68, for diesel particulate matter.

AMTC-IN-0009

Rev. 2 · October 2026

About this document

These instructions cover the SKC DPM cyclone sampler 225-68 used with the SKC DPM cassette 225-317 to sample diesel particulate matter (DPM). It names the parts, then takes you through fitting the cassette, setting the flow rate and handling the cassette after sampling.

The chapters follow in order: Safety (p. 4), Product and supplied items (p. 5), Before use (p. 6), After use and sample handling (p. 7), Ordering information (p. 8) and Service and contacts (p. 9). The sampling method you work to, for example NIOSH Method 5040, sets the sampling time and the analysis; these instructions do not replace it, nor the instructions packed with the DPM cassette.

Keep these instructions for the lifetime of the product. The current revision is on the product page at analyt-mtc.com.

How these instructions mark information

NOTICE

Practices not related to personal injury — damage to the product, the process or the sample.

Note
Information that helps understanding; never a hazard.

Document information

Title	SKC DPM Cyclone Sampler — Instructions for use
Document number	AMTC-IN-0009
Revision	Rev. 2 — October 2026
Applies to	SKC DPM cyclone sampler 225-68, with the DPM cassette 225-317
Language	English
Manufacturer	SKC Inc.

Revision history

Rev.	Date	Change
2	October 2026	Quality programme: new document type, number and identity pages.
1	October 2026	First issue.

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CHAPTER 1

Safety

Read this chapter before you use the sampler. It states what the sampler is intended for and brings together the safety messages of these instructions.

Intended use

The SKC DPM cyclone sampler 225-68 holds an SKC DPM cassette 225-317 behind a cyclone. The cyclone removes the larger, non-respirable particles from the sampled air so that they cannot block the impactor in the cassette. Use the sampler with a sample pump at the flow rate of the DPM cassette, 2.0 L/min, together with the instructions packed with the DPM cassette.

Safety messages

The message in these instructions protects the sample. It is repeated at the step it concerns, in After use and sample handling (p. 7).

NOTICE

An open cassette can pick up contaminants, or lose part of the sample, on the way to the laboratory. Plug the cassette straight after sampling.

CHAPTER 2

Product and supplied items

The DPM cyclone sampler holds a DPM cassette behind a cyclone. The cyclone takes the larger, non-respirable particles out of the sampled air before it reaches the cassette, so that they cannot block the fine impactor inside the cassette.

The sampler is built from the parts shown in Figure 2-1 (p. 5): the cyclone body (8) with its sample air inlet (10), the cyclone insert (6), the grit pot (11), the DPM cassette (5) and the outlet funnel (2), whose air outlet (3) goes to the pump.

An extended retaining ring (1) and a special sealing arrangement, with a thick O-ring (7) and a thin O-ring (4), allow the DPM cassette to be fitted to the cyclone.

The cyclone is made of conductive plastic. It passes electrical charge off to the surrounding air, so static charge does not disturb the collection of the dust particles.

The clip (9) on the back of the cyclone body attaches the sampler to the worker's clothing.



Figure 2-1. DPM cyclone sampler, exploded. (1) Retaining ring. (2) Outlet funnel. (3) Air outlet, to the pump. (4) Thin O-ring. (5) DPM cassette. (6) Cyclone insert, with the sealing cup. (7) Thick O-ring. (8) Cyclone body. (9) Clip. (10) Sample air inlet. (11) Grit pot.

The DPM cassette

The SKC DPM cassette 225-317 comes pre-assembled and sealed, and is used once. Red plugs close its inlet and outlet ports (Figure 2-2 (p. 5)).

An impactor built into the cassette removes particles of 1.0 µm and larger at the design flow rate of 2.0 L/min. All smaller particles are collected on the sample filter. Because the cassette sets the flow rate, run the DPM cyclone with the DPM cassette at **2.0 L/min**.

The cassette also holds a blank filter, so you do not need to send a separate blank to the laboratory. Read the instructions supplied with the cassette as well.



Figure 2-2. DPM cassette 225-317, with its red plugs in place.

CHAPTER 3

Before use

What you need

- the DPM cyclone sampler 225-68, with its grit pot, O-rings and retaining ring;
- a DPM cassette 225-317;
- a sample pump, and a calibrated flowmeter, for example an SKC chek-mate electronic flowmeter, or a rotameter;
- two lengths of flexible tubing: one from the cyclone to the pump, one from the flowmeter to the cyclone.

The numbers in brackets refer to Figure 2-1 (p. 5).

Prepare the cassette

The DPM cassette is already assembled. To prepare it, pull the red plugs out of its inlet and outlet ports.

> **Note**
> **Keep the red plugs.** You need them to seal the cassette for transport to the laboratory after sampling.

Assemble the sampler

1. Fit the grit pot (11) to the cyclone body (8).
2. Place the thick O-ring (7) and then the cyclone insert (6) in the cyclone body.
3. Set the DPM cassette (5) down in the red sealing cup at the bottom of the cyclone insert.
4. Press the thin O-ring (4) into the recessed groove on the underside of the outlet funnel (2).
5. Put the outlet funnel on the cassette, centred.
6. Screw the retaining ring (1) down firmly, so that it seals the inlet and the outlet of the cassette.

Set the flow rate

1. Connect the air outlet of the outlet funnel (3) to the sample pump with flexible tubing.
2. Connect a calibrated flowmeter to the sample air inlet on the cyclone body (10) with a second length of flexible tubing.
3. Start the pump. Set the flow rate to **2.0 L/min** and verify it on the flowmeter.
4. When the flow rate is correct, switch the pump off and disconnect the flowmeter. The sampling train is ready: position the sampler and run the sample as your sampling method requires.

CHAPTER 4

After use and sample handling

After sampling

NOTICE

An open cassette can pick up contaminants, or lose part of the sample, on the way to the laboratory. Plug the cassette straight after sampling.

1. Unscrew the retaining ring (1) and take the cassette out of the cyclone.
2. Push the red plugs back into the inlet and outlet ports of the cassette straight away.
3. Send the plugged cassette to the laboratory. No separate blank is needed: the cassette holds its own blank filter.

Disposal

Dispose of the cyclone under local regulations; separate metal, glass and plastic parts for recycling where possible.

CHAPTER 5

Ordering information

Order from Analyt-MTC with the order codes.

Item	Pack	Order code
SKC DPM cyclone sampler	each	225-68
SKC DPM cassette, single use	10	225-317
Rubber grit pots	10	225-64

DPM cassettes have a limited shelf life. Ask Analyt-MTC about it when you order.

CHAPTER 6

Service and contacts

Contact and support

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www.analyt-mtc.com

Before you call

Have the following at hand so that Analyt-MTC can help you quickly:

- the part number of the cyclone (225-68) or of the part you need;
- the sample pump and flowmeter you use with it;
- the sampling method you are working to.

Contact Analyt-MTC for spare parts, technical questions and warranty matters concerning your SKC DPM cyclone sampler. Warranty is handled under Analyt-MTC's terms of sale. Analyt-MTC's contact details are above and on the back cover.

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AMTC-IN-0009 · Rev. 2 · 2026-10

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