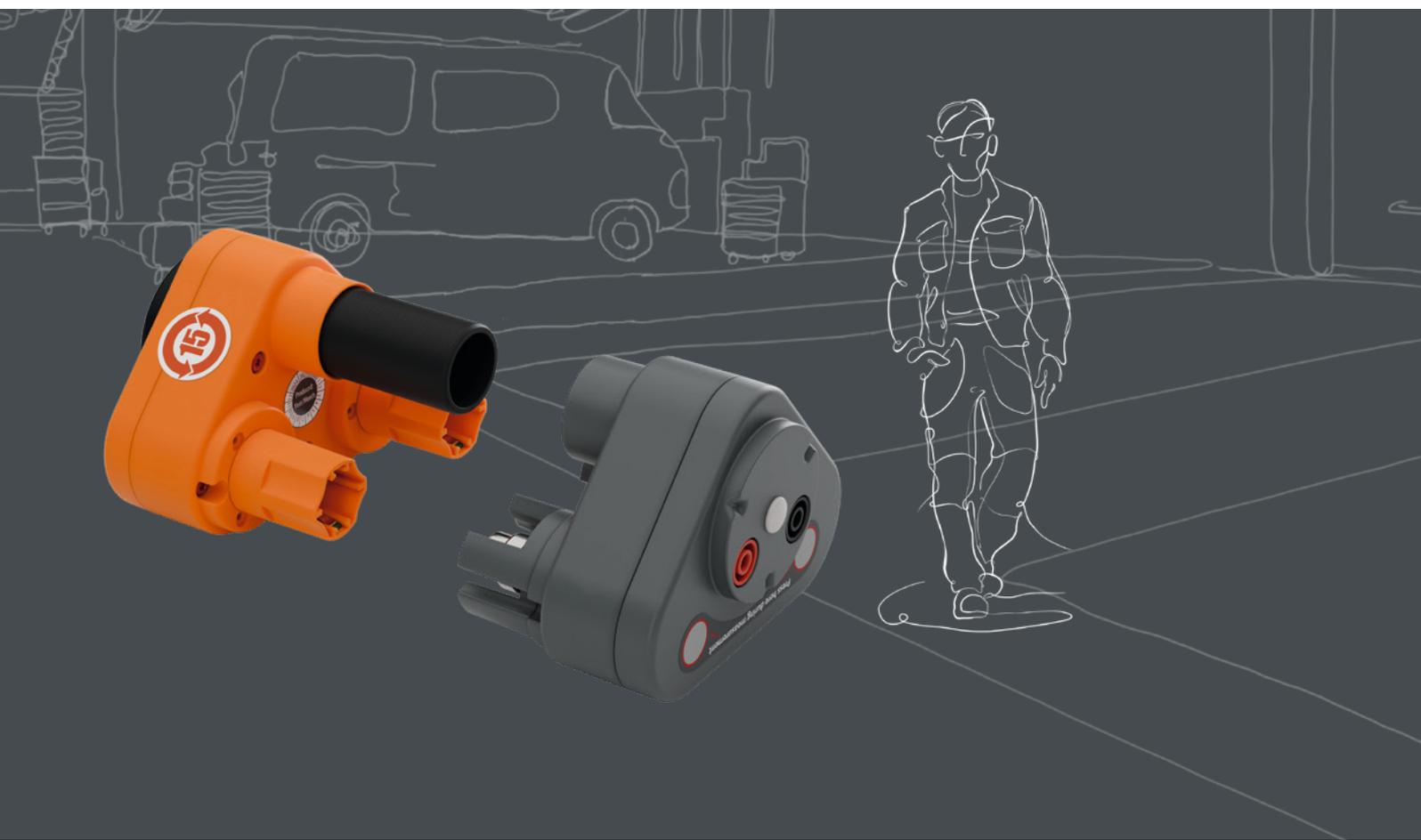


VOLKSWAGEN

AKTIENGESELLSCHAFT



Operations manual

High-voltage test adapter VAS 6558A/43

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1.1 General instructions

State-of-the-art

This tool represents state-of-the-art technology. To ensure the functionality of the equipment, it must be operated in a proper and safe manner.

Technical modifications

In the interests of quality assurance, we reserve the unrestricted right to apply technical modifications arising out of further developments in technology and product improvements without prior notice.



Read the owner's manual

Before using the tool, read the owner's manual and ensure that you have understood the instructions. This manual must always be available where the product is being used.

Handling

All handling necessary to ensure correct operation is described in the owner's manual. No methods of working other than those approved by the manufacturer may be practiced.

Faults

If a problem should arise, the operator may only perform actions to eliminate the problem if the relevant measure is described in the manual.

Warranty

The manufacturer accepts no liability for damage or injury caused by improper repair or the use of foreign replacement parts. The warranty will not cover any damage caused to the tool due to its misuse.

Environment

Make sure that the tool set is set up in a work area that is free from sources of heat (max. 50°C / 122°F), corrosive liquids, greases and oils.

Allow the tool to acclimate before start-up. Avoid the formation of condensation.

For the most accurate measurement results, avoid large temperature fluctuations during measurement.

➔ 5.3 Declaration of Conformity

The tool has been tested and manufactured in accordance with European guidelines. The Declaration of Conformity has been included with this owner's manual.



Risk of damage to the tool

The tool must only be used as described in the owner's manual. Misusing the tool or using it for any purpose for which it has not been designed is expressly prohibited. Make sure that you and your employees handle the tool properly.



Risk of injury

In addition to the owner's manual, the binding provisions of the accident prevention regulations applicable at the place of use and the general (accepted) rules for safety compliance and professional working must be observed.

Qualified personnel

Trained and instructed personnel have specialized training that enables them to repair/maintain the respective vehicles and vehicle components.

Work on high-voltage systems may only be performed by high-voltage technicians/high-voltage experts or by professionals with equivalent or higher qualification.

In addition, these workers must have documented proof that they have taken part in further training that qualifies them specifically for the tasks to be performed with the tool.

1.2 Explanation of symbols

In this owner's manual, some sections use internationally known warning symbols, warning notes and general instruction symbols. The individual symbols are explained below. Follow all instructions and safety rules.

	Follow manual		Protective insulation		Please note the...
	Observe the general information		Direct current (DC)		Arrow to clarify compression
	Warning! General source of danger		CE marking		For more information, see section...
	High voltage! Danger to life!		UK Conformity Assessment		Arrow showing direction

1.3 Markings

1.3.1



1.3.1 Note

1.3.2



1.3.2 Label date of manufacture

1.3.3



1.3.3 Note

1.3.4



1.3.4 Type label VAS 6558A/43-1

- A Serial number
- B Maximum measurement voltage
- C Maximum current
- D Part number
- E Manufacturer's address, contact details

1.3.5



1.3.5 Type label VAS 6558A/43-2

- A Serial number
- B Maximum measurement voltage
- C Maximum current
- D Part number
- E Manufacturer's address, contact details

1.4 Lieferumfang



Pos. Nr.	Description	Qty.
1	Case	1
2	VAS 6558A/43-2	1
3	VAS 6558A/43-1	1
4	USB flash drive with owner's manual in 38 language versions and insert sheet	1

1.5 Safety instructions



The high-voltage test adapter is approved solely for the intended use designated by the manufacturer.

The tool may only be used for the activities described in this owner's manual. Never misuse the tool. If the tool is improperly used, its safety can no longer be guaranteed.



CAUTION

Risk of property damage and personal injury due to improper accessories

Failure to use genuine tools or genuine accessories leads to a high safety risk. Only genuine accessories may be used. The manufacturer assumes no liability for conversions or modifications to the high-voltage test adapter.



CAUTION

Risk of property damage and personal injury

Before performing any repair, read the safety instructions and ensure that you have understood them. Failure to read the instructions may result in serious bodily injury.



CAUTION

Risk of property damage and personal injury

Use of the tool by personnel who have not undergone the requisite training and instruction is prohibited. The tool must not be lent to untrained personnel.

Ensure that the tool is only operated by trained personnel instructed in its use.

**Ensure that the owner's manual is made available to operating personnel.**

This owner's manual must be carefully read and understood by each operator before they begin using it for the first time. It must always be available where the product is being used.

**Observe the applicable occupational health and safety regulations of the respective country.**

In addition to the owner's manual, the binding provisions of the accident prevention regulations applicable at the place of use and the general accepted rules for safety compliance and professional working must be observed.

**CAUTION****Risk of tripping**

Carelessly laid supply lines/cables can lead to accidents caused by tripping, twisting (e.g. one's ankle) or tumbling or could lead to damage to the lines/cables.

Route all supply lines/cables in a way that prevents them from being damaged or tripped over.

**CAUTION****Risk of damage to the vehicle due to a defective tool**

A defective tool could damage the vehicle electronics. Visually inspect the tool prior to each use. Stop using the high-voltage test adapter immediately if it is defective.

Please contact Service (➡ 5.2).

**CAUTION****Risk of damage to the vehicle due to improper use**

Improper use can cause damage to the vehicle electronics or measurement errors. Follow the repair guide for the vehicle model in question to ensure that use of the tool does not cause damage.

**CAUTION****Risk of damage to the tool**

Improper handling of the high-voltage test adapter could damage the tool. Never throw the tool or allow it to fall.



The high-voltage test adapter may only be used at ambient temperatures of minimum 0°C / 32°F up to maximum 50°C / 122°F.



The high-voltage test adapter must not be used if any abnormalities are discovered. Please contact Service (➡ 5.2).

2.1 Device components

2.1.1



2.1.1 VAS 6558A/43-1

- ① Socket adapter
- ② Plastic housing
- ③ + TP1 measuring socket
- ④ - TP1 measuring socket
- ⑤ Rotatable cover
- ⑥ Spring contacts

2.1.2



2.1.2 VAS 6558A/43-2

- ⑦ Pin adapter
- ⑧ Plastic housing
- ⑨ - TP1 measuring socket
- ⑩ + TP1 measuring socket
- ⑪ Spring contacts

2.2 Operating conditions

Power supply

No additional power supply required.

Climate conditions

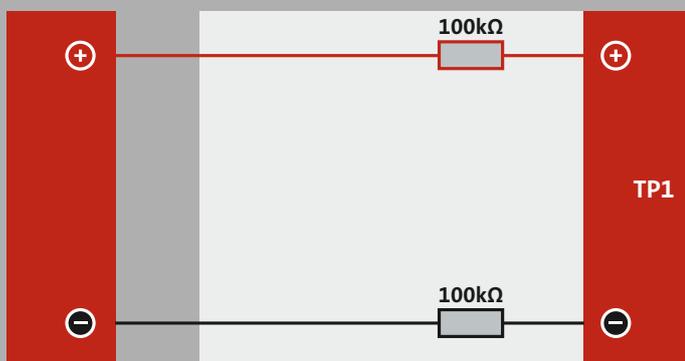
➔ 2.3 Technical data

2.3 Technical data

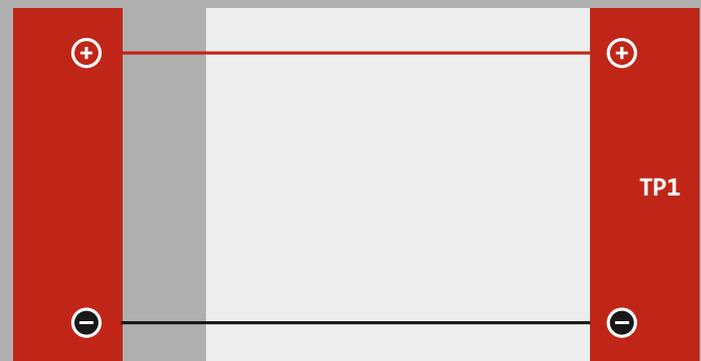
VAS 6558A/43-1 / 6558A/43-2	
Device type	Measuring
Fittings	Held in the hand
Supply connection	None (passive)
Ambient temperature (operation)	0 °C to +50 °C / +32 °F to +122 °F
Ambient temperature (storage)	-20 °C to +60 °C / -4 °F to +140 °F
Maximum application height	2000 m
Ambient humidity	Up to 85% (non-condensing)
Protection	IP 20
Measurement category	CAT 0*
Maximum measurement voltage	1000 V DC
Maximum current	10 mA (VAS 6558A/43-1) 10 mA (VAS 6558A/43-2)
Pollution degree	2
Safety	IEC 61010-031
Weight	705 g inkl. Koffer
Dimensions (W x H x D)	90x95x67 mm / 90x69,3x67 mm

* Measurements on circuits that have no direct connection to the network (e.g. battery operation, vehicle electrical system)

2.3.1 Circuit diagram VAS 6558A/43-1



2.3.2 Circuit diagram VAS 6558A/43-2



3.1 Intended use

High-voltage test adapter VAS 6558A/43-1 can be connected to test adapter VAS 6558A/43-2 for a function test. It is also used to measure insulation resistance at the auxiliary unit connection of the HV battery and the connected wiring harness. Use is described in the corresponding repair guide. Observe the work instructions for guided troubleshooting of the brands.

Before starting to use high-voltage test adapter VAS 6558A/43-1 / VAS 6558A/43-1, always ensure the system is in a voltage-free state (deenergized) and check that it remains in this state for the duration of the work.

As a rule, work must not be performed on live parts of electrical systems and equipment. Before starting work, ensure that the system or equipment is in a voltage-free state (deenergized) and check that it remains in this state for the duration of the work.

3.2 Principles for handling the high-voltage test adapter

Risk of injury



Please ensure that the high-voltage test adapter is handled properly.



Misusing the high-voltage test adapter or using it for any purpose for which it has not been designed is expressly prohibited.



The high-voltage test adapter must only be used as described in the owner's manual.

Warranty



The manufacturer accepts no liability for damage or injury caused by improper repair or the use of foreign replacement parts.



The warranty will not cover any damage caused to the high-voltage test adapter due to its misuse.

Environment



Make sure that the high-voltage test adapter is set up in a work area that is free from sources of heat (max. 50°C / 122°F), corrosive liquids, greases and oils.



Allow the tool to acclimate before start-up. Avoid the formation of condensation.



5.3 Declaration of Conformity

The high-voltage test adapter has been tested and manufactured in accordance with European guidelines. The Declaration of Conformity has been included with this owner's manual.

3.3 Function test



Check the high-voltage adapter for damage before each use or measurement.



Visually inspect the spring contacts before each use or measurement.



To ensure that the tool is working properly, perform a function test before each use or measurement.



The function test must be performed before and immediately after use.



CAUTION
Risk of injury

No measurements may be performed if both connectors are connected to both sockets of the adapter. Only connect the socket and pin adapter on one side. Observe the specifications for the function test in Figures 3.3.1 to 3.3.8.

During the function test, the corresponding pin and socket adapter (VAS 6558A/33 A with VAS 6558A/36 A) are connected to each other.

Then perform resistance measurements with a suitable measuring device/measuring cable and compare the results with the specified reference values.

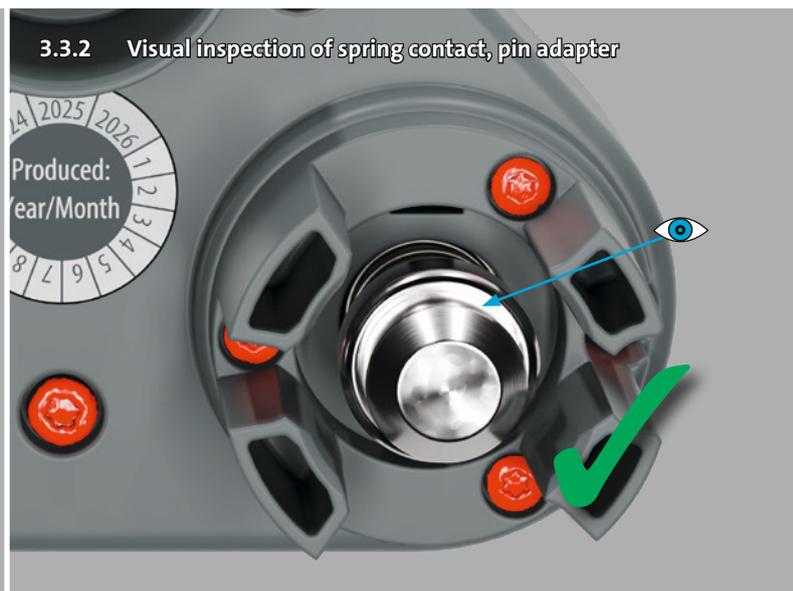


CAUTION
Risk of injury

If the specified reference values are not obtained during the function test, the high-voltage test adapter must not be used!



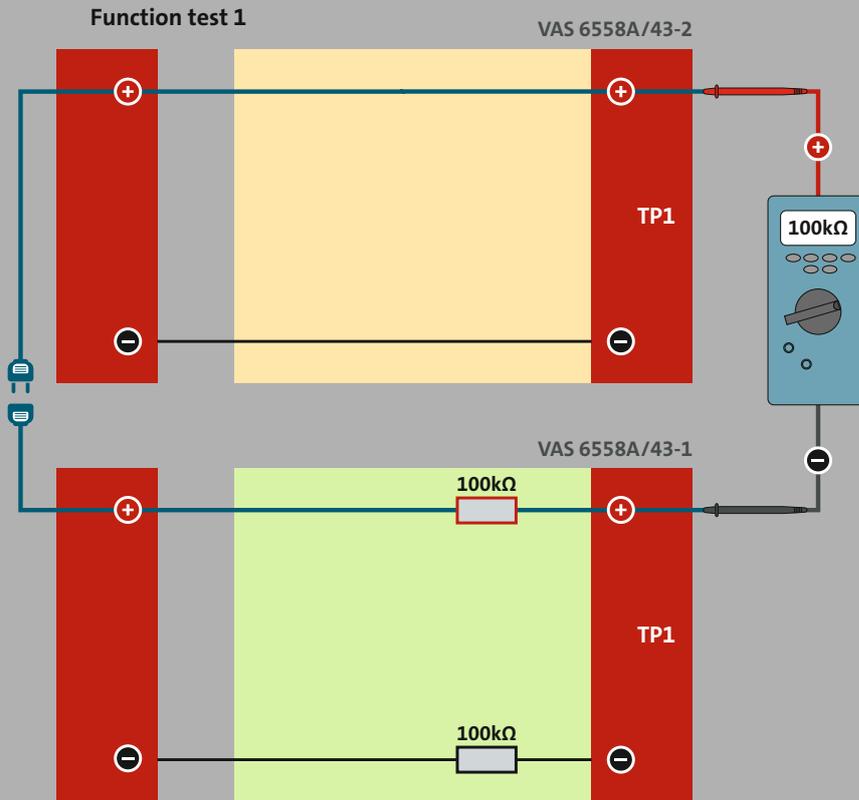
3.3.1 Visual inspection of spring contact, socket adapter



3.3.2 Visual inspection of spring contact, pin adapter

3.3.5

Function test 1



1. Connect the pin adapter to the socket adapter:

Pin adapter:

VAS 6558A/43-2

Socket adapter:

VAS 6558A/43-1

2. Connect the measuring device:

Measuring probe **+**

for **+** VAS 6558A/43-2 TP1

Measuring probe **-**

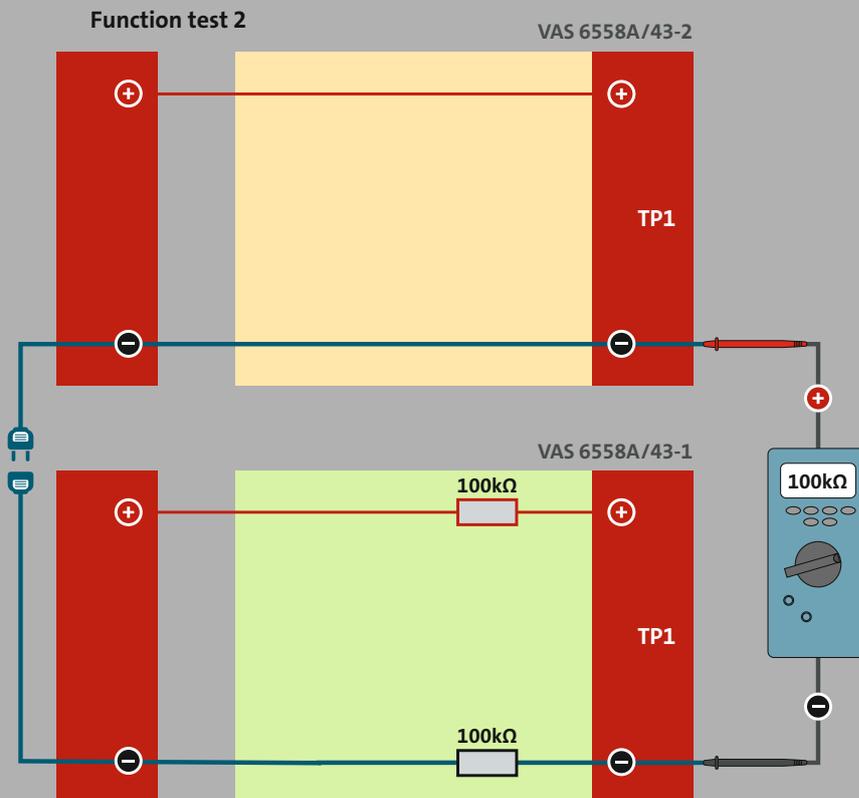
for **+** VAS 6558A/43-1 TP1

Reference value:

98–102 kΩ

3.3.6

Function test 2



1. Connect the pin adapter to the socket adapter:

Pin adapter:

VAS 6558A/43-2

Socket adapter:

VAS 6558A/43-1

2. Connect the measuring device:

Measuring probe **+**

for **-** VAS 6558A/43-2 TP1

Measuring probe **-**

for **-** VAS 6558A/43-1 TP1

Reference value:

98–102 kΩ

3.4 Insulation resistance measurement

Connect HV components



Follow the repair guide for the vehicle model in question to ensure proper use.

Connect the corresponding pin/socket adapter of the high-voltage test adapter to the HV component.



DANGER

Danger to life from electric shock

Never connect measuring sockets TP1  and TP1  to each other.

If there is bridging or short-circuiting, the high-voltage test adapters must be replaced immediately.



DANGER

Danger to life from electric shock

Work must not be performed on live parts. Always ensure the system is deenergized before starting work.

4.1 Troubleshooting

Malfunction	Problem	Remedy	Section
The specified measurement values are not measured during the function test.	There is a fault in the adapter cable (e.g. due to misuse).	Replace the high-voltage test adapter	3.3 – 3.4 5.2
No measurement values are measured.	<ol style="list-style-type: none"> 1. The Resistors (in the plastic housing) is defective. 2. The spring contact pins (see visual inspection) are defective. 	Replace the high-voltage test adapter	3.3 – 3.4 5.2

4.2 Maintenance

Cleaning

The high-voltage test adapter is maintenance-free except for occasional cleaning with a dry, lint-free cloth.

Inspection equipment check

Use the test sticker on the high-voltage test adapter and Table 4.2.1 to check whether the measuring tool is within the prescribed test cycle.



Only use measuring tools that are within the prescribed test cycle.

4.2.1

The date of manufacture can be found on the label of the high-voltage test adapter. The following tests/calibrations are due based on the table below and are performed automatically through test equipment monitoring.



The information regarding the test cycles corresponds to the current "actual" state.



The notes on the test equipment overview refer exclusively to Audi, VWN and VW.



Applies only to the German market:

The test cycle of the high-voltage test adapter VAS 6558A/43-1 / VAS 6558A/43-2 can be found in the current test equipment overview.



Audi Partner Portal (APP)

The current test equipment overview can be found in the document "Test equipment overview" (navigation path: "Service > Workshop Equipment > General about workshop equipment > Measuring instrument calibration > Test equipment overview").



Volkswagen InfoNet / Volkswagen Nutzfahrzeuge InfoNet

The current test equipment overview is found in the document "All about auditing" (Navigation path: "Overall operation > Quality & LSP > Certification & quality management") in the section "Templates and tools".



Applies to all other markets:

Please contact your importer if you have any questions.

4.2.1 Test dates



Date	Cycle
1	After 24 months
≥ 2	Every 12 months

5.1 Disposal



Machinery, equipment and their components must be disposed of as prescribed by the laws, regulations and other provisions of the country in which they are located.

We recommend using licensed specialist companies for disposal.



The modules and units have been developed to be environmentally compatible and suitable for recycling. According to EU Directive 2002/96/EC, these parts must be taken to an authorized collection point.

The manufacturer does not promise to take back electrical equipment modules and units, complete electrical devices, or batteries free of charge.

5.2 Warranty & Service

Tools from TKR Spezialwerkzeuge GmbH come with a 24-month warranty against material and manufacturing defects. Our General Terms and Conditions of Sale and Supply otherwise apply. High-voltage components and wear parts, such as screws, are excluded.

The warranty becomes invalid if the tool is used for purposes other than the intended use. In addition, the warranty becomes invalid if the tool is not used as described in the owner's manual.

In the event of defect or fault, TKR Spezialwerkzeuge GmbH will only repair or replace faulty parts at its own discretion.

Service address **TKR Spezialwerkzeuge GmbH**
Service
Am Waldesrand 9-11
D-58285 Gevelsberg (Germany)

Online Service **www.tkrgroup.com/service**



Other language versions, assistance with use and information
Visit our Customer Service Department

Service e-mail **support@tkrgroup.com**



EU Declaration of Conformity

For the purposes of the Low Voltage Directive
2014/35/EU

Manufacturer: TKR Spezialwerkzeuge GmbH
Am Waldesrand 9-11
DE-58285 Gevelsberg

**Person authorized to compile
the technical documents:** Thorsten Weyland

Model: VAS 6558A/43-1 / VAS 6558A/43-2

Tool type: High-voltage test adapter

Serial number range: Each 00001- 99999

Has been developed and designed in compliance with
the standards and directives specified below.

Directives: 2014/35/EU (Low Voltage Directive)
2011/65/EU (RoHS)

Harmonized standards: EN 61010-031:2015
EN 61000-6-2 (2005)
EN 61000-6-3 (2007)
EN IEC 63000 (2018)

As manufacturer, we declare: The products marked accordingly fulfill the
requirements of the directive and standards listed.

Thorsten Weyland

Gevelsberg, 20.03.2023 Thorsten Weyland
Technical Director

Volkswagen Aktiengesellschaft
K-AVO-LW
Group After Sales – Group Service,
Literature and Systems
Workshop Equipment
Letter Box 011/4915
38442 Wolfsburg

TKR Spezialwerkzeuge GmbH
Am Waldesrand 9-11
DE-58285 Gevelsberg

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