Accessories for Mass Comparators

Advanced **Radwag** solutions
for traceability of measurement

THBR 2.0 System

Ambient Conditions Monitoring

Intended use

THB-R PC software is designed to monitor and register indoor ambient conditions, wherein the said monitoring is based on data collected by measuring devices of Radwag production.

Two THB software versions are offered:

- **THB-R-Single** – intended for integration with THB-3/2 ambient conditions module,
- **THB-R-Multi** – intended for integration with THB-R ambient conditions recorder.

Overview

THB-R PC software is responsible for establishing communication with measuring devices. It operates as a user interface intended for collected data presentation, archiving, reporting and for carrying out measuring devices setup.
The software carries out constant readout of air temperature, relative air humidity, atmospheric pressure and vibrations. Additionally it calculates air density. Current metrological parameters values are demonstrated in a form of a time diagram, wherein the last 5 minutes are presented.

The measurements may also be archived in a local database, MS Access format. The record takes place in a specified time interval. Database files are formed using one of four user-defined methods: daily, weekly, monthly, combination of all. **THB-R-Multi** version of the PC software enables record of measurements collected by **THB-R Ambient Conditions Recorder**.

The stored data may be previewed and printed in a form of reports and diagrams. **THB-R** installation package comprises **THB-Network Viewer** allowing local network users to preview current indications of measuring units.

THBR 2.0
System

Cooperation with measuring devices

The software cooperates with measuring devices such as ambient conditions modules of **RADWAG** production. The modules are intended for operation with **THB-R-Single** or **THB-R-Multi** software version. Depending on the used device, communication between the software and the device may be established via **RS 232** or **USB interface**.

Absolute control
Precisely accurate measurements

Autonomous system
with remote data access

One sensor monitoring temperature, pressure, air humidity, air density and vibrations

RMCS System Network

Management of Calibration Process

Intended use

RMCS system is a proprietary **RADWAG** software intended for support of calibration and testing procedures in a laboratory, from the moment of accepting an order, through its progress to calibration certificate issuing. The software manages the complete calibration and testing process.

Overview

Mass comparators and software for network management of calibration process provide improved efficiency, reliable measurement results and complete calibration process documentation, plus lower labour costs. The system enables to initiate the calibration procedure by means of a task order sent to a mass comparator, and autonomously by the mass comparator itself. In both cases, the data is transferred to the software for the purpose of registering, controlling and finally issuing a calibration certificate.

Mass comparators linked in the **RMCS system** autonomously communicate with **THB** modules recording ambient conditions (temperature, humidity, atmospheric pressure) throughout the whole control process. The modules are detachable from the mass comparators, this makes calibration of their sensors easy.

Data on current ambient conditions is displayed in real time on mass comparator's display. The data is also sent do **RMCS software** for control and archiving purposes.

System Modules

Ambient conditions monitoring module:

- Installed, direct communicates with the mass comparator;
- Record of ambient conditions (temperature, humidity, atmospheric pressure) and air density calculation;
- Constant monitoring of ambient conditions in direct vicinity of the mass comparator and its weighing chamber;
- Graphic presentation of ambient conditions on mass comparator's display.

Weighing module:

- Automatic and/or manual mass comparators as components of the RMCS system;
- Access to reference weights and test weights databases via RMCS software;
- Performance of calibration tasks ordered via the RMCS software;
- Self-test procedure determining mass comparator's repeatability parameter;
- Transfer of measurement results to the software memory.

Calculating and data storage module:

- Sending tasks to mass comparators;
- Downloading mass and ambient conditions data from mass comparators;
- Operation on client databases / tasks / standards;
- Monitoring of calibration dates;
- Database of completed calibrations, documentation printing and archiving.

Functions:

- Complete management of a metrology laboratory calibrating mass standards and weights using RADWAG mass comparators of Y series;
- Calibration using ABBA and ABA methods;
- Network supervision over many PC workstations thanks to use of MS SQL database;
- Complete management of calibration orders;
- Extended database of reference weights and test weights;
- Extended database of clients, operators and users;
- Database of manual and automatic mass comparators;
- Database of calibration orders;
- Management of pending tasks based on issued calibration orders;
- Tasks and orders schedule;
- Not ordered weight test – quick check;
- Manual or automatic calibration of weights;
- Communication with automatic RADWAG mass comparators;
- Bilateral data synchronization with RADWAG mass comparators;
- Calibration process reports;
- Issuing calibration certificates according to pre-defined template;
- Export of report results to various file formats: PDF, MS Word, Excel;
- Record of events;
- Register of orders and calibration certificates;
- Archive files of calibration protocols, orders, calibration certificates and ambient conditions;
- Secured access to the software – log in procedure using password.

RMCS
System Network

Receipt Printers

Radwag Thermal Receipt Printer RTP

This is the first receipt printer of RADWAG production.

Wi-Fi®

How Does a Receipt Printer Work?

The operation of a receipt printer is very simple.
Through specific interfaces, you can connect it to various devices, for example, to a fiscal cash register or to an electronic balance or scale.

You can use USB, Ethernet, RS232 or **Wi-Fi®** to connect the printer.

Plug and Play

Connecting and setting up the printer is easy and intuitive and takes a while.

Ergonomics of Work

The printer has a paper cutter, which increases the speed and comfort of work and ensures jam-free paper cutting. The design of the device allows paper to exit from the front and from the top, and loading paper is very convenient. Other advantages of the RADWAG printer include its easy operation and maintenance, as well as an LED that indicates the status of the device.

Remote Printing Thanks to Wi-Fi®

The printer connects to the balance via **Wi-Fi®** which means you can print remotely.

- With this solution, you can print weighing reports quickly and conveniently, even if:
- you can't install a printer directly in the laboratory,
- you don't have the right conditions on the production floor,
- you weigh in a hazardous area,
- you do not have enough space on the weighing table.

4 Communication Interfaces

The printer, depending on the model, can have the following set of communication interfaces:

- **RTP-RU80** model – RS 232 and USB,
- **RTP-UEW80** model – USB, Ethernet and **Wi-Fi®**.

RTP
Receipt Printers

Compatible with RADWAG Balances & Scales.

The printers are compatible with all RADWAG laboratory and industrial balances.

Self-Centering Pan

for APP 5Y.KO Mass Comparator

Overview

Self-centering weighing pan of a floating nature is intended for **APP KO comparator**. It is used interchangeably with a standard weighing pan. The “floating” weighing pan is installed in course of a manufacturing process therefore remember to order it when purchasing **the APP KO comparator** as it is not sold separately.

The pan has been designed to aid the operator stabilize and level weights that are located eccentrically. Additionally it helps to place eccentrically group of weights, total mass of which equals reference weight mass.

The pan surface is covered with cork featuring marks that determine position of particular weights.

Mass Standards

Accessories

Mass standards have different classes of accuracy: from the most accurate **E1**, through the less accurate **E2, F1, F2** and **M1**, to the least accurate **M2**. We compare the mass of the mass standard under test (for example, **F2**) with that of a higher accuracy class standard (**F1**).

Mass standards of lower accuracy classes, that is, **F1**, **F2**, and **M1** and **M2**, may have an adjacency cavity that allows them to be disentangled and increasing or decreasing mass with a reference material.

Not all mass standards are shaped like weights. In the higher classes, there are also wires, sheets, and cylinders. In the lower ones, there are cylindrical and rectangular (both with handles), cylindrical with eyelet, carrier, and slotted mass standards.

Mass Standards
Accessories

Self-Centering Pan
for APP Mass Comparator

Weighing Tables

Antivibration Tables

The anti-vibration table has been designed to eliminate ground vibrations during the operation of laboratory equipment such as **microbalances**, **analytical balances** and others. It consists of two separate constructions: the outer, designed to isolate the working part, and the inner. The working part includes a table and a stone separated by a vibration damper. The table features a stone top (located at the centre of the table) and adjustable feet with protective rubber tips, facilitating table levelling on uneven surfaces. The structure and the tabletop are made of acid-resistant stainless steel.

Granite Anti-Vibration Tables

SAL/STONE/C

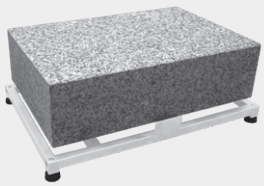
Granite table

SAL/STONE/H

Stainless steel granite table

The table has been designed to eliminate ground vibrations during the operation of laboratory equipment such as microbalances, analytical balances and others. The working part consists of a table and a stone separated by a vibration damper. The table is equipped with adjustable feet with rubber tips, facilitating table levelling on uneven surfaces. Stability and vibration damping properties, resulting from the significant weight, are the main advantages of the table. The large surface of the tabletop makes it possible to place several balances on it.

The structure of the **SAL/STONE/C** version is made of powder-coated steel, and in the case of the **SAL/STONE/H** version - of stainless steel.



SA/APP/C

Anti-vibration table for mass comparators

SA/APP/H

Stainless steel anti-vibration table for mass comparators

This anti-vibration table is intended for mass comparators. It is made of powder-coated steel and a massive granite plate placed on top. The table has a safety feature to prevent accidental slipping of the stone, as well as vibration dampening rubbers. Due to low construction, the need to lift large masses to a considerable height is reduced.

Standard Anti-Vibration Tables

SAL/C PLUS

Anti-vibration table for PLUS series balances

SAL/H PLUS

Stainless laboratory anti-vibration table for PLUS series balances

The anti-vibration table has been designed to eliminate floor vibrations during the operation of PLUS series laboratory balances. It consists of two separate constructions: the outer, designed to isolate the working part, and the inner. The working part includes a table and a stone separated by a vibration damper. The table features a stone top (located at the centre of the table) and adjustable feet with protective rubber tips, facilitating table levelling on uneven surfaces.

The structure of the **SAL/R/C** version is made of powder-coated steel, and the tabletop is made of MDF. In the case of the **SAL/R/H** version, the structure and the tabletop are made of acid-resistant stainless steel.

SAP/C

Industrial anti-vibration table

SAP/H

Stainless steel industrial anti-vibration table

The anti-vibration table has been designed to eliminate floor vibrations during the operation of industrial scales. It consists of two separate constructions: the outer, designed to isolate the working part, and the inner. The working part includes a table and a stone separated by a vibration damper. The table features a large stone top and adjustable feet with protective rubber tips, facilitating table levelling on uneven surfaces.

The structure of the **SAP/C** version is made of powder-coated steel, and the tabletop is made of MDF. In the case of the **SAP/H** version, the structure and the tabletop are made of acid-resistant stainless steel.

SAL/C

Laboratory anti-vibration table

SAL/H

Stainless steel laboratory anti-vibration table

The anti-vibration table has been designed to eliminate ground vibrations during the operation of laboratory equipment such as microbalances, analytical balances and others. It consists of two separate constructions: the outer, designed to isolate the working part, and the inner. The working part includes a table and a stone separated by a vibration damper. The table features a stone top (located at the centre of the table) and adjustable feet with protective rubber tips, facilitating table levelling on uneven surfaces.

The structure of the **SAL/C** version is made of powder-coated steel, and the tabletop is made of MDF. In the case of the **SAL/H** version, the structure and the tabletop are made of acid-resistant stainless steel.

SAL/T

Steel Anti-Vibration Table for PA-04/H 2 900 Automatic Feeder

The anti-vibration table has been designed to eliminate ground vibrations during the operation of automatic feeder. It consists of two separate constructions: the outer, designed to isolate the working part, and the inner. The working part includes a table and a stone separated by a vibration damper. The table features a stone top (located on the left side of the table) and adjustable feet with protective rubber tips, facilitating table levelling on uneven surfaces.

The structure of the **SAL/L/C** version is made of powder-coated steel, and the top is made of HPL board.

Anti-vibration weighing tables for precise weighing under laboratory and industrial conditions

Accessories

for Mass Comparators

• **THBR 2.0 System** • RMCS System Network • **Receipt Printer** • Self-Centering Pan
• **Weighing Tables** • Fingerprint Reader • **Suspended Self-Centring Pan** • Anti-Draft Chamber
• **Balance Storage Case** • Protective Cover • **Power Adapters** • Cables, Converters, Adapters

RADWAG®

Mass Comparators
Accessories

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