testo 557 · Digital manifold

Instruction manual

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

1 Contents

1 Contents 3

2 Safety and the environment 4

2.1. About this document 4

2.2. Ensure safety 4

2.3. Protecting the environment 5

3 Product description 5

3.1. Use 5

3.2. Overview 6

4 First steps 7

5 Using the manifold 9

5.1. Preparing for measurement 9

5.1.1. Switching the instrument on 9

5.1.2. Connecting the temperature sensor 11

5.1.3. Connecting the vacuum probe 11

5.1.4. Switching Bluetooth® on and off 11

5.1.5. Measuring mode 12

5.2. Performing the measurement 13

6 Technical data 16

6.1.1. Bluetooth Modul 16

6.1.2. General technical data 17

7 Maintaining the product 19

8 Tips and assistance 21

8.1. Questions and answers 21

8.2. Measurement parameters 21

8.3. Error reports 22

8.4. Accessories and spare parts 22

9 EC declaration of conformity 23

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

2 Safety and the environment

2.1. About this document

Use

> Please read this documentation carefully and familiarize yourself with the product before putting it to use. Pay particular attention to the safety instructions and warning advice in order to prevent injuries and damage to the product.

Symbols and writing standards

Representation	Explanation
⚠	Warning advice, risk level according to the signal word: **Warning!** Serious physical injury may occur. **Caution!** Slight physical injury or damage to the equipment may occur. > Implement the specified precautionary measures.
Menu	Elements of the instrument, the instrument display or the program interface.
[OK]	Control keys of the instrument or buttons of the program interface.

2.2. Ensure safety

> Do not operate the instrument if there are signs of damage at the housing, mains unit or hoses.

> Do not store the product together with solvents. Do not use any desiccants.

> Carry out only the maintenance and repair work on this instrument that is described in the documentation.

> Dangers may also arise from the refrigeration systems being measured or the measuring environment: Note the safety regulations valid in your area when performing the measurements.

> If the manifold falls or another comparable mechanical load occurs, the pipe sections of the refrigerant hoses may break. The valve stem shutoff may also be damaged, whereby further

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

damage to the interior of the manifold may occur that cannot be identified from the outside. The refrigerant hoses must therefore be replaced with new, undamaged refrigerant hoses every time the manifold falls or following any other comparable mechanical load. Send the manifold to Testo Customer Service for a technical check for your own safety.

> To prevent damage from ESD (electro-static discharge) or transient voltage spikes make sure that your refrigeration system is properly grounded, as otherwise the manifold might get damaged.

2.3. Protecting the environment

> Dispose of spent batteries in accordance with the valid legal specifications.

> At the end of its useful life, send the product to the separate collection for electric and electronic devices (observe local regulations) or return the product to Testo for disposal.

> Refrigerant gases can harm the environment. Please note the applicable environmental regulations.

3 Product description

3.1. Use

Testo 557 is a digital manifold for maintenance and service work on refrigeration systems and heat pumps. It is intended for use by qualified personnel only.

The function of the testo 557 is designed to replace analog manifolds, thermometers and pressure/temperature charts. Pressures and temperatures can be applied, adapted, tested and monitored.

Testo 557 is compatible with most non-corrosive refrigerants, water and glycol. Testo 557 is not compatible with refrigerants containing ammonia.

The instruments must not be used in explosive environments!

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

3.2. Overview

Display and control elements

1 Front connection for external vacuum probe
2 Mini-DIN probe socket for NTC temperature probe, with socket cover
3 Foldable hanging hook (on rear)
4 Display. Instrument status icons:

Icon	Meaning
	Battery status
	Bluetooth®
	Select measuring mode

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

5 Battery compartment. The rechargeable batteries cannot be charged inside the instrument!

6 Control keys:

Key	Function
[Set]	Set units
[R, ►, ■]	Select refrigerant / Start-Stop leak test
[Mode]	Switch between measuring modes
[Min/Max/Mean]	Display min, max, mean values
[▲]	Up-key: Scroll through menu.
[P=0]	Pressure zeroing
Esc	Switches to the measurement/home view.
[▼]	Down-key: Scroll through menu.
[⏻/☼]	Switching the instrument on/off Switching display ilumination on/off.

7 Sight glass for refrigerant flow.

8 4 x valve stem shutoff

9 4 x hose holders for refrigerant hoses

10 2 x Connection 1/4" SAE, brass.
High pressure, for refrigerant hoses with quick release screw fitting, passage for valve actuator lockable.

11 Connection 3/8" SAE, brass, for vacuum pump

12 Connection 1/4" SAE, brass, for e.g. refrigerant cylinders

13 Mini-USB connection for firmware update, inside the battery compartment.

4 First steps

Inserting batteries/rechargeable batteries

1. Fold out the hanging hook and open the battery compartment by squeezing the clip lock.
2. Insert batteries (included in delivery) or rechargeable batteries (4x 1.5 V, type AA/Mignon/LR6) in the battery compartment. Observe the polarity!
3. Close the battery compartment.

- After inserting the batteries, the instrument switches on automatically and goes into the settings menu.

When not in use for long period: Remove batteries / rechargeable batteries.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

Units / Parameter selection

1. Press **[Set]** to confirm or change unit parameter settings
2. Press **[▲]** or **[▼]** to change the units / parameters.

- The settings will be accepted once the last selection has been made.

Key Functions	Description
[▲] or **[▼]**	Change parameters and select units
[Set]	Confirm units / parameters

Selectable parameters	Description
°C, °F	Temperature unit
bar, kPa, MPa, psi	Unit for pressure.
Pabs, Prel or **psig**	Switch between absolute and relative pressure display
micron, inHg, Pa, hPa, mTorr,Torr, inH2O, mbar	Unit for vacuum pressure.
/ /	Select measuring mode: heat pump / cooling / or Auto
AUTO OFF	Activate or deactivate Automatic power-off. Instrument switches off after 30 minutes if no temperature probe is connected and there is no pressure apart from ambient pressure
T_{fac}	Activate or deactivate surface temperature compensation factor, icon is shown on the display if the function is deactivated

- Settings will be applied following the final selection.

Operating the valve stem shutoffs

The digital manifold acts like a conventional two-way manifold with regard to the refrigerant path: The passages are opened by opening the valves. The adjacent pressure is measured with valves closed as well as with them open.

> Open valve: Turn valve positioner counterclockwise.

> Close valve: Turn valve positioner clockwise.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

WARNING

Over tightening the valve stem shutoffs may cause:

- Damage to the PTFE seal.
- Mechanical deformation of the valve piston leading to the PTFE seal falling out.
- Damage to the thread of the threaded spindle and the valve screw.
- valve knobs to brake.

Lightly tighten the valve knob. Do not use tools to tighten the valve stem shutoffs.

5 Using the manifold

5.1. Preparing for measurement

5.1.1. Switching the instrument on

> Press [⏻/☼].

Zero the pressure sensors before every measurement.

✓ All connections must be at ambient pressure.

> Press **[P=0]** key for 3 seconds to execute zeroing.

Connecting the refrigerant hoses

Before each measurement check whether the refrigerant hoses are in flawless condition.

✓ Make sure the valve stem shutoffs are closed.

1. Connect the refrigerant hoses to the low-pressure side (blue) and high-pressure side (red).
2. Connect the refrigerant hoses to the AC/R system.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

WARNING

Dropping this instrument or any other comparable mechanical shock can damage the refrigerant pipes and hoses. The valve actuators may also suffer damage, which in turn could result in further damage inside the instrument and may not be detectable from outside.

> For your own safety you should return the manifold to the Testo Service Department for technical inspection.

> You should therefore always replace the refrigerant hoses with new ones after an accidental drop has occurred or after any visible wear and tear.

Choosing the refrigerant

1. Press **[R, ►, ■]**.

- It activates the refrigerant menu and the currently selected refrigerant flashes.

2. Setting the refrigerant:

Key functions	Description
[▲] or **[▼]**	Selectng another refrigerant
[R, ►, ■]	Confirm the selection and exit the refrigerant menu

Available refrigerants

Representation	Description
R...	Refrigerant number of refrigerant acc. to ISO 817
---	no refrigerant selected.

Example: Setting refrigerant R401B

1. Press **[R, ►, ■]** to activate refrigerant menu.
2. Press **[▲]** or **[▼]** several times, until **R401B** flashes.
3. Press **[R, ►, ■]** to confirm the setting.

Exiting the refrigerant selection

> Press **[R, ►, ■]** or automatically after 30 s, if no other key has been pressed.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

5.1.2. Connecting the temperature sensor

Surface temperature sensor

At least one NTC temperature probe must be connected to measure the pipe temperature, for automatic calculation of superheating and subcooling.

Deactivating the surface compensation factor for insertion and air temperature sensor

A surface compensation factor has been set in the measuring instrument to improve the measuring accuracy of surface temperature readings.

If the manifold is used in combination with insertion or air temperature probe (optional), this factor must be deactivated:

1. Press **[Set]** repeatedly until T_{fac} is displayed.
2. Press **[▲]** or **[▼]** to set T_{fac} to Off.
3. Press **[Set]** to continue through the settings menu until the measurement/home view is displayed.

- T_{fac} is shown on the display if T_{fac} is disabled.

5.1.3. Connecting the vacuum probe

> Open the front cover of the connector and connect up the vacuum probe.

5.1.4. Switching Bluetooth® on and off

In order to to establish a connection via Bluetooth, on an Android or iOS device, the Testo App Refrigeration must be already installed.

You can get the App for iOS instruments in the App Store or for Android instruments in the Play Store.

Information about compatibility can be found in the relevant app store.

1. To turn on the Bluetooth press **[▲]** and **[▼]** simultaneously and hold down for 3 seconds.

- Once the Bluetooth icon is shown on the display, Bluetooth is switched on.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

Display	Description
flashes	There is no Bluetooth connection, or a potential connection is being searched for.
is permanently displayed	There is a Bluetooth connection.
is not displayed	Bluetooth is disabled.

2. To turn off the Bluetooth press [▲] and [▼] simultaneously and hold down for 3 seconds.

- Once the Bluetooth icon is no longer shown on the display, Bluetooth is switched off.

5.1.5. Measuring mode

Display	Mode	Function
	Refrigeration system	Normal function of the digital manifold
	Heat pump	Normal function of the digital manifold
	Automatic mode	If the automatic mode is activated, the testo 557 digital manifold automatically changes the display of the high and low pressure. This automatic change occurs when the pressure on the low-pressure side is 1 bar (15 psi) higher than the pressure on the high-pressure side. During the change, Load (2 s) is shown in the display. This mode is especially suited to air conditioning systems which cool and heat (heat pumps).

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

5.2. Performing the measurement

⚠ WARNING

Risk of injury caused by refrigerant that is at high pressure, hot, cold, or poisonous!

> Wear safety goggles and protective gloves..

> Before pressurizing the measuring instrument: Always fasten the measuring instrument at the hanging hook in order to prevent it from falling (risk of breakage)

> Check if the refrigerant hoses are intact and connected correctly before each measurement. Do not use a tool to connect the hoses. Only tighten the hoses by hand (max. torque 5.0 Nm/3.7 ft*lb).

> Do not exceed the permissible measuring range (0 to 870 psi / 0 to 60 bar). Pay particular attention with systems with refrigerant R744, as these are often operated with higher pressures.

Measuring

1. Connect and apply pressure to the manifold.
2. See readings.

Note: With refrigerants that have a temperature **glide**, “Zeotropes” the evaporation temperature Ev/to and condensation temperature Co/tc are displayed after evaporation and condensation are complete.

Zeotropes (refrigerants blends mix together) can separate from each other, unlike azeotropes which mix together to become one. Zeoptropes often blend refrigerants with different boiling points (saturation temps), where one will change from liquid to vapor before the other as they go through the evaporator. The **glide** is the difference between the lowest boiling point and the highest boiling point. If they are 3 degrees apart, for example, the blend has a 3 degree glide..

The display illumination will flash if:

- The critical pressure of the refrigerant is within 15 psi (1 bar) of the highest pressure (and temperature) where the refrigerant can still condense.
- The maximum. permissible pressure of 870 psi (60 bar) is exceeded.

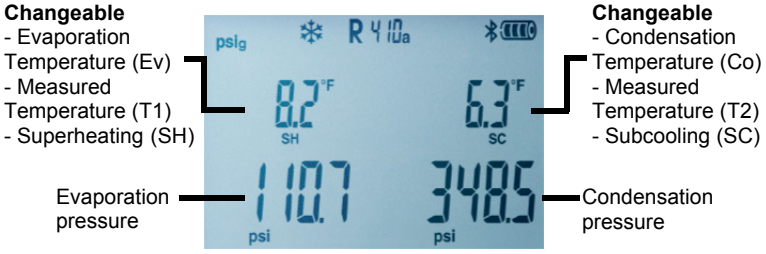
information@ITM.com www.Testo-Direct.ca 1.800.561.8187

Key functions

> Press **[▲]** or **[▼]** to change the reading in the display.

Possible display combinations:

Refrigerant evaporation temperature Ev/to (°F/°C) **Evaporation pressure (psi/bar)**	**Refrigerant condensation temperature** Co/tc (°F/°C) **Condensation pressure (psi/bar)**
Measured temperature T1/t_{oh} (°F/°C) **Evaporation pressure (psi/bar)**	**Measured temperature T2/t_{cu}** (°F/°C) **Condensation pressure (psi/bar)**
Superheating SH/Δt_{oh} (°F/°C) **Evaporation pressure (psi/bar)**	**Subcooling SC/Δt_{cu}** (°F/°C) **Condensation pressure (psi/bar)**



With both NTC temperature probes connected, Δt is also shown.

> Press **[Mean/Min/Max]**: to display min. / max. readings and mean values.

Leak test / pressure drop test

Systems can be tested for tightness with the temperature-compensated leak test. The system pressure and the ambient temperature are measured over a defined period of time, typically with an inert gas such as Nitrogen. A temperature probe can be connected that measures the ambient temperature. : Optional air temperature probe, part. no. 0613 1712) is recommended.

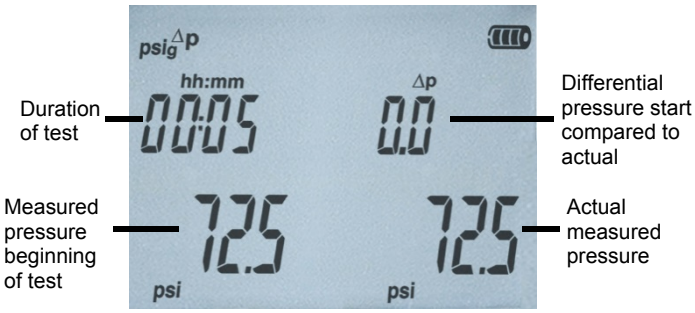
Measurement data of the temperature-compensated differential pressure and temperature, from start to the end of the test, is displayed. It is possible to perform a leak test without connecting a temperature probe.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

1. Press **[Mode]** **ΔP** is displayed.
2. Start the leak test: Press **[R, ►, ■]**. **ΔP** is now flashing and hh:mm timer is on.
3. End the leak test: Press **[R, ►, ■]**. **ΔP** stops flashing and hh:mm timer stops.

- Result is displayed. Note: Leak test time duration and **ΔP** value

4. Confirm the message: Press **[Mode]** to exit leak mode.



Vacuum measurement

✓ The vacuum probe is plugged into the front connection of the manifold and connected to the system.

1. Press **[Mode]** the vacuum mode is displayed.

If ambient pressure is applied to the vacuum probe, then **oooo** is shown on the display.

2. Start the vacuum pump.

- Once the measuring range 0 to 20,000 microns is reached, the current vacuum value is shown on the instrument display. The instrument also displays the current ambient temperature, the water evaporation temperature, which corresponds to the vacuum reading, and the delta between these two temperatures.

3. To leave vacuum mode, remove the vacuum probe from the testo 557 or switch to the standard measurement view using the **[Mode]** button.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

6 Technical data

6.1.1. Bluetooth Modul

The Bluetooth® option may only be operated in countries in which it is type approved.

Feature	Values
Bluetooth	Range >20 m (free field)
Bluetooth type	LSD Science & Technology Co., Ltd L Series BLE Module (08 Mai 2013) based on TI CC254X chip
Qualified Design ID	B016552
Bluetooth radio class	Class 3
Bluetooth company	10274

European Union

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

EFTA countries

Island, Suisse, Norway, Lichtenstein.

Other countries

USA, Turkey, Hong Kong, Canada

Information from the FCC (Federal Communications Commission)

This device complies with part 15 of the FCC Rules. Its commissioning is subject to the two following conditions: (1) This instrument must not cause any harmful interference and (2) this instrument must be able to cope with interference, even if this has undesirable effects on operation.

Changes

The FCC demands that the user be informed that any changes or modifications to the instrument that are not explicitly approved by Testo AG may void the user's right to use this instrument.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

6.1.2. General technical data

Feature	Values
Parameters	Pressure: psi / kPa / MPa / bar Temperature: °F / °C / K Vacuum: micron / inHg / inH_2O / hPa / mbar / mTorr /Torr / Pa
Sensors	2 Pressure: sensors, 2 Temperature (NTC Thermistors)
Measuring cycle	0.5 s
Interfaces	Pressure connections: 3 x 1/4" SAE, 1x 3/8" SAE NTC measurement External vacuum probe
Measuring ranges	Pressure measurement range HP/LP: -14.7…870 psi / -100…6000 kPa / -0.1…6 MPa / -1…60 bar (rel) Temperature measurement range: -58…302 °F / -50…+150 °C Measurement range vacuum (abs): 0 … 20.000 micron
Overload	940 psi, 65 bar, 6500 kPa, 6.5 MPa
Resolution	Resolution pressure: 0.1 psi / 0.01 bar / 1 kPa / 0.001 MPa Resolution temperature: 0.1 °F / 0.1 °C / 0.1 K Vacuum resolution: 1 micron (from 0 to 1000 micron) 10 micron (from 1000 to 2000 micron) 100 micron (from 2000 to 5000 micron) 500 micron (from 5000 to 10000 micron) 5000 micron (from 10000 to 20.000 micron)
Accuracy (nominal temperature 71.6 °F / 22 °C)	Pressure: ±0.5% FS (±1 digit) Temperature: -58 to 302°F (0.9°F ± 1 digit) / -50 to 150°C (±0.5 °C ±1 digit) Vacuum: ±10% of rdg +10 microns (100 to 1.000 microns)
No. of refrigerants	60

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

Feature	Values
Selectable refrigerants	No refrigerant, R11, R12, R22, R123, R1234ze, R125, R13B1, R134a, R14, R142B, R152a, R161, R23, R227, R290, R32, R401A, R401B, R401C, R402A, R402B, R404A, R406A, R407A, R407B, R407C, R407D, R407F, R408A, R409A, R410A, R411A, R412A, R413A, R414B, R416A, R417A, R420A, R421A, R421B, R422A, R422B, R422C, R422D, R424A, R426A, R427A, R434A, R437A, R438A, R502, R503, R507, R508A, R508B, R600, R600a, R718 (H2O), R744 (CO2) (only in permissible measurement range up to 60 bar), R1234yf
Measurable media	All refrigerants that are stored in the testo 557 Ammonia (R717) and other refrigerants which contain ammonia will damage the manifold
Ambient conditions	Operating temperature: -4…122°F / -20…50°C 14…122°F / -10…50°C (vacuum probe) Storage temperature: -4…140°F / -20…60°C Humidity in area of use: 10… 90%rF
Bluetooth	Range >20 m / 65 ft (unobstructed field)
Housing	Material: ABS / PA / TPE Dimensions approx. 280 x 135 x 75 mm Weight: approx. 1200 g (without batteries)
IP-class	42
Power supply	4 x 1.5 V, type AA/mignon/LR6 rechargeable or standard batteries Battery life: approx. 250h (display light off, Bluetooth off, vacuum probe not connected)
Display	Type: Illuminated LCD Response time: 0.5 s
Directives, standards and tests	EC Directive: 2014/30/EC
Warranty	Duration: 2 years

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

7 Maintaining the product

Cleaning the instrument

Do not use harsh cleaning agents or solvents! Mild soap and water may be used.

> Clean instrument using a damp cloth.

Keeping connections clean

> Keep screw connections clean and free of grease and other deposits, clean with a moist cloth as required.

Removing oil residues

> Carefully blow out oil residues in valve block using compressed air.

To ensure measuring accuracy

> Check instrument regularly for leaks (recommended: annually). Keep to the permissible pressure range!

> Calibrate instrument regularly (recommended: annually).

Changing batteries/rechargeable batteries

✓ Instrument is switched off.

1. Fold out the hook, loosen the clip and remove the cover of the battery compartment.
2. Remove discharged batteries/rechargeable batteries and insert new batteries/rechargeable batteries (4x 1.5 V, type AA, Mignon, LR6) in the battery compartment. Observe the polarity!
3. Set on and close cover of the battery compartment (clip must engage).
4. Switch the instrument on.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

Changing the valve or valve stem shutoff

Replacement of valve stem shutoffs or valves must be performed by a qualified technician. Warranty coverage with respect to valve stem shut-offs and valves will NOT apply to miss-use or damage and is only applicable if failure is attributable to defective parts and workmanship.

Send the measuring instrument to Testo Customer Service.

Cleaning the vacuum probe

Contaminants such as oil may impair the accuracy of the vacuum sensor.

CAUTION

Carrying out cleaning with the probe connected may result in damage to the probe!

> Remove the vacuum probe from the testo 557!

CAUTION

Damage to the sensor due to sharp objects!

> Do not insert any sharp objects into the probe!

1. Remove the vacuum probe from the testo 557.
2. Put a few drops of rubbing alcohol into the sensor opening.
3. Seal the opening by placing your finger on it and shake the vacuum probe briefly.
4. Remove all the alcohol from the probe.
5. Repeat this process at least twice.
6. Leave the probe to dry for at least 1 hour. To dry the sensor faster, you can connect the probe directly to a vacuum pump and draw vacuum.

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

8 Tips and assistance

8.1. Questions and answers

Question	Possible causes/solution
flashes	Batteries are almost empty. > Change batteries.
The instrument switches off automatically.	Residual capacity of the batteries is too low. > Change batteries.
uuuu lights up instead of the parameter display	The permissible measuring range has been undershot. > Keep to the permitted measuring range.
oooo lights up instead of the parameter display	The permissible measuring range has been exceeded. > Keep to the permitted measuring range.

8.2. Measurement parameters

Name		Description
bar, °C	**psi, °F**	
Δtoh	SH	Superheating, evaporation pressure
Δtcu	SC	Subcooling, condensation pressure
to	Ev	Refrigerant evaporation temperature
tc	Co	Refrigerant condensation temperature
toh	T1	Measured temperature, evaporation
tcu	T2	Measured temperature, condensation

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

8.3. Error reports

Question	Possible causes/solution
---- is lit up instead of measurement parameter display	Sensor or cable defective > Please contact your dealer or Testo Customer Service
Display **EEP FAIL**	Eeprom defective > Please contact your dealer or Testo Customer Service
Display **BT ERR**	No BT module connected or BT module defective. > Please contact your dealer or Testo Customer Service
Display **ERR 1-5**	Vac-Probe defect > Please contact your dealer or Testo Customer Service

8.4. Accessories and spare parts

Description	Article no.
Clamp probe for temperature measurement at pipes (1,5m)	0613 5505
Clamp probe for temperature measurement at pipes (5m)	0613 5506
Pipe wrap probe with Velcro tape for pipe diameters of up to max. 75 mm, Tmax. +75 °C, NTC	0613 4611
Watertight NTC surface probe	0613 1912
Precise, robust NTC air probe	0613 1712
External vacuum probe	0638 1557

information@ITM.com www.Testo-Direct.ca 1.800.561.8187

9 EC declaration of conformity

CE

Wir messen es. testo

EG-Konformitätserklärung

Für die nachfolgend bezeichneten Produkte:

EC declaration of conformity

We confirm that the following products:

testo 557

Best. Nr.: / Order No.: 0560 1557

wird bestätigt, daß sie den wesentlichen Schutzanforderungen entsprechen, die in der Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die **elektromagnetische Verträglichkeit** (2014/30/EU) festgelegt sind und bei bestimmungsmäßiger Verwendung den grundlegenden Anforderungen gemäß Artikel 3 der R&TTE-Richtlinie 1999/5/EG. entspricht.

corresponds with the main protection requirements which are fixed in the EEC "Council Directive 2014/30 EU on the approximation of the laws of the member states relating to electromagnetic compatibility" and comply with the essential requirements of Article 3 of the R&TTE 1999/5/EC Directive. The declaration applies to all samples of the above mentioned product.

Zur Beurteilung der Erzeugnisse hinsichtlich elektromagnetischer Verträglichkeit wurden folgende Normen herangezogen:

For assessment of the product following standards have been called upon:

Störaussendung/ *Pertubing radiation*:	**DIN EN 61326-1:2013 class B**
Störfestigkeit: / *Pertubing resistance*:	**DIN EN 61326-1:2013 table 1**
R&TTE Richtlinie:	**EN 300 328 V1.8.1: 2012**
	EN 301 489-1 V1.9.2: 2011
	EN 301 489-17 V2.2.1: 2012-08
Sicherheits-Richtlinie:	**EN 60950-1:2006** +A11:2009 +A1:2010 +A12:2011 +A2:2013
Healt Assessment:	**EN 62479:2010**

Diese Erklärung wird für:

This declaration is given in responsibility for:

ISO 9001 TESTO QUALITY certified

Der Hersteller betreibt ein zertifiziertes Qualitätssicherungssystem nach DIN ISO 9001

The manufacturer operates a certified quality assurance system according to DIN ISO 9001

abgegeben durch / *by*:

Burkart Knospe
(Name / *name*)

Managing Director
(Stellung im Betrieb des Herstellers)
(Position in the company of the manufacturer)

Lenzkirch, 01.06.2015
(Ort, Datum / *place, date*)

(Rechtsgültige Unterschrift)
(*Legally valid signature*)

Uwe Haury
(Name / *name*)

Head of Qualification & Test
(Stellung im Betrieb des Herstellers)
(Position in the company of the manufacturer)

i.V.

(Rechtsgültige Unterschrift)
(*Legally valid signature*)

information@ITM.com www.Testo-Direct.ca 1.800.561.8187