#Better Solutions

TECHNICAL DATA SHEET

ROSE Tester 54

Ionic contamination measurement system.

Complies with standard IPC-TM-650, 2.3.25 (Static extraction method).
Resulting value: µg NaCl Eq./cm^2.

GENERAL INFORMATION

Process control devices Rose Tester 32 and Rose Tester 54 have been developed by our R&D team in the Czech Republic, where they are also manufactured.

The devices are intended for precise measurement of ionic contamination (contamination of ionic impurities) in the Electrotechnical industry, especially for **controlling purity of PCBs and misprints.**
Due to their precision, Rose Testers can be used for measuring purity in other industries as well.

Ionic impurities are invisible with bare eye check or under a microscope. This is the reason why the usage of Rose Tester is necessary for revealing such kind of impurities. The result of testing is **a value µg NaCl Eq./cm².**

This particular check of ionic contamination level is usually performed after the cleaning process of PCB, as a quality and sustainability check. The aim of this measurement is to ensure the reliability of the product, which could be harmed by undesirable ionic contamination.

Ionic purity of PCBs must be revealed before the final mounting into the electronic device, before conformal coating or before delivery to the customer. And of course, ionic contamination test should be used, as mentioned, as a control of the cleaning process.

Measurement systems Rose Tester 32 and Rose Tester 54 are **developed and manufactured in accordance with a standard IPC-TM-650, 2.3.25 (Static Extraction Method)**

In accordance to your specific needs to measure the purity of PCBs and their size, our DCT project manager in cooperation with our local distributor will recommend you the suitable model of the testing device and will provide you with more information.

MEASUREMENT WIZARD

Testing of ionic impurities with the usage of Rose Tester 32 and Rose Tester 54 takes place in three easy steps, trought which you will be intuitively guided by our large colorful and interactive display.

STEP 1 – MEASUREMENT PARAMETERS

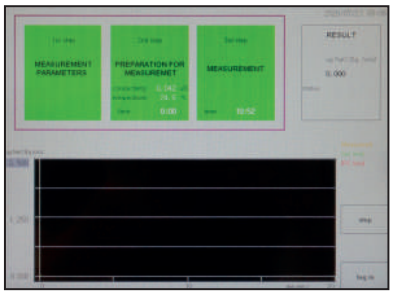
Entering basic data about tested PCB and desired parameters of measurement.

1. Entering name of test, PCB code, name of operator, PCB scanning (voluntary)
2. PCB length + width or PCB area
3. Controlling extraction solution volume and concentration
4. Choise of PCB extraction time in the solution (step 3) 20 or 40 minutes
5. Choosing temperature of extraction solution
6. Setting maximum allowed limit of contamination

After entering all the parameters, the device will inform you it is possible to move to the next step.

STEP 2 – PREPARATION OF MEASUREMENT

In this step, the extraction solution is beign heated up to desired temperature. The solution is also being simultaneously and automatically deionized utilizing active filtration to the value less or equal to 0,062 µS/cm (16 MΩ x cm) according to standard IPC-TM-650, 2.3.25.



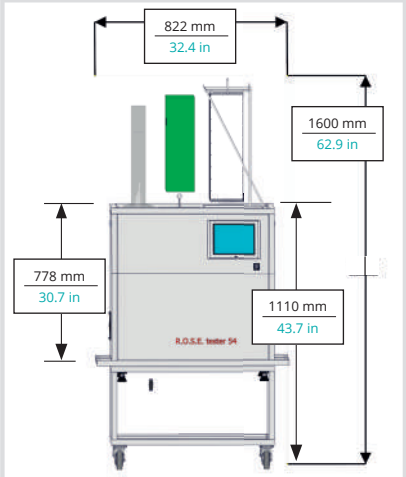
STEP 3 – MEASUREMENT

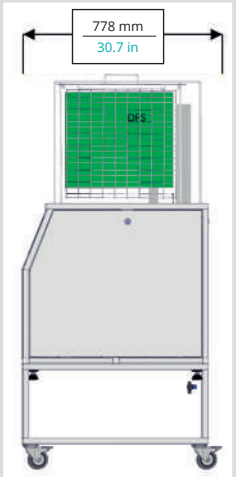
Before inserting the PCB, press start the measurement and then insert basket with tested PCB.
During the measurement, you can see online the increase of conductivity. The device continuously evaluates and shows actual result. At the end of each measurement, the final result will be saved into the memory.

TECHNICAL PARAMETERS

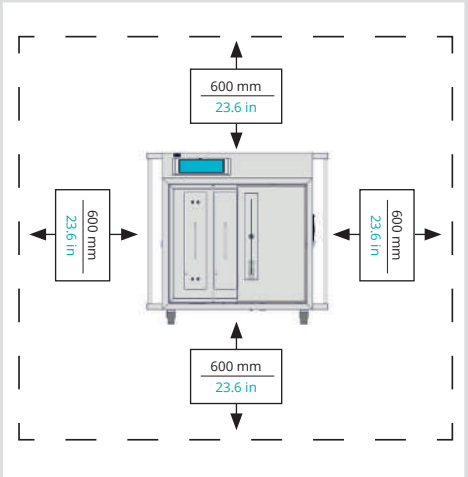
	metric units	*imperial units*
Dimensions (w x l x h)	822 x 778 x 744 mm	32.4 x 30.7 x 29.3 in
Dimension with handling trolley (w x l x h)	822 x 778 x 1110 mm	32.4 x 30.7 x 43.7 in
Weight	130 Kg	286 lbs
Weight with handling trolley	140 Kg	308 lbs
Ø energy consumption per cycle	0,5 kWh	0.5 kWh
Minimal size of PCB (w x l x h)	300 cm^2 Total PCB area on Both Sides	300 cm^2 Total PCB area on Both Sides
Maximal size of PCB (w x l x h)	130 x 485 x 400 mm	5.2 x 19,1 x 15.8 in
Maximum number of signs of tested PCB	80 signs	80 signs
Extraction solution IPA / DI Water	75:25	75:25
Volume of tested chamber	40 l	10.5669 gallon
Adjustable temperature of tested medium	room temperature up to 40°C	room temperature up to 104°F
Automatic deionization of tested fluid	Active carbon and ionex filters (replaceable)	Active carbon and ionex filters (replaceable)
Sensitivity of the conductivity sensor	0,0001 µS/cm	0,0001 µS/cm
Accuracy of conductivity sensor	± 0,5 %	± 0,5 %
Calibration conductivity sensor (WTW) at 5 µS/cm	The tolerance at ± 0,04 µS/cm (according to the calibration protocol to the conductivity sensor)	The tolerance at ± 0,04 µS/cm (according to the calibration protocol to the conductivity sensor)
Measurement result	µg NaCl Eq./cm^2	µg NaCl Eq./cm^2
Measurement range	0–99 µg NaCl/cm^2 *	0–99 µg NaCl/cm^2 *
Measuring standard	IPC-TM-650, 2.3.25	IPC-TM-650, 2.3.25
Noise level	< 54 dB	< 54 dB
Device control	PLC + 8,4" touchscreen	PLC + 8,4" touchscreen

* We are measuring at 2µS





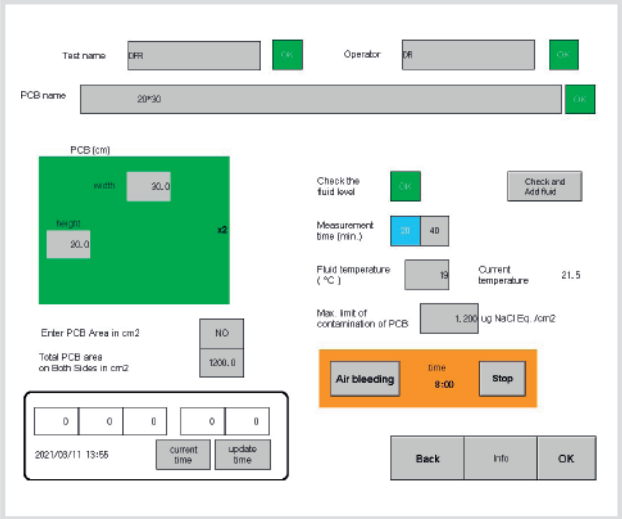
DIMENSIONS

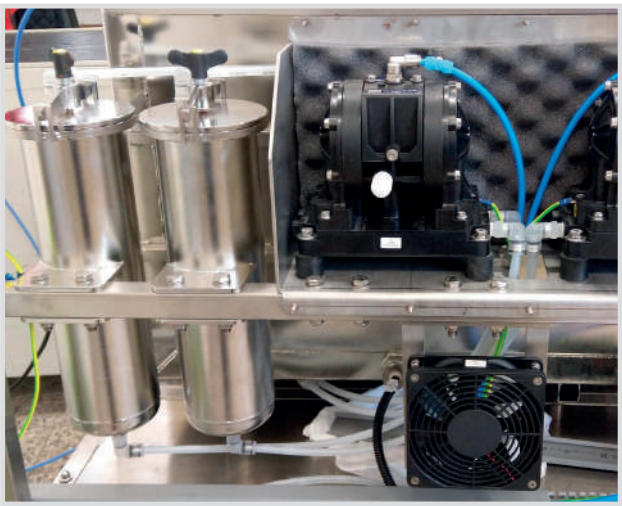


MINIMUM SERVICE SPACE AROUND THE MACHINE

INSTALLATION REQUIREMENTS

	metric units	*imperial units*
Power supply	1N/PE/230 V 50 Hz	230 V, 50Hz (3+N+PE)
Pmax	0,8 kW	0.8 kW
Minimum liquid for first run	35 l	35 l
Service space required around the device	60 cm	23,622 in
Inlet pressure	6-8 Bars	87 – 116 psi
Connection to air pressure	Pressure hose Ø 6 mm	Pressure hose Ø 0,236 in





STANDARD HARDWARE EQUIPMENT

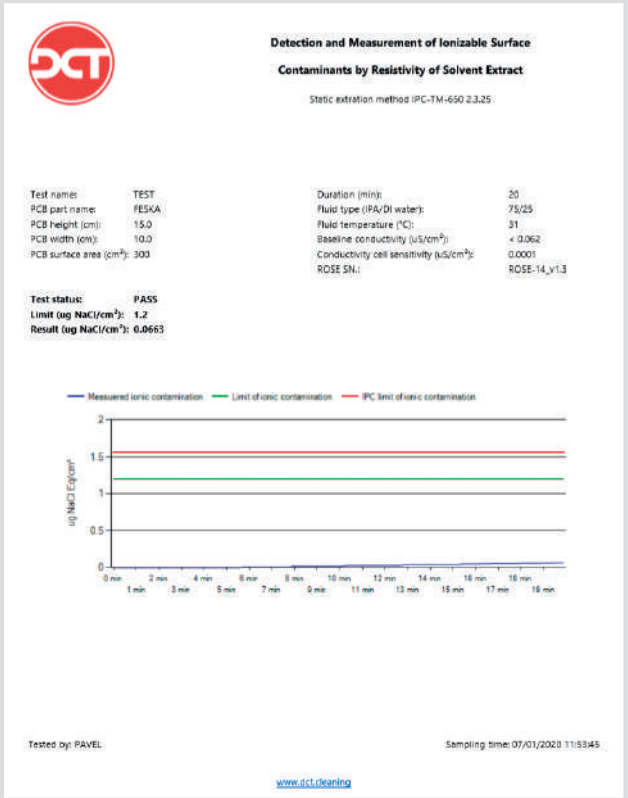
100% closed loop
Active filtration with active carbon and ion exchange resin
Conductivity sensor
Basket for PCB testing
Handling trolley with lockable wheels
Set for measuring the concentration of the extraction solution
Accessories for exchange of extraction solution
PLC controller + 8.4" touchscreen display
USB output
LAN connection preparation for online data collection (optional)

STANDARD SOFTWARE EQUIPMENT

Standard software language mutation – CZ, ENG
Internal card slot SD card (4 GB card embedded)
Data transfer USB, internal ethernet

ROSE View - specialized software for administration of the measurement data

- ✓ easy installation
- ✓ measurement data are displayed in the chart
- ✓ export of the measurement protocol into PDF
- ✓ available for OS Windows (with .NET 4.0)



OPTIONAL EQUIPMENT

Language mutation (CZE, ENG, IT, China)
Online access to testing device
Traceability OFF line, PDF protocol to SD card,
Traceability OFF line, READER, PDF protocol to SD card,
Traceability ON line, PC WIN, PDF protocol
Traceability ON line, READER, PC WIN, PDF protocol

CALIBRATION

Conductivity sensor is being calibrated every two years, date of calibration is in the WTW protocol (part of the delivery)
WTW company has branch offices around the world, it is not necessary to send the tester to the producer
Type of sensor: analog LR 325/001, measuring device WTW LF 298

DCT QUALITY

All of the Rose Testers ionic contamination testing systems as well as InJet®, AirJet® and Sonix® cleaning systems developed by DCT are characterised by the highest quality on the market, high reliability, ease of use, simple maintenance, an extremely long lifespan, and the longest warranty on the cleaning system market.

These afore-mentioned benefits are achieved by the **precise manual production** of the machines in the Czech Republic, and thanks to the superior quality of the used materials and components.

Rose Testers and cleaning systems boast a **unique all-stainless-steel construction**, which is welded manually from AISI 304 and AISI 316 stainless steel and then chemically passivated.

Our Rose Testers and cleaning systems are designed and manufactured with a focus on **ease of use** by operators, **simple maintenance**, and **smart process parameter setting.** They are equipped with industrial PLC IDEC, a well arranged colour touch display with 3-level access (operator, maintenance, engineer), and with 5 adjustable cleaning programs as standard.

Our Rose Tester 32 and Rose Tester 54 are characteristic by their precise handcrafted and welded construction, made completely of stainless steel. This is an enormous advantage in comparison with our competitors, who use plastic materials.

The process chamber and filtres are made even by electrochemical polished stainless steel. Conducts of extraction solutions are made from Teflon.

Rose Tester 32 and Rose Tester 54 will provide you, owing to all the mentioned parameters, the most precise and stable measuring results. Moreover, these testing devices require minimum maintenance.

Ionic contamination testing results, whether offline or online, is ensured by an optional traceability function. The Rose View software which is included in the delivery of the device will easily generate test results in the form of a professional PDF report.

A wide range of **standard hardware** and **software equipment** is available for every cleaning system. However, DCT also excels by its **flexibility when resolving non-standard** machines and their accessories.

Our machines, together with our cleaning fluids and local application and technical support, bring you a long-term reliable, powerful and stable cleaning process, even under the most demanding continuous operation conditions.

With all its cleaning systems, DCT offers a **wide range of hardware and software equipment**, special frames with hitches for the parts you want to clean, and countless variants in addition to the basic process monitoring options which use traceability.

STAINLESS STEEL DESIGN:

- **main support frame**
- **storage tanks**
- **process chambers**
- **fluid and air distribution systems**
- **spray arms and nozzles**
- **mechanical high-capacity filters**
- **process chamber door frame and handle**
- **external shielding**
- **active filters for rinsing DI water**

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