

INFO SHEET FOR WORKSHOPS & TECHNICIANS

What Is the Silica Bag Issue in VAG Cooling Systems?

Between approximately 2013 and 2020, many Volkswagen Group (VAG) vehicles — including Volkswagen, Audi, Skoda, and SEAT models — were equipped with a coolant expansion tank that contains a silica (silicate) bag. This tank is often marked with the label “Mit Silikat”, meaning “with silicate.”



Purpose of the Silica Bag:

The bag contains silica gel beads, which slowly dissolve into the coolant over time. This helps prevent corrosion, especially in aluminum engine and radiator components. It's meant to extend the coolant's life and meet the chemical needs of modern engines using G13 (or similar) coolant.

The Problem:

Over time, the silica bag can rupture inside the tank, causing the beads to escape into the coolant system.

This leads to:

1. Blockage of the Heater Core (Heater Matrix):

The beads are small but numerous. They often accumulate in the narrow channels of the heater core, reducing or completely blocking coolant flow. Result:
No warm air from the cabin vents
Reduced cabin comfort (especially in winter)

2. Overheating of the Engine:

If coolant flow is restricted enough, it can cause the engine to run hot, especially under load or at idle.

3. Coolant Flow Issues and Airlocks:

Silica can disrupt the pressure balance in the system or clog other components, causing circulation issues and coolant loss.

4. Contaminated Coolant:

Once the beads dissolve or break down, they can discolor the coolant and reduce its effectiveness.

5. Expensive Repairs:

Repairing this issue often requires:

Replacing the expansion tank

Flushing the entire system

Possibly replacing the heater core, which can be a labor-intensive and costly job

Affected Vehicle Models Equipped with Silica Bags

Volkswagen (VW) Models	Audi Models	Škoda Models	SEAT Models
Golf Mk7 (2012–2020)	A3 8V (2012–2020)	Octavia Mk3 (2013–2020)	Leon Mk3 (2012–2020)
Passat B8 (2015–2020)	A4 B8/B9 (2008–2020)	Superb Mk3 (2015–2020)	Ateca (2016–2020)
Tiguan Mk2 (2016–2020)	Q3 (2011–2020)	Kodiahq (2016–2020)	Toledo (2012–2019)
Touran (2015–2020)	TT Mk3 (2014–2020)	Karoq (2017–2020)	
Caddy (2015–2020)			
T6 Transporter (2015–2020)			
Polo (2014–2019)			

Identification Tips

Label Check: Look for “Mit Silikat” printed on the expansion tank.

Visual Inspection: Shine a flashlight into the tank to spot the silica bag, often located on the side.

Part Numbers: Common part numbers for tanks with silica bags include 5Q0 121 407 and 7E0 121 407 B.

WELZH®

COOLANT-MATE™ 5686-WW

Automatic Cooling System Tester & Filler



The Coolant Mate™ is an advanced, fully automated tool designed for fast and efficient coolant system service. It combines vacuum-based leak testing with precision coolant filling, helping technicians detect system issues and refill coolant without introducing air pockets. Dual modes: Tester Mode and Filler Mode. Adjustable vacuum levels (-35, -40, -45 kPa) for compatibility with older and modern vehicles. Ideal for post-flush refilling and diagnosing flow restrictions caused by silica bag failures. Digital display with intuitive controls for easy, hands-free operation.



How the Coolant Mate™ Helps with Silica Bag-Related Issues

Silica bag failures can cause blockages, airlocks, and coolant contamination in many VAG vehicles. The Coolant Mate™ is engineered to not only handle these conditions — but to make diagnosing, flushing, and refilling faster, cleaner, and more effective.

Key Advantages:

1. Accurate Vacuum Testing

Identify internal blockages caused by silica beads — even if there are no visible leaks. Quickly confirm whether the cooling system holds pressure and is flow-ready.

2. Safe, Air-Free Coolant Filling

Use deep vacuum to draw coolant through even hard-to-reach areas. Prevents airlocks in heater cores that are common after flushing contaminated systems.

3. Adjustable Vacuum Settings

Select from -35 / -40 / -45 kPa depending on system age and sensitivity. Lower pressure settings are safer for older or partially blocked systems.

4. Ideal for Post-Flush Service

After flushing out silica or replacing the tank, Coolant Mate™ ensures fast, complete refills. Speeds up turnaround time while ensuring long-term cooling performance.

Why You Should Use This Tool:

Turns a frustrating problem into a revenue-generating service. Protects engines from overheating caused by improper coolant circulation. Boosts technician confidence with fast, automated operation. Compatible with most modern European vehicles (VAG & more).

Technician Advice:

Before using the 5686-WW on VAG vehicles (2013–2020), inspect the expansion tank.

If contamination is suspected, flush the system first to restore full flow.

Use the 5686-WW to test for lingering restrictions and safely refill the system after repairs.

Basic Troubleshooting Scenarios:

Symptom Using 5686-WW	Possible Cause	Recommended Action
Vacuum test fails to hold	Leak OR blocked flow	Check expansion tank for silica contamination
Refill cycle incomplete	Internal restriction	Flush system before retrying
Heater still cold after refill	Blocked heater core	Suspect silica bead blockage, inspect core
Pressure reading fluctuates abnormally	Collapsed hose or blockage from debris	Inspect hose condition and check for internal restrictions
Coolant overflows after service	Air pocket expansion or incomplete vacuum	Repeat vacuum cycle, verify system is fully evacuated
Multiple fill attempts needed	Slow coolant flow due to internal blockage	Perform coolant system flush and retest

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